

MINUTES OF THE 98th MEETING OF FORUM OF REGULATORS (FOR)

DATE/DAY: 7th November, 2025

VENUE: 7th Floor Conference Hall, CERC

TIMINGS: 2.30 PM

LIST OF PARTICIPANTS: Appendix-I

- 1) At the outset, Chairman, CERC/FOR welcomed all members to the 98th meeting of FOR and informed the members on various agenda items being referred from SERCs, MoP, as well as FOR reports, etc. He also welcomed Mr. R. K. Chowdhry, Chairman, JERC (JKL) and Mr. Hemant Verma, Chairman, TERC, on taking charge as Chairpersons in their ERCs.

Thereafter, with the permission of the Chair, the agenda items were taken up for discussion.

AGENDA ITEM 1: CONFIRMATION OF THE MINUTES OF THE 97TH FOR MEETING, HELD ON 12.09.2025

- 2) Joint Chief (RA), CERC briefed the Forum on the decisions and actions taken on the agenda items discussed during the 97th FOR meeting, after which the Forum confirmed the minutes.

AGENDA ITEM 2: REFERENCES FROM SERCs.

A) ISSUES REGARDING THE DRAFT RENEWABLE CONSUMPTION OBLIGATION – OERC

- 3) The Forum was informed about the reference received from OERC regarding the draft RCO amendment issued under the Energy Conservation Act. Chairperson, OERC, stated that the clarification issued by the Ministry of Power on 27.09.2025 pertains solely to the Energy Conservation Act, leaving the role of the Electricity Act in this context unclear. Chief (RA), CERC, explained that the Working Group on Renewable Energy has recommended aligning RPO trajectories under Section 86(1)(e) of the Electricity Act with the RCO after conducting a detailed analysis of the RCO trajectory of the MoP. While this may address the immediate

concern, questions remain regarding the duplication of provisions on RPO under the Electricity Act, 2003 and the RCO under the Energy Conservation Act.

- 4) After detailed deliberations, the Forum agreed to revisit the matter when amendments to the Act are taken up.

B) VARIOUS REGULATORY ISSUES- REFERENCE FROM JERC (JKL)

- 5) Chairperson, JERC(JKL), raised various issues on Grid Fragility and Isolated operation, Integration of Hydro and Energy Storage System, Renewable Integration and RCO compliance, Captive Generation and Industrial Power Security, Hydro Sector Modernization and Regulatory Flexibility, Transmission Constraints and Seasonal Bottlenecks, Data, SCADA and SAMAST Implementation Challenges, Alignment with National Vision, Capacity Building and Technological Enablement for Regulators and Utilities.

- 6) After detailed deliberations, the Forum discussed and recommended the following: -

- a. Grid Fragility and Isolated operation: - UPERC's Mini Grid Regulation, which prescribes Distribution Tariffs may be referred to;
- b. Integration of Hydro and Energy Storage System: - The FOR Working Group on RE is working on the issue of ESS, while the Hydro report has suggested a regulatory framework;
- c. Renewable Integration and RCO compliance: - The FOR Working Group on RE is working on an RPO study;
- d. Captive Generation and Industrial Power Security: - MoP Rules, which prescribe the ownership and consumption norms, may be referred to;
- e. Hydro Sector Modernization and Regulatory Flexibility: - State sector needs to take up capex;
- f. Transmission Constraints and Seasonal Bottlenecks: - This issue needs to be taken up with the Central Government by JERC;
- g. Data, SCADA, and SAMAST Implementation Challenges: - It is suggested to have a separate SLDC to address these issues;

- h.** Capacity Building and Technological Enablement for Regulators and Utilities: - In cases where transmission and distribution utilities face significant knowledge gaps, the Forum recommends seeking Central Government funding for capacity building programs. Additionally, the Forum suggested that suitable provisions or directions may be incorporated into the Commission's tariff regulations to strengthen this initiative, in addition to allowing such costs in the ARR of the utilities. FOR is also conducting various capacity-building programs for its members.

AGENDA ITEM 3: REFERENCE FROM MOP/CEA

A) MODEL REGULATION ON WASTE TO ELECTRICITY IN LINE WITH NOTIFICATION BY CERC FOR WTE PROJECTS

- 7) The Forum was apprised about the meeting for Waste to Electricity Plants (WtE) held on 29.08.2025 under the chairmanship of the Hon'ble Minister of Housing & Urban Affairs and Power Minister of State for Power, in which it was requested that FOR may prepare a Model Regulation for WtE in line with the Regulations notified by the Central Electricity Regulatory Commission which the States may adopt.
- 8) The Forum deliberated on the issues and emphasised that management of municipal solid waste is a social and environmental cause which helps in processing waste scientifically, reduces the load on landfills, and helps in minimising water and air pollution. It was also noted that most States have adopted the 100% procurement of electricity from WtE projects, as envisaged in the National Electricity Policy, 2016. Moreover, tariffs across SERCs vary.
- 9) After detailed deliberations, the Forum decided that the CERC Regulations on WtE may be considered as one of the guiding factors for the SERCs for determining the tariff for the WtE Project.
- 10) Further, in view of the challenges faced by the WtE-based Power Projects, it was decided that the Forum can work on Model Regulations/detailed study. This may be undertaken by the FOR RE working Group to study tariffs and technical issues to recommend specific regulatory measures to promote WtE projects.

B) PROPOSED REFORM MEASURES FOR IMPROVING THE FINANCIAL HEALTH OF DISCOMS.

11) The Forum was informed about a reference received from the Ministry of Power (MoP), outlining several issues related to the financial health of DISCOMs. The key points highlighted by MoP are as follows: -

- a) SERCs should work towards reducing cross-subsidies for industrial and high-load consumers to improve manufacturing competitiveness, while retaining the basic tariff structure proposed by distribution utilities and allowing State governments to extend subsidies where required.
- b) SERCs should ensure full-cost tariffs and timely issuance of tariff orders so that utilities can recover costs without creating future burdens on consumers, and should streamline the tariff finalisation process;
- c) ERCs should promote mediation mechanisms for faster dispute resolution;
- d) ERCs should align tariff structures with the Tariff Policy by ensuring that no tariff falls below 50% of the average cost of supply (ACoS);
- e) ERCs should mandate Fuel and Power Purchase Cost Adjustment (FPPCA) along with a cost stabilisation pool;
- f) Utilities should be allowed to retain revenue surpluses for infrastructure development and debt reduction;
- g) Regulatory assets should be treated as deferred liabilities;
- h) ERCs should encourage competition in power distribution and supply.

12) After deliberation, the Forum took note of the issues for suitable action by the SERCs.

C. CONCEPT NOTE ON TARIFF CONSIDERATIONS FOR MONETIZATION OF TRANSMISSION ASSETS USING AOMT GUIDELINES

13) The Forum was apprised of a reference regarding the CEA's concept note on tariff considerations for monetisation of transmission assets under the AOMT guidelines. It was discussed that monetisation offers an alternative means of raising funds by leveraging existing assets rather than seeking new capital. As the Government of India is actively promoting asset monetisation, CERC may

evaluate the proposal and conduct a cost–benefit analysis. It was clarified that monetisation will not affect tariff determination. CERC was already facilitating such mechanisms for licensees through the InVIT Mechanism, and relevant orders will be shared with the State Commissions. It was also noted that Rajasthan SLDC has sought guidance from FOR on monetising RTM assets, citing similar initiatives under TBCB, while CEA has issued guidelines on this matter.

- 14) After detailed deliberations, the Forum recommended reviewing similar projects undertaken by ISTS licensees, and asking CEA to present the findings in the next meeting. It was also decided to prepare and circulate a questionnaire to Forum members for their suggestions.

AGENDA ITEM 4: FOR WORKING GROUP ON RE POLICY AND REGULATORY MATTERS – UPDATE

A)FOR MODEL REGULATIONS ON DISTRIBUTED ENERGY RESOURCES

- 15) The Forum, in its 91st Meeting, has requested the FOR Working Group on RE to update the existing FOR Model Regulations, 2019 on Distributed Energy Resources (DER) to include concepts such as VNM, GNM, Behind the Meter (BTM), and Gross Metering.
- 16) Thereafter, the Consultant, assisting the FOR Working Group on RE, updated the existing Model Regulations on Grid-Interactive Distributed Energy Resources with a comprehensive overview of not only VNM & GNM but also Net metering provisions in view of the recent development at the policy level and presented during the 95th FOR Meeting.
- 17) The Consultant also made a detailed presentation on “Model Grid Interactive DRE Sources Regulations (2025)” (**Annexure-I**), highlighting the key features related to different metering mechanisms, eligible consumer categories, and

permissible DRES Capacities, and other relevant provisions of the proposed Model Grid Interactive DRE Sources Regulations.

- 18) During the meeting, it was deliberated and agreed that for the Net Metering mechanism, the DRES capacity of more than 10kW and above should be required to have a minimum storage capacity of 10%-20% of its DRES capacity.
- 19) Subject to the above suggestions, the Forum endorsed the “Model Regulations for Grid-Interactive Distributed Renewable Energy Sources 2025”.

B) STUDY ON RENEWABLE PURCHASE OBLIGATION (RPO) TRAJECTORY

- 20) It was apprised to the Forum that FOR, in its 89th meeting, requested the RE Working Group to undertake a detailed study for stipulating the norms with regard to RPO trajectory for States based on the market reality and State-specific issues. Accordingly, the WG conducted a study to align the RPO target with the RCO target set by the Ministry of Power and recommended State-wise RPO/RCO trajectories using a common but differentiated approach to meet the overall national target by FY 2029–30.
- 21) The Consultant assisting the Working Group delivered a detailed presentation (**Annexure-II**) on the “RPO/ RCO Trajectory and Impact Assessment for Select States” and explained the approach for State-wise RCO trajectory, which includes grouping of States based on their possible RCO achievement in FY 2025-26. The groupings are as follows: Group A: States with possible achievement of 45% and above; Group B: States with possible achievement of 30%–44%; Group C: States with possible achievement of below 30%. Using these groupings, incremental RCO trajectories were proposed for FY 2025–26 to FY 2029–30 for each group.
- 22) During the discussion, it was decided that States already achieving the RCO trajectory of 45% and above should be categorised as ‘special-category States’ within Group A. The study also recommended a national-level RPO/RCO trajectory for FY 2024–25 to FY 2029–30, with the overall target for FY 2029–

30 set at 43%, aligned with the RCO trajectory specified by the Ministry of Power.

23) Other recommendations include: -

- a) RPO under section 86(1)(e) is to be aligned with RCO of MoP overall target of 2030;
- b) Year-to-Year targets for 2025-30: In the First couple of years, targets are not matching and enhancing. Hence, a one-size-fits-all trajectory might not be desirable or achievable. A common but differentiated approach, as suggested in the study report, should be adopted.

24) Subject to the above suggestions, the Forum of Regulators endorsed the RPO study. It was also decided that an advisory, along with the endorsed RPO Study report, be sent to the Ministry of Power.

AGENDA ITEM 5: HIGH LEVEL COMMITTEE (HLC) ON NON-FINANCIAL REGULATORY REFORMS

25) Joint Chief (RA), CERC informed the Forum about the reference received from the High-Level Committee on Non-Financial Regulatory Reform, whose primary objective is to facilitate the ease of doing business. A similar exercise had been undertaken earlier under the EoDB initiative to identify regulations requiring process or compliance simplification for stakeholders. While CERC is carrying out this exercise, comparable information is also required from SERCs. This update is intended to emphasise the need for timely and complete inputs, especially as meetings are being held frequently and the responsibility for obtaining details from the SERCs rests with the Secretariat.

26) After detailed deliberations, the Forum noted the same and assured that information will be shared by all SERCs with the FOR Secretariat.

AGENDA ITEM 6: REDUCTION OF GST RATE ON PROCUREMENT OF RENEWABLE ENERGY DEVICES AND PARTS FOR THEIR MANUFACTURE FROM 12% TO 5%

27) On the agenda item concerning the reduction of the Goods and Services Tax (GST) rate on Renewable Energy (RE) devices and parts used for their manufacture, which was reduced from 12% to 5%. Discussion centred around the need for clarification on how tariffs should be adjusted for projects where bidding occurred before the cut-off date 02.09.2025 (when the change took place), but the procurement of modules and the Commercial Operation Date (COD) occurred afterwards. The key regulatory issue addressed was determining how to account for this reduction in tariffs as a "Change in Law" event.

28) The Forum noted, based on CERC's draft orders, that the contracting parties (buyers and sellers) should perform one-to-one reconciliation for any adjustments and then approach the Commission for a change in law. The subsequent determination of the revised tariff must be done by the Commission after the COD and once the actual costs, reflecting the lower GST rate, have been incurred. Until such reconciliation and adjustment are finalised, the tariff determined or discovered under Section 63 of the Act may be adopted. This approach affirmed that the adjustment should follow the standard Change in Law process.

29) Alternatively, the Forum also discussed the approach to provisional tariff adoption and the methodology for incorporating GST-related change-in-law impacts. The Forum was of the view that the developers may indicate their tentative revised tariff, rather than only the monetary difference in capital cost. The developers can file an estimated tariff value upfront, reflecting the tariff after the GST reduction. This estimated indicative tariff can be adopted provisionally, subject to final adjustment once COD occur and documents are verified. When the generator submits actual invoices and procurement details after COD, the Commission can compute the exact reduction.

AGENDA ITEM 7: ABOLITION OF GST COMPENSATION CESS AND INCREASE IN THE GST RATE ON PROCUREMENT OF COAL FROM 5% TO 18%

30) The Forum also discussed the abolition of the GST Compensation Cess on coal, which led to a subsequent increase in the overall GST rate on coal procurement from 5% to 18%.

31) The Forum was informed that CERC had issued a suo-motu order regarding this change. The consensus direction was that State Electricity Regulatory Commissions (SERCs) should ensure that monthly tariffs are adjusted accordingly. This is intended to maintain a uniform regulatory mechanism for cost recovery associated with the change in the coal procurement tax structure.

AGENDA ITEM 8: DRAFT ELECTRICITY ACT (AMENDMENT) BILL, 2025

32) The Forum engaged in extensive discussion regarding several proposed amendments, particularly those related to competition and DISCOM obligations.

A) Carriage and content separation (Sections 14 & 42)

33) The amendment proposes allowing multiple distribution/supply licensees within the same area using their own or shared distribution system. This seeks to eliminate the existing requirement that subsequent licensees build entirely new distribution networks, which was seen as wasteful of natural resources.

34) The Forum felt that it could lead to potential issues for existing DISCOMs (e.g., cream skimming of high-paying consumers).

B) Universal service obligation (USO) Exemption (Section 43)

35) Core Proposal (New Agenda Point): The amendment proposes to exempt DISCOMs from the mandatory Universal Service Obligation (USO) to supply electricity to all consumers where the maximum power available exceeds 1 Megawatt (MW).

36) Implications: This allows large consumers (1 MW and above) freedom to choose their supplier, but it could adversely impact the financial health of existing

DISCOMs by removing their best-paying consumers (who currently pay cross-subsidy), resulting in high costs for subsidised consumers.

37) Supplier of Last Resort (POLR): While DISCOMs are relieved of the USO, the amendment mandates that the State Commission shall designate a distribution licensee as the Supplier of Last Resort (POLR). This means the DISCOM must maintain network and power purchase agreements, but may lose the associated revenue and cross-subsidy recovery from large consumers.

C) Removal of Members (Section 90)

38) Core Proposal (New Agenda Point): The amendment allows the Central Government (for CERC) or State Government (for SERCs) to remove a Member by order if they are deemed to have wilfully violated or circumvented the provisions of the Act, Rules, or Regulations made thereunder.

39) Concerns: The Forum expressed reservations against the proposal and felt that it is a potential violation of the principles of federalism and the independence of regulatory bodies, as rules and regulations are often subject to different legal interpretations.

40) After discussion, it was decided that all ERCs may send their comments to MoP.

AGENDA ITEM 9: FRAMING OF MODEL REGULATIONS FOR ALLOWING FUNDING COST FOR DELAYED PAYMENT SURCHARGE IN ARR

41) Joint Chief (RA), CERC apprised the Forum that the All India Discom Association has referred an issue, highlighting that financing costs on outstanding dues are not being adequately recognised. They have requested the FOR to issue Model regulations to allow the recovery of genuine financing costs on such outstanding amounts. Their position is that, as per the APTEL judgment, any financing cost on overdue payments should be allowed, rather than limited to the Late Payment Surcharge (LPS). As per the Forum, LPS itself represents the financing cost.

42) After detailed deliberations, the Forum noted the same for suitable action.

At the conclusion of the meeting, the Secretary, CERC/FOR, offered a vote of thanks to the Chair and expressed appreciation to all participants for their active engagement.

LIST OF PARTICIPANTS OF THE
98TH MEETING OF THE FORUM OF REGULATORS (FOR)
HELD ON FRIDAY, THE 07TH NOVEMBER, 2025
AT CERC, NEW DELHI

S.No.	NAME	ERC
01.	Shri Jishnu Barua Chairperson	CERC/FOR – in Chair.
02.	Shri R.K. Joshi Chairperson	APSERC
03.	Shri (Justice) Navneet Kumar Chairperson	JSERC
04.	Shri Raj Kumar Choudhary Chairperson	JERC for UTs of J&K and Ladakh
05.	Shri P. Ravi Kumar Chairperson	KERC
06.	Shri Sanjay Kumar Chairperson	MERC
07.	Shri Chandan Kumar Mondal Chairperson	MSERC
08.	Shri Benjamin L. Tlumtea Chairperson	MzERC
09.	Shri Pradeep Kumar Jena Chairperson	OERC
10.	Dr. Rajesh Sharma Chairperson	RERC
11.	Shri R. Manivannan Chairperson	TNERC
12.	Dr. (Justice) Devaraju Nagarjun Chairperson	TGERC
13.	Shri Hemant Verma Chairperson	TERC
14.	Shri Arvind Kumar Chairperson	UPERC
15.	Shri Madan Lal Prasad Chairperson	UERC
16.	Dr. M.V. Rao Chairperson	WBERC
17.	Shri Gopal Srivastava Member (Law) / Acting Chairperson	MPERC
18.	Shri Upananda Kataki Member	AERC
19.	Shri Parshuram Singh Yadav Member	BERC

20.	Shri Ajay Kumar Singh Member	CSERC
21.	Shri Surender Babbar Member	DERC
22.	Shri Shiv Kumar Member	HERC
23.	Shri Shashi Kant Joshi Member	HPERC
24.	Ms. Jyoti Prasad Member (Law)	JERC for State of Goa & UTs
25.	Shri Ravinder Singh Saini Member	PSERC
26.	Shri Harpreet Singh Pruthi Secretary	FOR/CERC
27.	Dr. Sushanta Kumar Chatterjee Chief (Regulatory Affairs)	CERC
SPECIAL INVITEES		
28.	Shri Ramesh Babu V Member (Tech.)	CERC
29.	Shri Harish Dudani Member (Law)	CERC
30.	Shri Ravinder Singh Dhillon Member (Fin.)	CERC
31.	Shri Awdhesh Kumar Yadav Chief (Engg.)	CERC
32.	Shri Rajeev Pushkarna Chief (Fin.)	CERC
33.	Shri Rajiv Shukla Consultant	Idam Infra
FOR SECRETARIAT		
34.	Ms. Rashmi Somasekharan Nair Joint Chief (RA)	CERC
35.	Shri Ravindra Kadam Sr. Advisor (RE)	CERC
36.	Shri Debasish Roy Asst. Chief (RA)	CERC
37.	Ms. Jijnasa Behra RO	FOR
38.	Ms. Nausheen RO	CERC
39.	Shri Sourav Dasgupta RO	CERC

FOR “RE Related Policy & Regulatory Matters” Working Group

Presentation on Model Distributed Renewable Energy Regulations

Assisted by M/s. Idam Infrastructure Advisory Pvt Ltd.

7th November, 2025

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Background

- The FOR, in its 86th meeting held on **26th June 2023** decided to constitute a Working Group for conducting a detailed examination of all RE related policy and regulatory issues.
- During the 4th FOR WG meeting held on **19th February 2024**, the WG discussed & deliberated on key design issues related to VNM & GNM framework (consumer categories to be allowed, capacity of RE project, ownership model, applicable charges, etc.)
- The WG also deliberated on MoP Electricity (Rights of Consumer) Rules 2020 and its amendments, FOR model DRE regulations and the regulations notified by the ERCs of the WG member states and deliberated on following matters:
 - ❖ Differences in the definitions such as Prosumers, Net metering, Gross metering, Net Billing etc.
 - ❖ Inclusion of new metering mechanisms - Behind the meter (BTM), Virtual net-metering (VNM) & Group net-metering (GNM)
 - ❖ Specifying upper limit of DRE project capacity and its alignment with capacity restriction of 500kW provided under MoP rules for net-metering and net-billing.
 - ❖ Discussion on approaches to determine tariff for surplus power from DRE projects.
- Issues identified by the WG were discussed & deliberated during 91st FOR Meeting. The WG updated the existing model regulations and presented during 95th FOR Meeting.
- Forum requested the WG to submit updated Model DRE Regulations based on the recommendations and deliberations held during the meeting.

Model Grid Interactive DRE Sources Regulations (2025) – Proposed Structure

- 1. Short title, and commencement**
- 2. Definitions**
- 3. Scope and applicability**
- 4. Control period**
- 5. Metering mechanisms, eligible consumers and allowed DRES capacities**
 - 5.1 Net metering
 - 5.2 Net Billing
 - 5.3 Gross Metering
 - 5.4 Group Net Metering
 - 5.5 Virtual Net Metering
 - 5.6 Behind the Meter
- 6. Energy Accounting**
 - 6.1 Net metering
 - 6.2 Net Billing
 - 6.3 Gross Metering
 - 6.4 Group Net Metering
 - 6.5 Virtual Net Metering
 - 6.6 Behind the Meter
- 7. Applicability of Charges**
 - 7.1 Net metering
 - 7.2 Net Billing
 - 7.3 Gross Metering
 - 7.4 Group Net Metering
 - 7.5 Virtual Net Metering
 - 7.6 Behind the Meter
- 8. Subsidies**
- 9. Hosting Capacity**
- 10. Interconnection with the grid: technical standards and safety**
- 11. Metering Infrastructure**
- 12. Energy Accounting during Meter Defect/Failure/Burnt**
- 13. Application process and procedure**
- 14. Renewable Consumption Obligation**
- 15. Eligibility to Participate under Renewable Energy Certificate Mechanism**
- 16. Power to Give Direction**
- 17. Power to Relax**
- 18. Power to Amend**
- 19. Power to Remove Difficulties**
- 20. Repeal and Savings**

Definitions and Interpretations

Definitions Modified

Following Definitions are modified:

- *Distributed Renewable Energy System (DRES)*
- *Eligible Consumers or Consumers*
- *Hosting Capacity*
- *Net Metering*
- *Net Billing*
- *Prosumer*

Definitions Newly Added

Following new Definitions are included:

- *Behind the Meter*
- *Designated Consumers*
- *Group Net Metering*
- *Virtual Net Metering*
- *Gross Metering*
- *Grid Support Charges*

Scope and Applicability

Title	Description
Scope and Applicability	<ul style="list-style-type: none">• <i>These Regulations would apply to the DRES installed in the area of supply of the distribution licensee.</i>• <i>The consumer may own the DRES or may enter into a contract with the RESCO on mutual commercial arrangements for the establishment of the DRES under different metering mechanism provided under these regulations.</i>• <i>Consumers having pending arrears with the distribution licensee shall not be eligible to install DRES under these Regulations.</i>• <i>The consumer availing open access under clause (2) of Section 42 of the Act may also establish DRES in its premises under these regulations. In such case, priority for settlement/adjustment in credit should be done first for OA transactions followed by banked energy from in-situ DRES or as decided by the Commission.</i>

Eligibility & Capacity Limits allowed under Metering Mechanisms

Term / Parameter	Net Metering	Net Billing	Gross Metering	Group Net Metering	Virtual Net Metering	Behind the Meter
General Conditions	To offset the consumer's electricity consumption from the distribution licensee	To offset consumer's electricity purchase bill from the distribution licensee.	To sell all energy generated by DRES to the distribution licensee	To offset the electricity consumption of more than one electricity service connection(s) of the same name and same category of consumer located within the area of supply of the distribution licensee	To offset the electricity consumption of more than one electricity service connection(s) of participating consumers from the same category located within the area of supply of the Distribution Licensee.	For the self-consumption and not sell electricity generated by DRES to the distribution licensee
Project Capacity (Min & Max)	<ul style="list-style-type: none"> Min Capacity - 1 kW Max Capacity - shall not exceed the sanctioned load or contract demand of the prosumer or 500 kW, whichever is lower. Net Metering: DRES Capacity more than 10 kW (To be defined by State ERC) shall have to be equipped with hybrid inverter and BESS. 		Maximum capacity of 10 MW	Minimum capacity 5 kW, Maximum capacity shall not exceed the combined sanctioned load or contract demand of all the participating service connections	Minimum capacity 5 kW, Maximum capacity shall not exceed the combined sanctioned load or contract demand of all the participating consumers	Minimum 1 kW, Maximum capacity shall not exceed the sanctioned load or contract demand.

Eligibility & Locations allowed under Metering Mechanisms

Term / Parameter	Net Metering	Net Billing	Gross Metering	Group Net Metering	Virtual Net Metering	Behind the Meter
Eligible Consumer Category	<ul style="list-style-type: none"> • Domestic • Agricultural • Group housing • Institutions run or managed by charitable organizations • Government buildings including schools, and buildings belonging to local authorities 	All consumers categories	All consumers categories	<ul style="list-style-type: none"> • All consumer categories covered under Net Metering framework 	All consumer categories covered under Net Metering framework	All consumers categories
DRES Locations	In consumer premises		<p>In consumer premises or any other locations</p> <p>For any other locations, consumer shall have to obtain separate connectivity.</p>	In Consumer Premises at one of his service connection locations.	In consumer premises or any other locations	In consumer premises
Interconnection Point	Prosumer side of bi-directional meter	Prosumer side of bi-directional meter	DRES side of the Generation meter.	Prosumer side of bi-directional meter	DRES side of the Generation meter.	Behind the Consumer's meter.

Applicability of Charges under Metering Mechanisms

Net Metering, Net Billing, Gross Metering, Behind the Meter	Group Net Metering	Virtual Net Metering
<ul style="list-style-type: none"> Exempted from banking charges, wheeling charges, cross subsidy surcharge, and additional surcharge. 	<ul style="list-style-type: none"> For DRES and other participating service connections connected on the same DTL / same feeder, no charges shall be applicable. The other participating service connections and the DRES are not connected to the same DTL or same feeder, all charges along with applicable losses (except cross subsidy surcharge and additional surcharge) in accordance with Green Energy Open Access Regulations / Open Access Regulations issued by respective SERCs shall be applicable. The capital expenditure on account of Service Line cum Development (SLD) and network augmentations towards DRES shall be borne by the participating service connections. 	<ul style="list-style-type: none"> The DRES and participating consumers are connected on the same DTL / same feeder, no charges shall be applicable. In other scenario, all charges along with applicable losses in accordance with Green Energy Open Access Regulations / Open Access Regulations issued by respective SERCs shall be applicable. The capital expenditure on account of Service Line cum Development (SLD) and network augmentations towards DRES shall be borne by the participating consumers.

- Grid Support Charges: The Commission may levy on the energy generated by DRES under VNM, GNM and BTM arrangements.
- The Grid Support Charges shall cover balancing, banking and wheeling cost after adjusting RPO benefits, avoided distribution losses and any other benefits accruing to the distribution licensee.
- Provided that no Grid Support Charges shall be levied on net metering, net billing and gross metering consumers.

Energy Accounting & Settlement ... (1/3)

Net Metering

- *If electricity injected by the DRES exceeds the electricity consumed during the billing cycle, excess injected electricity shall be carried forward to the next billing cycle and utilized in the following billing cycles but within the same settlement period.*
- *In case electricity supplied by the distribution licensee exceeds the electricity injected in the grid by the DRES, the distribution licensee shall raise a bill for the net electricity consumption.*
- *The excess electricity at the end of settlement period [*] shall be settled by the distribution licensee at 75% of weighted average tariff of solar power project of 5 MW or above capacity, tariff for which has been discovered through competitive bidding either by the distribution licensee or by an intermediary agency for the distribution licensee, and which has been approved/adopted by the appropriate Commission in the last financial year or reference rate as may be determined by the Commission.*

Net Billing

- *The energy generated by the DRES shall be first used for self-consumption and surplus energy injected into the Grid or energy drawn from the Grid shall be billed as per following equation:*

Fixed Charges + Other applicable charges and levies + ((E_{DL} - Open Access Quantum) $\times T_{RST}$) - ($E_{RE} \times T_{RR}$) - Billing Credit (carry forward from last billing cycle);

- Fixed Charges means the Fixed/Demand Charges as applicable in tariff;*
 - Other charges and levies mean any other charges such as duties and taxes, cess*
 - E_{DL} means the energy drawn from the Grid by the prosumer.*
 - T_{RST} means the applicable retail supply tariff of the concerned consumer*
 - E_{RE} means the energy injected into the Grid by the prosumer.*
 - T_{RR} means 100% of weighted average tariff of solar power project of 5 MW or above capacity, approved/adopted by the appropriate Commission in the last financial year or reference determined by the Commission.*
 - Billing Credit is credit available from previous months.*
- *If the cumulative credit amount exceeds the debit amount during any billing cycle, the net credit amount is carried over to the next billing cycle.*
 - *At the end of a settlement period [*], the net credit balance (if any) shall be paid by the distribution licensee to the eligible consumer.*

- **Settlement Period :(Name of State) Electricity Regulatory Commission may define settlement period factoring their state specific conditions.*

Energy Accounting & Settlement ... (2/3)

Gross Metering

- *The distribution licensee shall purchase entire energy generated from DRES at 100% of weighted average tariff of solar power project of 5 MW or above capacity discovered through competitive bidding.*
- *The energy supplied by the distribution licensee shall be billed as per tariff schedule for respective consumer category.*
- *The distribution licensee shall prepare a net bill for each billing cycle.*

Group Net Metering

- *The consumer may set up DRES to offset the electricity consumption of more than one electricity service connection(s) of the same name and same category of consumer located within the area of supply of the distribution licensee*
- *The energy generated from DRES shall be credited in the electricity bill of each participating connection(s), for each billing cycle, as per the priority indicated in the connectivity agreement.*
- *The sequence of priority for adjustment shall be deemed to begin with the service connection where the DRES is located.*
- *The service connection where DRES is located, shall consume at least 20% of total energy generated by DRES.*
- *If export of units exceeds the import of units at connections where DRES is located during any billing cycle, surplus units injected into the grid shall be adjusted against the energy consumed in the monthly bill of service connection(s) in a sequence indicated in the priority list.*
- *The electricity consumption in any time block (e.g., peak hours, off-peak hours, etc.) shall be first compensated with the electricity generation in the similar time blocks.*
- *If export of units either in peak or off-peak hours exceeds the import of units, surplus units injected shall be carried forward to the next billing cycle as energy credit.*
- *The unadjusted net credited units at the end of FY shall be considered as units purchased by the Distribution Licensee at 75% of weighted average tariff of solar power project of 5 MW or above capacity.*

Energy Accounting & Settlement ... (3/3)

Virtual Net Metering

- *The group of two or more consumer(s) from the same consumer category may set up DRES to offset the electricity consumption of more than one electricity service connection(s) of participating consumers located within the area of supply of the Distribution Licensee.*
- *The energy generated from DRES shall be credited in the monthly bill of each participating consumer(s) as per the ratio of procurement from DRES indicated under the agreement/MoU entered by the Consumer(s).*
- *The electricity consumption in any time block (e.g., peak hours, off-peak hours, etc.) shall be first compensated in the similar time blocks.*
- *Any surplus generation shall be accounted as if the surplus generation/ Energy Credits occurred during the off-peak time block for Time of Day (ToD) Consumers or normal time block for Non-ToD Consumers.*
- *Where the units credited exceeds the import of units by that consumer, surplus credited units shall be carried forward in the next billing cycle.*
- *The unadjusted net credited units of electricity as at the end of each financial year shall be considered as units purchased by the Distribution Licensee at 75% of weighted average tariff of solar power project of 5 MW or above capacity.*

Behind the Meter

- *The DRES connected behind the Consumer's meter, operating in parallel with the Distribution Licensee's grid, shall be allowed only after prior intimation to the respective distribution licensee.*
- *Failure to intimate within 3 months timeframe shall attract one time penalty of INR 1000/kW of installed DRES capacity or as determined by the Commission.*
- *The Consumer shall install reverse power flow relay to ensure that no energy is injected into the grid from such DRES:*
- *Any quantum of energy injected by DRES connected behind the Consumer's meter shall be considered as inadvertent injection and shall neither be paid for nor settled by the distribution licensee.*

Additional Clauses

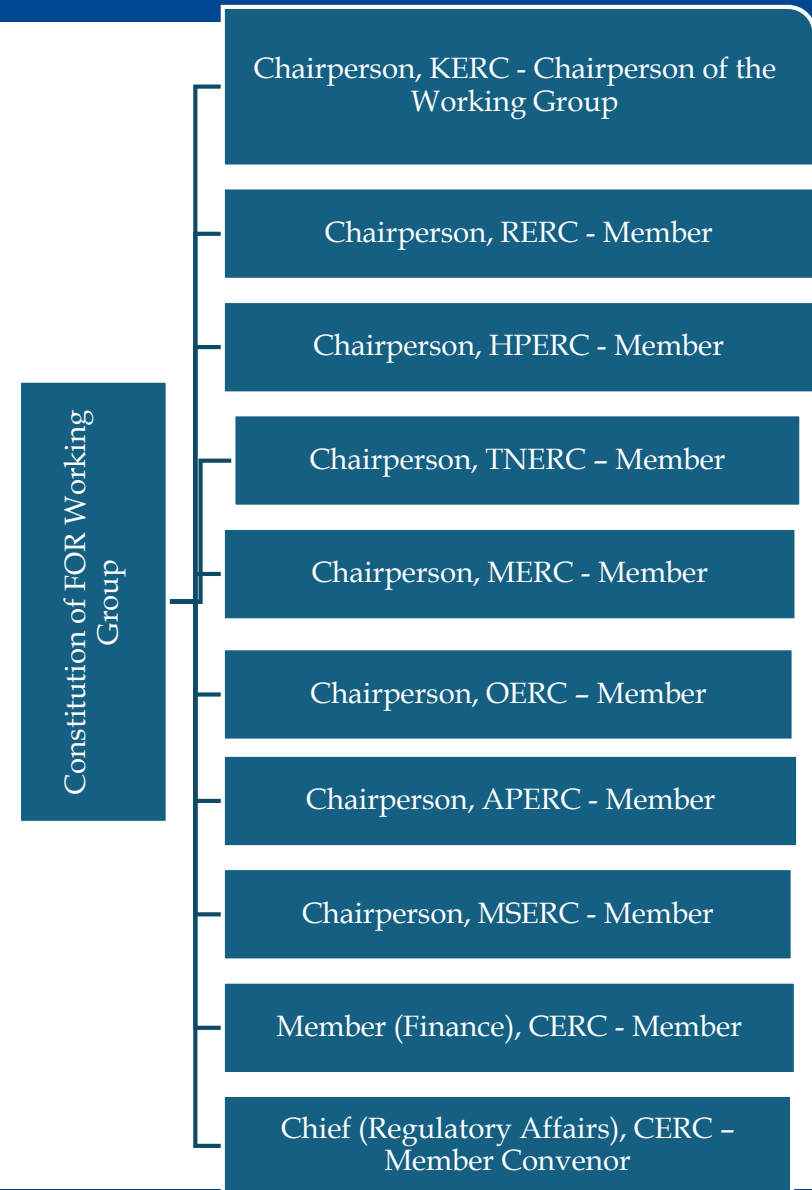
Term	Definition
Subsidy	<ul style="list-style-type: none"> <i>The eligible consumers are entitled to avail the applicable subsidies as per MNRE as well as State Government's notifications/guidelines issued from time to time.</i> <i>The SERC may estimate DRES capacity wise reference rate after considering the subsidy provided by the MNRE or State Government.</i>
Hosting Capacity	<ul style="list-style-type: none"> <i>The cumulative capacity of DRES allowed to be interconnected with the distribution network (feeder/distribution transformer) shall not exceed as specified in State Distribution Code or relevant regulations, as applicable.</i> <i>Provided that the feeder or transformer mentioned above, considered for the purpose of calculating the hosting capacity, shall mean the feeder or transformer owned by the distribution licensee.</i>
Renewable Consumption Obligations (RCO)	<ul style="list-style-type: none"> <i>Distribution Licensee shall purchase certain percentage of its total electricity supplied to its consumers from DRES in a year.</i> <i>SERC may define quantum of purchase from <u>DRES in accordance with notification issued by Ministry of Power dated 27th September 2025.</u></i> <i>The quantum of DRES generation as recorded by the generation meter shall be accounted by the distribution licensee towards compliance of its RCO as stipulated in these Regulations.</i> <i>In case the DRES is set up by DCs or Open Access Consumers or Captive Users, entire RE generated shall be accounted to meet RCO by the DCs or Open Access Consumers or Captive Users.</i> <i>In case the DRES is set up by DCs or Open Access Consumers or Captive Users, and at the end of the settlement period, the licensee pays for any such quantum of renewable power injected by the DRES but left unadjusted, the quantum of such power will be considered towards meeting RCO of the distribution licensee.</i>

Context

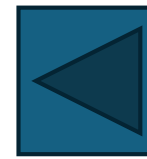
The FOR, in its 86th meeting held on 26th June 2023 decided to constitute a Working Group for conducting a detailed examination of all RE related policy and regulatory issues.

Objective of WG: To identify and mitigate emerging issues on policy and regulatory fronts.

- 1 • Examine and review the policies and regulations on RE at the Center and in the States in light of the target set for RE capacity addition in the country.
- 2 • Identify and suggest measures for harmonization of RE policies and regulations.
- 3 • Assess the impact of increasing share of RE in the overall energy mix and suggest suitable policy & regulatory measures.
- 4 • Examine the issues involved in implementation of the distributed energy sources (group/ virtual net metering etc.) and suggest suitable measures.
- 5 • Examine RPO targets set by the Government and SERCs for harmonization;
- 6 • Assess and suggest measures for ensuring RPO compliance targets by the obligated entities.
- 7 • Any other matter related and incidental to the above.



Definitions Modified



Definitions

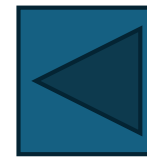
- ***“Distributed Renewable Energy System” or “DRES”*** means an electricity generation system ***not to exceed 10 MW in size and connected to the distribution network at voltage level of 33 KV or below using a distributed renewable energy source with or without energy storage having an anti-islanding protection to prevent flow of energy into the grid when grid supply is not available.***
- ***“Hosting Capacity”*** means cumulative capacity of DRES allowed to be interconnected with the grid (feeder or transformer) ***shall not exceed as specified in the State Distribution Code or relevant regulations, as applicable.***
- ***“Net Metering” or “NM”*** means a mechanism whereby energy exported to the Grid from DRES of a prosumer is deducted from energy imported from the Grid in units (kWh) to arrive at the net imported or exported energy and the net energy import or export is billed or credited or carried over by the distribution licensee by using a single bidirectional energy meter at the point of supply on the basis of the applicable tariff as determined by the Commission.
- ***“Prosumer”*** means a consumer of electricity in the area of supply of the Distribution Licensee, who uses a self-owned or RESCO owned ***DRES installed at the Consumer’s premises/ or other location,*** to offset part or all of the consumer’s electricity requirements.
- ***“Eligible Consumer(s)” or “Consumer(s)”*** means a consumer of electricity in the area of supply of the distribution licenses, uses or intends to use a DRES, installed at his premises or at any other location, depending on the metering mechanism, to meet all or part of his own electricity requirement.
- ***“Net Billing” or “NB”*** means a single bidirectional energy meter used for net-billing at the point of supply wherein the energy imported from the Grid and energy exported from DRES of a prosumer are valued at two different tariffs, where -
 - *The monetary value of the imported energy is based on the applicable retail tariff.*
 - *The monetary value of the exported renewable energy is calculated based on 100% of weighted average tariff of solar power project of 5 MW or above capacity, tariff for which has been discovered through competitive bidding either by the distribution licensee or by an intermediary agency for the distribution licensee, and which has been approved/adopted by the appropriate Commission in the last financial year, or reference rate as may be determined by the Commission*

Definitions Newly Added



Definitions

- *“Behind the Meter” or “BTM” means an arrangement in which the Distributed Renewable Energy System is connected behind the Consumers’ meter, operating in parallel with the distribution licensee’s grid, and not opting for any other metering or billing arrangement options and subject to other conditions mentioned in these Regulations.*
- *“Designated consumers” or “DC” means any consumers notified by the Central Government under clause (e) of Section 14 of the Energy Conservation Act, 2001 and for which a target is notified under the Statutory Orders issued by the Government of India from time to time.*
- *“Group Net Metering” or “GNM” means an arrangement whereby surplus energy from a DRES is exported to the grid and the exported energy is adjusted in more than one electricity service connection(s) of the same name and same category of consumer located within the area of supply of the distribution licensee as specified by the Commission.*
- *“Gross Metering” or “GM” means a mechanism whereby the total energy generated from DRES of a consumer and the total energy consumed by the consumer are accounted separately through appropriate metering arrangements and for the billing purpose, the total energy consumed by the consumer is accounted at the applicable retail tariff and total energy generated by DRES is accounted for at **100% of weighted average tariff of solar power project of 5 MW or above capacity, tariff for which has been discovered through competitive bidding either by the distribution licensee or by an intermediary agency for the distribution licensee, and which has been approved/adopted by the appropriate Commission in the last financial year or reference rate as may be determined by the Commission.**”*
- *“Virtual Net Metering” or “VNM” means an arrangement whereby the entire energy generated from a DRES is exported to the grid and the energy exported is adjusted in more than one electricity service connection(s) of the participating consumers belonging to the same consumer category located within the area of supply of the distribution licensee as specified by the Commission.*
- *“Grid Support Charges” means the charges to be paid by the prosumers and other users of the grid, for recovering the costs related to energy storage, grid balancing etc. for facilitating energy injection into the grid.*



Net Metering

- *The distribution licensee shall record readings of bi-directional meter and generation meter (if made mandatory to install by the Commission).*
- *In case the electricity injected by the DRES exceeds the electricity consumed during the billing cycle, such excess injected electricity shall be carried forward to the next billing cycle as excess electricity and may be utilized in the following billing cycles but within the same settlement period.*
- *In case the electricity supplied by the distribution licensee during any billing cycle exceeds the electricity injected in the grid by the DRES, the distribution licensee shall raise a bill for the net electricity consumption after considering any excess electricity carried forward from the previous billing cycle.*
- *In case the prosumer is under the ambit of time-of-day tariff, the following process shall be followed:*
 - a) Electricity consumption in any time block (e.g., peak hours, off-peak hours, etc.) shall be first compensated with the electricity generation in the same time block.*
 - b) Any cumulative excess injected electricity over and above consumption in any other time block in a billing cycle shall be accounted as if the excess injection had occurred during off-peak time blocks.*
 - c) This process will continue till all consumption in off-peak time blocks is set off against DRES generation in the time blocks specified in 6.1.7. b).*
 - d) Any excess generation after setting off consumption in off-peak time blocks would be carried forward to the next billing cycle.*
- *The excess electricity at the end of settlement period [*] shall be settled by the distribution licensee at 75% of weighted average tariff of solar power project of 5 MW or above capacity, tariff for which has been discovered through competitive bidding either by the distribution licensee or by an intermediary agency for the distribution licensee, and which has been approved/adopted by the appropriate Commission in the last financial year.*

Provided further that at the beginning of each settlement period [], i.e., April, carried forward electricity shall be zero.*

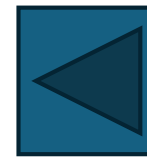


Net Billing

- *The energy generated by the DRES shall be first used for self-consumption and surplus energy injected into the Grid or energy drawn from the Grid shall be billed as per following equation:*
- *Energy Bill of consumer =*
$$\text{Fixed Charges} + \text{Other applicable charges and levies} + ((E_{DL} - \text{Open Access Quantum}) \times T_{RST}) - (E_{RE} \times T_{RR}) - \text{Billing Credit (carry forward from last billing cycle);}$$

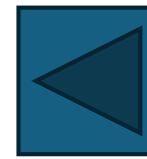
Where:

 - a) Fixed Charges means the Fixed/Demand Charges as applicable to the consumer category as per the applicable retail supply Tariff Order;*
 - b) Other charges and levies mean any other charges such as duties and taxes, cess, etc.;*
 - c) E_{DL} means the energy drawn from the Grid by the prosumer.*
 - d) T_{RST} means the applicable retail supply tariff of the concerned consumer category as per the applicable retail supply Tariff Order of the Commission.*
 - e) E_{RE} means the energy injected into the Grid by the prosumer.*
 - f) T_{RR} means 100% of weighted average tariff of solar power project of 5 MW or above capacity, tariff for which has been discovered through competitive, and which has been approved/adopted by the appropriate Commission in the last financial year or reference rate as may be determined by the Commission.*
 - g) Billing Credit is credit available from previous months.*
- *The monetary value of the exported energy is credited based on the 100% of weighted average tariff of solar power project of 5 MW or above capacity, tariff for which has been discovered through competitive bidding.*
- *The monetary value of the exported energy is deducted from the monetary value of imported energy to arrive at the net amount to be billed.*
- *If the cumulative credit amount exceeds the debit amount during any billing cycle, the net credit amount is carried over to the next billing cycle. At the end of a settlement period [*], the net credit balance (if any) shall be paid by the distribution licensee to the eligible consumer.*
- *[*(Name of State) Electricity Regulatory Commission may define settlement period factoring their state specific conditions].*
- *The distribution licensee shall accept the power as per the useful life of the DRES, unless the Eligible Consumer ceases to be a consumer of the Licensee or the DRES is abandoned earlier.*



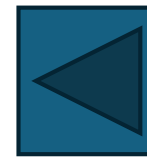
Gross Metering

- *The distribution licensee shall undertake meter reading of both the Generation meter and the consumer meter according to regular billing cycle.*
- *The distribution licensee shall purchase entire energy generated from the DRES system at the rate computed as 100% of weighted average tariff of solar power project of 5 MW or above capacity, tariff for which has been discovered through competitive bidding either by the distribution licensee or by an intermediary agency for the distribution licensee, and which has been approved/adopted by the appropriate Commission.*
- *The energy supplied by the distribution licensee shall be billed as per tariff schedule for respective category of consumers.*
- *The distribution licensee shall prepare a net bill comprising of the amount payable by the distribution licensee as per regulations 6.3.4 above and amount payable by the consumer as per regulations 6.3.5 as above for each billing cycle:
Provided that if the net bill amount for a billing cycle is payable by the consumer, then the same shall be paid by the consumer within the due date of the bill:
Provided further that if net bill amount for a billing cycle is payable by the distribution licensee, then the same shall be paid to the consumers within the due date or shall be carry forward to the next billing cycle (or as decided by SERC).*



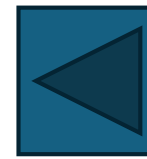
Group Net Metering

- *The energy generated from DRES shall be credited in the electricity bill of each participating connection(s), for each billing cycle, as per the priority indicated in the connectivity agreement with the distribution licensee. The sequence of priority for adjustment shall be deemed to begin with the service connection where the DRES is located.*
- *Where the export of units during any billing cycle exceeds the import of units at the connection where DRES is located, such surplus units injected into the grid shall be adjusted against the energy consumed in the monthly bill of service connection(s) in a sequence indicated in the priority list provided by the Consumer.*
- *The priority list for adjustment of the balance surplus energy against other electricity connection(s) may be revised by the Consumer once at the beginning of each financial year with an advance notice of three months.*
- *The electricity consumption in any time block (e.g., peak hours, off-peak hours, etc.) shall be first compensated with the electricity generation in the similar time blocks in the same billing cycle of the Consumer where the DRES is located, and any surplus units injected shall be adjusted against the energy consumed in the monthly bill of service connection(s) in a sequence indicated in the priority list provided by the Consumer, as if the surplus generation/ Energy Credits occurred during the off peak time block for Time of Day (ToD) Consumers and normal time block for Non-ToD Consumer.*
- *Where during any billing cycle, the export of units either in peak or off-peak hours exceeds the import of units by the electricity service connection(s), such surplus units injected by the Consumer shall be carried forward to the next billing cycle as energy credit and shown as energy exported by the Consumer for adjustment against the energy consumed in subsequent billing cycles within the Settlement Period in the sequence indicated in the priority list.*
- *The unadjusted net credited units of electricity as at the end of each financial year shall be considered as units purchased by the Distribution Licensee at 75% of weighted average tariff of solar power project of 5 MW or above capacity, tariff for which has been discovered through competitive bidding*
Provided that, at the beginning of each Settlement Period [], the cumulative quantum of injected electricity carried forward will be re-set to zero.*
- *The service connection where DRES is located, shall consume at least 20% of total energy generated by DRES. The equivalent units (out of 20% of generated RE power), which are not consumed at source connections, shall be considered as lapsed energy.*



Virtual Net Metering

- *The energy generated from the DRES shall be credited in the monthly electricity bill of each participating consumer(s) as per the ratio of procurement from DRES indicated under the agreement/MoU entered by the Consumer(s) and submitted to the distribution licensee.*
- *The Consumer(s) shall have the option to change the share of credit of electricity from DRES by submitting a fresh agreement/MoU subject to the ratio of procurement from DRES indicated under the agreement/MoU entered by the Consumer(s) once at the beginning of the financial year with an advance notice of three months.*
- *Where the service connection of any participating consumer(s) is disconnected due to any reason under any law for the time being in force, the unadjusted units/remaining credits of that consumer(s) shall be paid by the Distribution Licensee at the end of the financial year.*
- *The electricity consumption in any time block (e.g., peak hours, off-peak hours, etc.) shall be first compensated with the electricity generation in the similar time blocks in the same billing cycle of the participating consumer(s). Any surplus generation over consumption in any time block in a billing cycle shall be accounted as if the surplus generation/ Energy Credits occurred during the off-peak time block for Time of Day (ToD) Consumers or normal time block for Non-ToD Consumers.*
- *Where the units credited during any billing cycle of any participating Consumer exceeds the import of units by that consumer, such surplus credited units shall be carried forward in the next billing cycle as energy credits for adjustment against the energy consumed in subsequent billing cycles within the settlement period of each participating Consumer(s).*
- *The unadjusted net credited units of electricity as at the end of each financial year shall be considered as units purchased by the Distribution Licensee at 75% of weighted average tariff of solar power project of 5 MW or above capacity, tariff for which has been discovered through competitive bidding*
- *Provided that, at the beginning of each Settlement Period [*], the cumulative quantum of injected electricity carried forward will be re-set to zero.*



Behind the Meter

- *The consumer may set up DRES for the self-consumption and not sell electricity generated by DRES to the distribution licensee.*
- *The DRES connected behind the Consumer's meter, operating in parallel with the Distribution Licensee's grid, shall be allowed only after prior intimation to the respective distribution licensee.*
- *In case, the Consumer installs DRES without prior intimation, the consumer shall have to intimate about the same to the respective distribution licensee within a timeframe of three months. Failure to intimate within stipulated timeframe shall attract one time penalty of INR 1000/kW of installed DRES capacity or as determined by the Commission.*
- *The Consumer shall install reverse power flow relay to ensure that no energy is injected into the grid from such DRES installed behind the Consumer's meter: Provided that, any quantum of energy injected by such DRES connected behind the Consumer's meter shall be considered as inadvertent injection and shall neither be paid for nor settled by the distribution licensee.*
Provided further that, any quantum of energy injected by such DRES connected behind the Consumer's meter shall be considered as inadvertent injection and penalty shall be levied on such inadvertent injection as determined by the Commission under applicable relevant Regulations in force.

Application Process and Procedure

The distribution licensee shall facilitate the process of setting up the DRES system. In this regard, the distribution licensee shall:

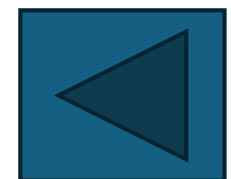
- a) Notify separate guidelines for DRES projects to be implemented under different metering mechanism within one month of date of notifications of these regulations and submit to the Commission for the approval.
- b) Create/update a web-based portal for receiving applications from prosumers for installation, interconnection and metering of DRES at their premises within three months from the date of notifications of these regulations.
- c) Prominently display on its website and web-portal, the following; namely:-
 - Detailed standardized procedure for installation and commissioning of DRES under different metering mechanism under these regulations;
 - a single point of contact to facilitate the consumers in installation of DRES from submission of application form to commissioning.
 - complete list of documents required to be furnished along with such applications.
 - applicable charges to be deposited by the applicant.
 - Standard agreements for different metering mechanism defined under these regulations;
 - empanelled list of service providers for the benefit of consumers who want to install DRES through service providers;
 - financial incentives to the prosumers, as applicable under various schemes and programmes of the Central and State Governments.
 - Feeder or distribution transformer wise hosting capacity available for connected DRES.
 - Record of capacity of DRES system installed under different metering mechanism.
- d) The distribution licensee shall define the guidelines in accordance with the guidance provided by the Central and State Governments from time to time.
- e) Matters related to subsidy application shall be dealt by the Nodal Agency appointed by Ministry of New and Renewable Energy & State Government from time to time.

DRES Targets under RCO

The Distributed Renewable Energy component shall be met only from the energy generated from Renewable Energy projects that do not exceed 10 MW in size and shall include solar installations under all configurations (net metering, gross metering, virtual net metering, group net metering, behind the meter installations and any other configuration) and other renewable energy sources notified by the Central Government.

The specified minimum share of electrical energy from DRES as a percentage of total electrical energy consumption is mentioned in below table:

Year	Distributed Renewable Energy Sources (Percentage)
FY 2024-25	1.50%
FY 2025-26	2.10%
FY 2026-27	2.70%
FY 2027-28	3.30%
FY 2028-29	3.90%
FY 2029-30	4.50%



FOR “RE Related Policy & Regulatory Matters” Working Group

Presentation on RPO/ RCO Trajectory and Impact Assessment for Select States

Assisted by M/s. Idam Infrastructure Advisory Pvt Ltd.

November 2025

Agenda

- TOR of RPO Study
- Approach and Methodology
- Discussion points from RE WG Meeting
- All India level RE Capacity Installed & projections up to FY 30
- Actual RCO achievement in FY25
- Possible RCO Achievement under different scenarios
- State level RCO achievement in FY24 and FY25
- Suitable state level RCO trajectory
- Conclusion



Context

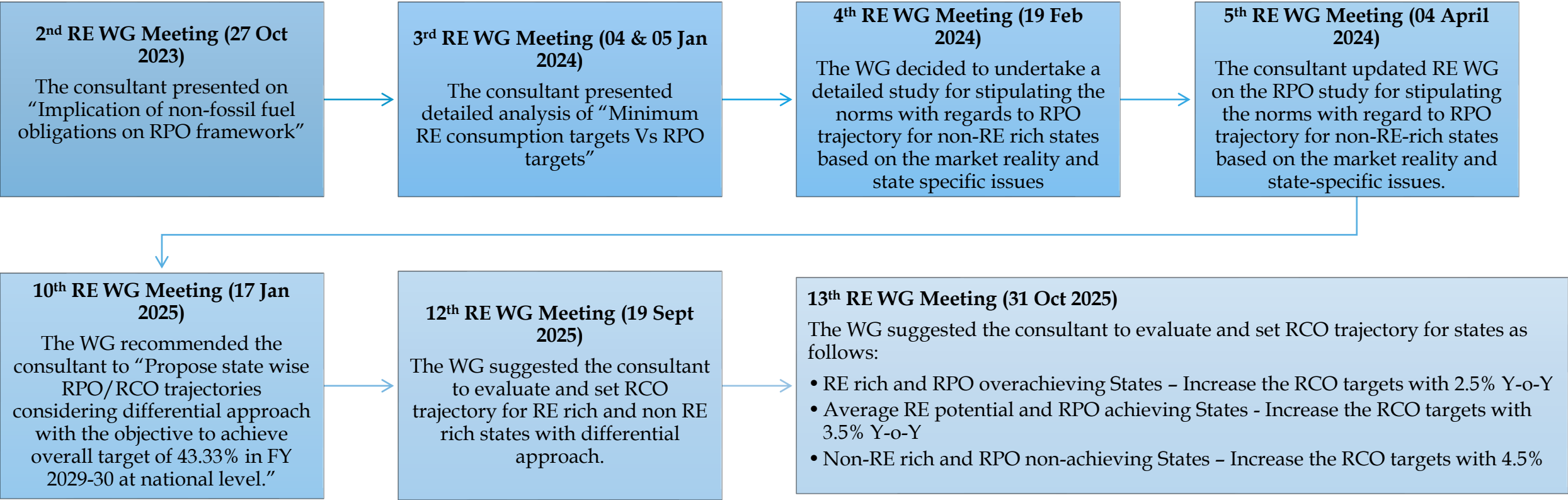
ToR - RPO Study

- To undertake **comparative analysis of RPO trajectory** under unified RPO target notification vis à vis SERC RPO Regulations. States to be covered under study include following:

North Region	Western Region	Eastern Region	Northeastern Region	Southern Region
Uttar Pradesh, Delhi, Himachal Pradesh, Punjab	Chhattisgarh, Gujarat	Bihar and Odisha	Assam & Meghalaya	Andhra Pradesh and Kerala

- To **identify implementation & operational challenges including cost benefit analysis** to implement unified RPO trajectory, from state perspective;
- To **examine and recommend RPO trajectory** for states with different level of RE penetration;
- To **explore feasibility of fungibility of RPO** in the context of growth of various RE technologies;
- To **explore innovative mechanisms and regulatory interventions** to implement the RPO trajectories for states;
- Any other related matters;

Highlights from RE WG Meetings on RPO study



Salient features: MoP Revised Draft RCO Notification dated 27 Sept 2025

- **Applicability:** DCs incl. DISCOMs, Open Access and Captive Users
- **Obligation from Wind / Hydro:** To be met from Wind/Hydro commissioned after 31st March 2024.
- **Fungibility:** Shortfalls in wind, hydro, other RE can be met by surpluses from other, but DRE is non-fungible for short fall. But surplus in DRE can be used to offset other categories.

Minimum Share of consumption from RE Sources					
Year	Wind RE	Hydro RE	Distributed RE*	Other RE	Total RE
2024-25	0.67%	0.38%	1.50%	27.35%	29.91%
2025-26	1.45%	1.22%	2.10%	28.24%	33.01%
2026-27	1.97%	1.34%	2.70%	29.94%	35.95%
2027-28	2.45%	1.42%	3.30%	31.64%	38.81%
2028-29	2.95%	1.42%	3.90%	33.10%	41.36%
2029-30	3.48%	1.33%	4.50%	34.02%	43.33%

Options to fulfill RCO Obligation

- Direct RE Consumption or through energy storage system.
- Purchase of RECs issued by CERC including RECs acquired under Virtual Power Purchase Agreements (VPPAs).
- Payment of buyout price by CERC
- For OA and captive users, RCO shall include **electrical energy consumption at the point of injection** from grid into consumer's network.
- For DCs incl. DISCOMs, RCO shall be calculated based on electrical energy supplied to consumers within the **periphery of DISCOM (T<>D)**.
- **Compliance Monitoring by BEE**
- **RCO compliance from multiple designated consumers under common control:** As defined in Companies Act, 2013 to be considered on an aggregate basis at the holding company level.
- BEE is directed to come up with guidelines to implement RCO

Overall approach for Impact Assessment of uniform RPO/ RCO on States

Data collection

Define the cases for analysis (Projection Scenarios)

Activity 1: Analyse RPO/ RCO target scenarios at national level & state level

Activity 2: Propose state level RCO trajectory

- **Data collection** of state wise RPO targets, RPO achievement in past, demand projections up to FY30, RE installed capacity, PLF and RE capacity addition plan state-wise and all India level, Source wise Power Purchase Cost in states for FY24

Data sources:

- CEA Resource Adequacy Reports
- CEA General Review Reports
- MNRE Website
- NITI Aayog ICED portal
- SECI Tender Bidding Results
- SERC Regulations on RPO
- State wise Tariff Orders, Petitions

- Case 1: RE Capacity Addition as planned (RA Plans)
- Case 2: RE capacity addition as per 3 year CAGR
- Case 3: RE capacity addition assuming 50 GW and above capacity addition YoY

- Projection of RE available in States based on RE installed capacity and projection of tentative RE capacity addition by FY30 under case 1, 2 and 3
- Estimate energy required to meet RPO (state-wise)
- Compute surplus/ gap for RPO achievement across 28 states, 8 UTs and all India level up to FY30 under case 1, 2 and 3
- Evaluate if RPO target of 43.33% will be achieved by FY30 at state level and India level based on RE capacity addition plan of state and country, actual RE capacity addition growth rate etc.

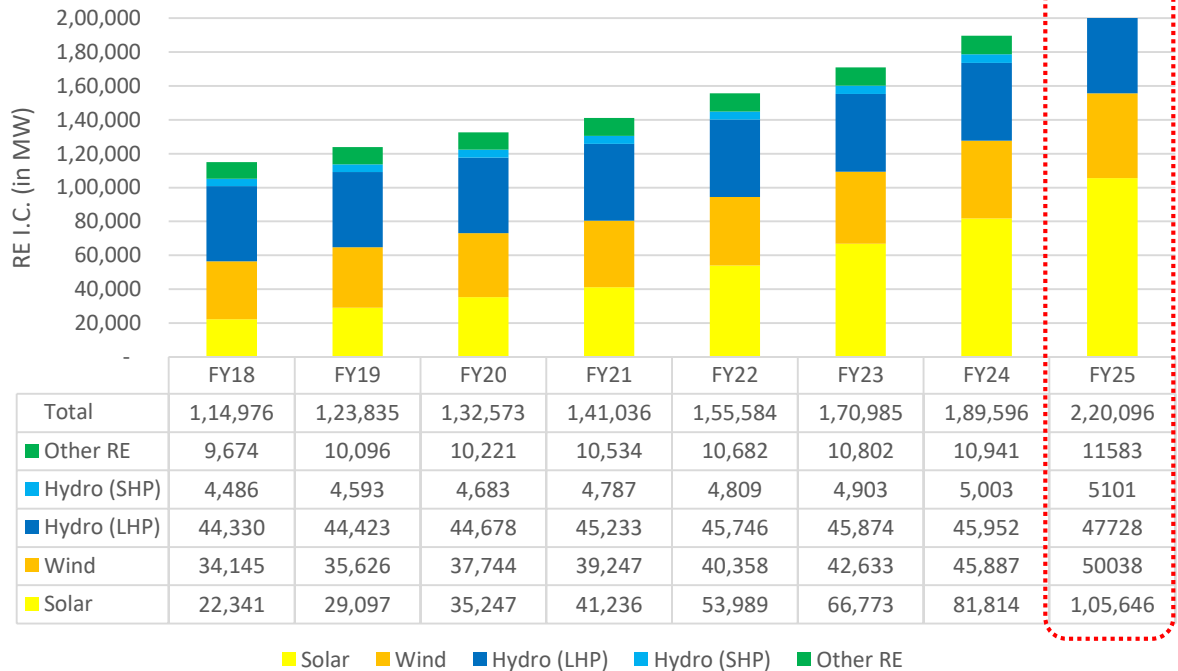
- Grouping of states based on RCO achievement w.r.t. RA plans
- Validate RPO/ RCO achievement of states in FY24 and FY25
- Set RCO for states based on possible RCO achievement

Possible RCO Achievement at National Level

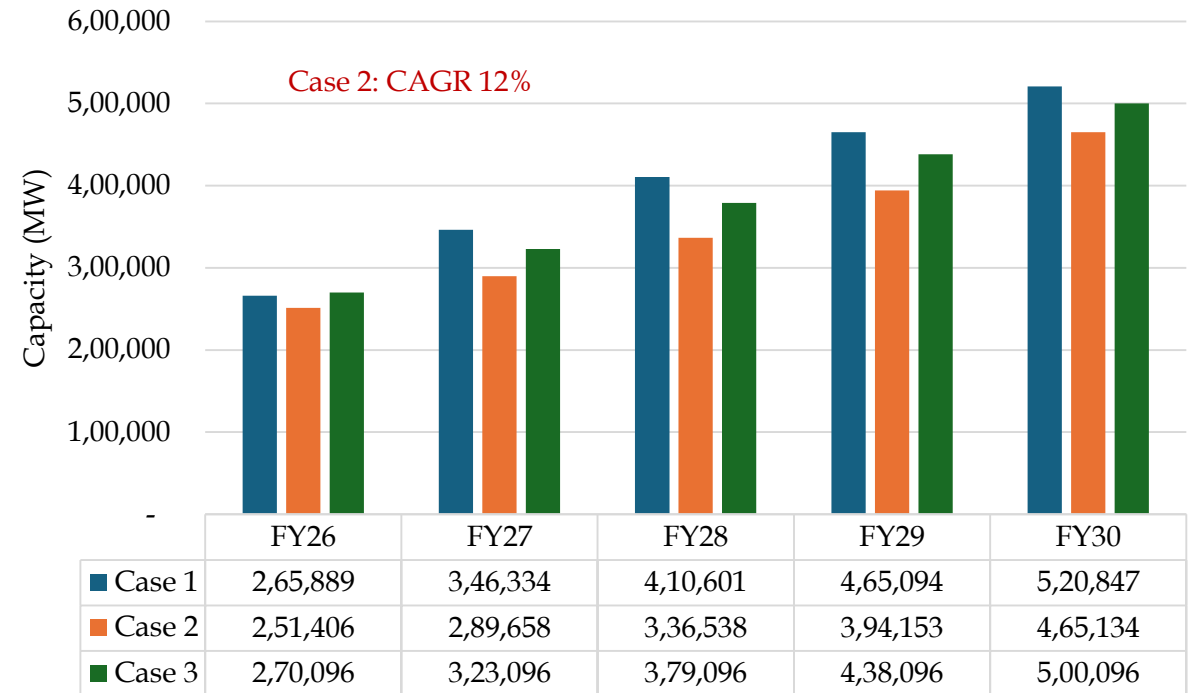
All India level RE Capacity Installed & projections up to FY 30

- State to state RE capacity is projected to estimate all India level RE capacity which will be available by FY 2029-30.
- RE capacity addition is projected based on Installed capacity available as of March 2024 and following 3 approaches:
 - Case 1: RA plans which includes Existing + Planned + Additional capacity addition
 - Case 2: 3 years CAGR of capacity addition from 2022-2025
 - Case 3: 50 GW and above capacity addition Y-o-Y

All India RE Installed Capacity (MW)



All India RE IC Projections (MW)



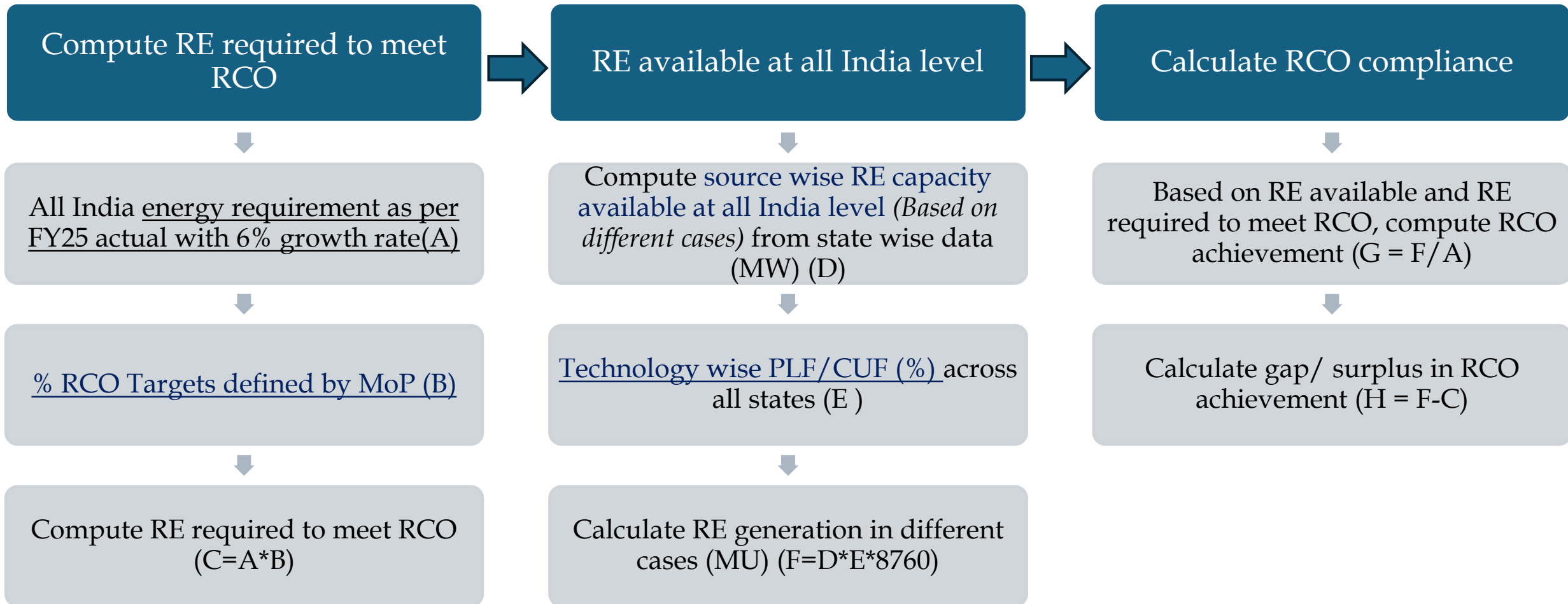
RPO/ RCO Achievement at India level

- RE Capacity Addition - Actual Vs RA Plan (Existing + Planned + Additional Capacity)

Particulars	Unit	RA Projections		Actual data of FY25	
		FY 25 (RA plan projection)	Data Source	FY 25 (Actual)	Data Source
All India Energy Requirement (Ex-bus) (A)	MU	16,94,634	20 th EPS Report	18,24,220	CEA Generation Report (March 2025)
MoP RCO Targets (%) (B)	%	29.90%	MoP Notification	29.90%	MoP Notification
RE required to meet RPO/ RCO (C=A*B)	MU	5,06,696		5,45,441	
RE Capacity Available (D)	MW	2,50,321	State wise RA Plans	2,20,096	CEA General Review Report (March 2024 & March 2025)
Composite CUF (%)of RE at all India level (E)	%	26%	State wise RA Plans	22.5%	Derived based on avg. IC of FY24 & FY25
RE Available to meet RPO/ RCO (MU) (F=D*PLF (E))	MU	5,67,959		4,33,810	CEA General Review Report (March 2024 & March 2025)
RPO/ RCO Gap (-)/ Surplus (MU) (G=F-C)	MU	67,388		-1,11,631	
% RPO/ RCO Achievement (H=F/A)	%	34%		23.78%	

- Actual energy requirement of FY25 is significantly higher than the projected energy requirement as per 20th EPS for FY25.
- At the same time, RE capacity addition in FY25 is significantly lesser than the projections in RA plans.
- Further, actual CUF is lower than projections in RA plans of states.
- As a result, national level RCO achievement is only 23.7% as against the target of 29.9% in FY25.

Approach for RPO/ RCO compliance and achievement



RE Capacity Required to meet RCO targets....(1/2)

Components	Unit	Particular	FY 26	FY 27	FY 28	FY 29	FY 30
All India Energy Requirement (Ex-bus) (A)	MU	Energy Requirement (Ex-bus) (MU)	19,33,673	20,49,694	21,72,675	23,03,036	24,41,218
MoP RCO Targets (%) (B)	%	Wind	1.45%	1.97%	2.45%	2.95%	3.48%
		Hydro	1.22%	1.34%	1.42%	1.42%	1.33%
		DRE	2.10%	2.70%	3.30%	3.90%	4.50%
		Other RE	28.24%	29.94%	31.64%	33.10%	34.02%
		Total RCO Target	33.01%	35.95%	38.81%	41.37%	43.33%
RE required to meet RPO/ RCO (MU) (C=A*B)	MU	Wind_INCR March 2024	28,038	40,379	53,231	67,940	84,954
		Hydro_INCR March 2024	23,591	27,466	30,852	32,703	32,468
		DRE	40,607	55,342	71,698	89,818	1,09,855
		Other RE	5,46,069	6,13,678	6,87,434	7,62,305	8,30,502
		Total RE Requirement	6,38,306	7,36,865	8,43,215	9,52,766	10,57,780

RE Capacity Required to meet RCO targets....(2/2)

Components	Unit	Particular	FY 26	FY 27	FY 28	FY 29	FY 30
Technology wise CUF (%) of RE at all India level based on actual achieved CUF in FY25 (D)*	%	Wind	20.2%	20.5%	20.7%	21.0%	21.2%
		Hydro (LHP, SHP Avg)	33.5%	33.5%	33.5%	33.5%	33.5%
		DRE	18.0%	18.0%	18.0%	18.0%	18.0%
		Other RE - Solar	21.3%	21.8%	22.3%	22.8%	23.3%
RE Capacity Required to meet RCO (MW) (E = C/D*8.76)	MW	Wind_INCR March 2024	15,830	22,518	29,327	36,985	45,703
		Hydro_INCR March 2024	8,039	9,360	10,514	11,145	11,064
		DRE	25,753	35,097	45,471	56,962	69,669
		Other RE (a = b + c + d)	2,65,274	2,96,315	3,29,111	3,61,027	3,88,302
		Wind - Old (b) (COD March 2024)	45,887	45,887	45,887	45,887	45,887
		Hydro - Old (c) (COD March 2024)	51,931	51,931	51,931	51,931	51,931
		Other RE - Excl. Wind, Hydro (d)	1,67,456	1,98,497	2,31,293	2,63,209	2,90,484
		Total RE Capacity Requirement (MW)	3,14,895	3,63,290	4,14,423	4,66,119	5,14,739

*CUF of wind and solar is taken based on actual CUF of FY25 and projection assuming 0.25% and 0.50% increment YoY resp. considering advancement in technology.

RPO/ RCO Achievement at India level as per Case Scenario 1

- RE Capacity Addition as per RA plan (Existing + Planned + Additional) and State wise CUF/ PLF

Particular	Unit	FY 26	FY 27	FY 28	FY 29	FY 30
All India Energy Requirement (A)	MU	19,33,673	20,49,694	21,72,675	23,03,036	24,41,218
MoP RCO Targets (B)	%	33.01%	35.95%	38.81%	41.37%	43.33%
RE required to meet RPO/ RCO (MU) (C=A*B)	MU	6,38,306	7,36,865	8,43,215	9,52,766	10,57,780
Composite CUF at national level (D) (D = G/F*8.76) (Derived based on state wise & technology wise CUF)	%	25.5%	26.7%	26.8%	26.3%	25.8%
RE Capacity requirement to meet RCO (E)	MW	3,14,895	3,63,290	4,14,423	4,66,119	5,14,739
RE Capacity Addition possible (as per RA plans) (F)	MW	2,65,889	3,46,334	4,10,601	4,65,094	5,20,847
RE Generation Possible (G)	MU	5,78,780	7,40,517	8,71,868	9,79,544	10,89,228
RPO/ RCO Gap (-)/ Surplus (MU) (H=G-C)	MU	-59,525	3,652	28,653	26,778	31,448
% RPO/ RCO Achievement (I=G/A)	%	29.93%	36.13%	40.13%	42.53%	44.62%

- With ~521 GW RE capacity by FY30 and CUF of 25.8% as per RA plans, RPO/ RCO achievement will be 44.6% as against 43.33% in FY30.

RPO/ RCO Achievement at India level as per Case Scenario 2

- RE Capacity Addition as per 3 year CAGR and actual CUF of RE technologies

Particular	Unit	FY 26	FY 27	FY 28	FY 29	FY 30
All India Energy Requirement (A)	MU	19,33,673	20,49,694	21,72,675	23,03,036	24,41,218
MoP RCO Targets (B)	%	33.01%	35.95%	38.81%	41.37%	43.33%
RE required to meet RPO/ RCO (MU) (C=A*B)	MU	6,38,306	7,36,865	8,43,215	9,52,766	10,57,780
Composite CUF at national level (D = G/F*8.76) (Calculated based on technology wise CUF)	%	23.7%	23.7%	23.8%	24.0%	24.2%
RE Capacity requirement to meet RCO (E)	MW	3,14,895	3,63,290	4,14,423	4,66,119	5,14,739
RE Capacity Addition possible (with 3 Yr CAGR) (F)	MW	2,51,406	2,89,658	3,36,538	3,94,153	4,65,134
RE Generation Possible (G)	MU	5,21,250	6,02,121	7,02,921	8,28,969	9,87,017
RPO/ RCO Gap (-)/ Surplus (MU) (H=G-C)	MU	-1,17,055	-1,34,744	-1,40,294	-1,23,797	-70,763
% RPO/ RCO Achievement (I=G/A)	%	26.96%	29.38%	32.35%	35.99%	40.43%

- Total RE capacity which can be available FY30 will be 465 GW with 3 year CAGR.
- With 465 GW RE capacity addition by FY30, RPO achievement will be ~40.43% as against the target of 43.33%.
- The composite CUF is in the range of 23.7 - 24.2%.

RPO/ RCO Achievement at India level as per Case Scenario 3

- assuming 50 GW & above cap. add. YoY

Particular	Unit	FY 26	FY 27	FY 28	FY 29	FY 30
All India Energy Requirement (Ex-bus) (A)	MU	19,33,673	20,49,694	21,72,675	23,03,036	24,41,218
MoP RCO Targets (B)	%	33.01%	35.95%	38.81%	41.37%	43.33%
RE required to meet RPO/ RCO (MU) (C=A*B)	MU	6,38,306	7,36,865	8,43,215	9,52,766	10,57,780
Composite CUF at national level (D) (D = G/F*8.76) (Calculated based on technology wise CUF)	%	23.7%	23.8%	24.0%	24.3%	24.5%
RE Capacity requirement to meet RCO (E)	MW	3,14,895	3,63,290	4,14,423	4,66,119	5,14,739
RE Capacity Addition possible (Assuming 50 GW Cap. Add. YoY) (F)	MW	2,70,096	3,23,096	3,79,096	4,38,096	5,00,096
RE Generation Possible (G)	MU	5,60,507	6,74,224	7,97,604	9,30,977	10,74,670
RPO/ RCO Gap (-)/ Surplus (MU) (H=G-C)	MU	-77,799	-62,641	-45,611	-21,789	16,890
% RPO/ RCO Achievement (I=G/A)	%	29.0%	32.9%	36.7%	40.4%	44.0%

- Total RE capacity addition by FY30 may reach up to 500 GW with 50-58 GW cap. add. YoY.
- With 500 GW RE capacity addition by FY30, RPO achievement will be ~44% as against the target of 43.33%.
- The composite CUF is in the range of 23.7 - 24.5%.

Activity 1: Analysis of RPO/ RCO target achievement at national level

Particular	FY26	FY27	FY28	FY29	FY30
RPO/ RCO Targets as per MoP October 2023 Notification	33.01%	35.95%	38.81%	41.36%	43.33%
Case 1: % RPO/ RCO Achievement <i>as per RA Plans</i>	29.93%	36.13%	40.13%	42.53%	44.62%
Case 2: % RPO/ RCO Achievement as per <i>3 Year CAGR</i>	26.96%	29.38%	32.35%	35.99%	40.43%
Case 3: % RPO/ RCO Achievement <i>assuming 50 GW & above cap. add. YoY</i>	29.0%	32.9%	36.7%	40.4%	44.0%
Suggested RPO/ RCO trajectory at National level	29.0%	33.0%	37.0%	40.0%	43.0%

- Based on RE capacity addition forecasted under case 1, case 2 and case 3, RE available (MU) is estimated to evaluate RPO achievement status by FY30 at all India level.
- RPO/ RCO achievement at All India level is mainly dependant on pace of technology wise RE capacity additions across multiple states and CUF of technologies.
- Considering current capacity addition trend, we believe that Case 3 could be the most likely case which can be achieved at the national level.
- Based on case 3, suggested RCO national level trajectory is proposed.



State level possible RCO
Achievement and suitable
trajectory

Activity 1: Analysis of MoP RPO/ RCO target achievement at State level.... (1/2)

- Based on RE projections as per RA plans only (Case 1)

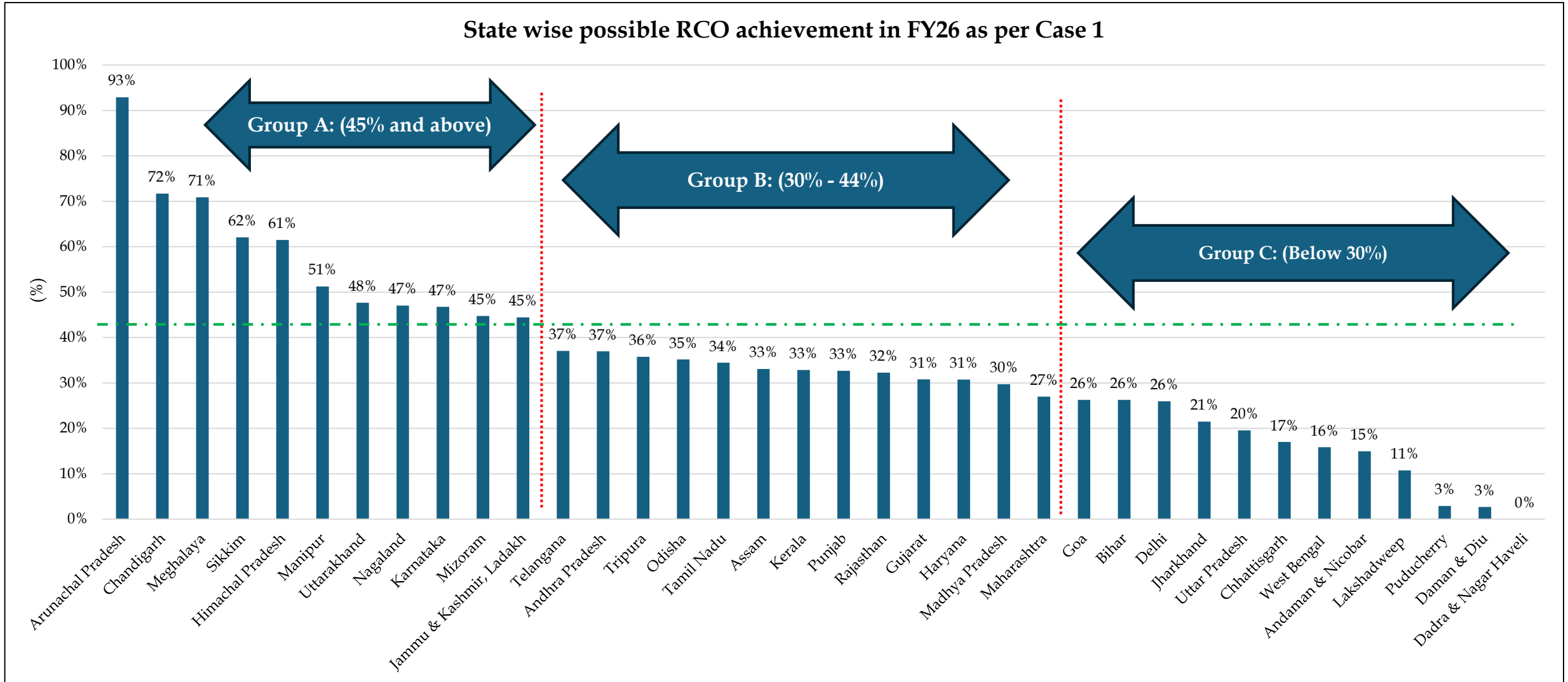
States/UTs	FY26	FY27	FY28	FY29	FY30
Andhra Pradesh	37%	39%	39%	39%	42%
Assam	33%	46%	51%	59%	63%
Bihar	26%	32%	34%	37%	39%
Chhattisgarh	17%	26%	30%	32%	34%
Delhi	26%	29%	30%	32%	32%
Gujarat	31%	34%	40%	44%	46%
Himachal Pradesh	61%	70%	82%	84%	85%
Kerala	33%	34%	36%	39%	41%
Meghalaya	71%	70%	68%	66%	65%
Odisha	35%	36%	35%	34%	35%
Punjab	33%	38%	45%	45%	45%
Uttar Pradesh	20%	29%	37%	44%	47%
Jammu & Kashmir	44%	58%	57%	54%	52%
Ladakh					
Rajasthan	32%	42%	46%	46%	47%
Uttarakhand	48%	47%	45%	49%	47%
Chandigarh	72%	75%	78%	76%	78%
Goa	26%	39%	45%	51%	53%
Daman & Diu	3%	3%	2%	2%	2%
Madhya Pradesh	30%	36%	41%	42%	44%
MoP RCO Target	33.0%	36.0%	38.8%	41.4%	43.3%

States/UTs	FY26	FY27	FY28	FY29	FY30
Maharashtra	27%	36%	36%	38%	39%
Dadra & Nagar Haveli	0%	0%	0%	0%	0%
Telangana	37%	40%	43%	46%	49%
Karnataka	47%	51%	56%	64%	75%
Tamil Nadu	34%	38%	40%	43%	48%
DVC	11%	49%	49%	49%	47%
Puducherry	3%	3%	3%	3%	3%
Jharkhand	21%	24%	27%	29%	30%
West Bengal	16%	39%	48%	49%	50%
Sikkim	62%	59%	85%	80%	76%
Arunachal Pradesh	93%	93%	93%	93%	93%
Tripura	36%	34%	34%	36%	39%
Manipur	51%	49%	46%	46%	46%
Nagaland	47%	62%	64%	64%	65%
Haryana	31%	34%	35%	37%	37%
Andaman & Nicobar	15%	15%	15%	14%	14%
Lakshadweep	11%	10%	10%	10%	9%
Mizoram	45%	41%	38%	36%	36%
All India	30%	36%	40%	43%	45%
MoP RCO Target	33.0%	36.0%	38.8%	41.4%	43.3%

Note: The RPO/ RCO targets for states are considering ex-bus energy requirement of states incl. nuclear energy, although MoP RCO Notification dated 27 Sept 2025 specify that RCO shall be applicable on energy requirement excl. nuclear energy.

Possible RPO achievement (%) at state & India level as per RA plans Case 1

- Based on RE Installed Capacity as per RA plans



* Maharashtra is one of the RE rich states. Hence, although achievement as per RA plans as well as MYT Order of MSEDCL is lower in FY26, it is considered in Group B.

State wise RPO Achievement FY24 and FY25

State	RPO Target FY 24	RPO Compliance FY 24	RPO Target FY 25	RPO Compliance FY 25
Andaman & Nicobar	19.9%	13.0%	29.91%	12.65%
Andhra Pradesh	19.0%	23.1%	20.00%	26.48%
Arunachal Pradesh*		18.80%	29.91%	
Assam	27.1%	20.5%	29.91%	20.06%
Bihar	27.1%	25.1%	29.91%	22%
Chandigarh	19.9%	38.9%	29.91%	
Chhattisgarh	27.1%	11.7%	23.66%	56.05%
Dadra & Nagar Haveli, Daman Diu	19.9%	36.6%	29.91%	
Delhi*		24.40%		
Goa	19.9%	21.1%	29.91%	
Gujarat (GUVNL)	18.7%	18.1%	20.70%	21.70%
Haryana*	16.66%	21.70%	29.91%	
Himachal Pradesh	27.1%	95.3%	29.91%	92.68%
Jammu & Kashmir and Ladakh	21.7%	7.1%		
Jharkhand (J BVNL)	25.0%	10.7%	29.90%	12.67%
Karnataka	23.0%	25.4%	29.90%	25.23%
Kerala	21.8%	7.0%	21.00%	11.40%
Lakshadweep	19.9%	2.1%	29.91%	3.93%

State	RPO Target FY 24	RPO Compliance FY 24	RPO Target FY 25	RPO Compliance FY 25
Madhya Pradesh	27.4%	27.4%	29.17%	29.18%
Maharashtra	22.0%	23.3%	29.91%	20.55%
Manipur	27.1%	0.0%		
Meghalaya	7.5%	5.9%	7.50%	7.18%
Mizoram	27.1%	38.5%		
Nagaland	25.5%	30.6%	27.45%	35.18%
Odisha*		25.50%		
Puducherry	19.9%	59.5%	29.91%	
Punjab (DISCOM: PSPCL)	27.0%	29.6%	30.00%	24.63%
Rajasthan (All discoms)	21.7%	16.2%	29.91%	20.44%
Sikkim	17.3%	100.0%	17.40%	86.80%
Tamil Nadu	27.1%	10.9%	29.91%	12.68%
Telangana	10.5%	14.1%	10.50%	18.10%
Tripura	27.1%	91.5%	29.91%	92.32%
Uttar Pradesh	15.0%	13.8%	15.00%	13.15%
Uttarakhand	27.1%	47.3%	29.91%	47.44%
West Bengal	17.0%	27.3%	29.91%	26.33%

	RPO Shortfall vis-à-vis SERC targets
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Approach for state wise RCO trajectory

- **Approach for setting state wise RPO/ RCO trajectory**
 - **Step 1:** Grouping of states based on possible achievement as per RA plans in FY26
 - **Step 2:** Set incremental RCO trajectory from FY 26 to FY30 as follows:
 - **Group A:** RCO based on achievement in FY26
 - **Group A1:** Constant for Special Category States like North Eastern & Hilly region
 - **Group A2:** RE rich states with 2.5% increase YoY
 - **Group B:** RCO based on achievement in FY26 with 3.5% increase YoY
 - **Group C:** RCO based on achievement in FY26 with 4.5% increase YoY

Proposed State wise RCO trajectory....

- Constant for Group A excl. Karnataka

Groups	States/UTs	FY26	FY27	FY28	FY29	FY30
Group A1: 45% and above (Special Category States)	Arunachal Pradesh	93.0%	93.0%	93.0%	93.0%	93.0%
	Chandigarh	72.0%	72.0%	72.0%	72.0%	72.0%
	Meghalaya	71.0%	71.0%	71.0%	71.0%	71.0%
	Sikkim	63.0%	63.0%	63.0%	63.0%	63.0%
	Himachal Pradesh	62.0%	62.0%	62.0%	62.0%	62.0%
	Manipur	52.0%	52.0%	52.0%	52.0%	52.0%
	Uttarakhand	48.0%	48.0%	48.0%	48.0%	48.0%
	Nagaland	48.0%	48.0%	48.0%	48.0%	48.0%
	Mizoram	45.0%	45.0%	45.0%	45.0%	45.0%
	Jammu & Kashmir, Ladakh	45.0%	45.0%	45.0%	45.0%	45.0%
Group A2: 45% and above (RE rich states)	Karnataka	47.0%	49.5%	52.0%	54.5%	57.0%
Group B: 30% to 44%	Telangana	36.5%	40.0%	43.5%	47.0%	50.5%
	Andhra Pradesh	33.5%	37.0%	40.5%	44.0%	47.5%
	Tripura	31.5%	35.0%	38.5%	42.0%	45.5%
	Odisha	33.5%	37.0%	40.5%	44.0%	47.5%
	Tamil Nadu	34.5%	38.0%	41.5%	45.0%	48.5%
	Maharashtra	27.0%	30.5%	34.0%	37.5%	41.0%
	Kerala	33.0%	36.5%	40.0%	43.5%	47.0%
	Haryana	30.0%	33.5%	37.0%	40.5%	44.0%
	Punjab	28.5%	32.0%	35.5%	39.0%	42.5%
	Rajasthan	27.5%	31.0%	34.5%	38.0%	41.5%
	Gujarat	26.5%	30.0%	33.5%	37.0%	40.5%
	Madhya Pradesh	30.0%	33.5%	37.0%	40.5%	44.0%
	Assam	34.0%	37.5%	41.0%	44.5%	48.0%

Groups	States/UTs	FY26	FY27	FY28	FY29	FY30
Group C: Below 30%	Goa	27.0%	31.5%	36.0%	40.5%	45.0%
	Bihar	27.0%	31.5%	36.0%	40.5%	45.0%
	Delhi	26.0%	30.5%	35.0%	39.5%	44.0%
	Jharkhand	22.0%	26.5%	31.0%	35.5%	40.0%
	Uttar Pradesh	20.0%	24.5%	29.0%	33.5%	38.0%
	Chhattisgarh	17.0%	21.5%	26.0%	30.5%	35.0%
	West Bengal	16.0%	20.5%	25.0%	29.5%	34.0%
	Andaman & Nicobar	15.0%	19.5%	24.0%	28.5%	33.0%
	Lakshadweep	11.0%	15.5%	20.0%	24.5%	29.0%
	Puducherry	3.0%	7.5%	12.0%	16.5%	21.0%
	Daman & Diu	3.0%	7.5%	12.0%	16.5%	21.0%
	Dadra & Nagar Haveli	3.0%	7.5%	12.0%	16.5%	21.0%
	All India possible achievement		29.29%	32.84%	36.39%	39.95%
All India proposed trajectory		29.00%	33.00%	37.00%	40.00%	43.00%

Note: The RPO/RCO targets for states are considering ex-bus energy requirement of states incl. nuclear energy, although MoP RCO Notification dated 27 Sept 2025 specify that RCO shall be applicable on energy requirement excl. nuclear energy.

Conclusion

- Envisaged RE capacity addition is important to achieve to meet the set RCO targets by FY30.
- From the current scenarios, case 3 is most likely to achieve by FY30 i.e., 500 GW RE capacity addition by FY30 which is in line with Govt of India targets.
- Whereas, at national level, achieving MoP RCO trajectory in FY26 and FY27 can be difficult. Hence, it is suggested to set national level trajectory as below:

Source	FY26	FY27	FY28	FY29	FY30
Suggested RPO/ RCO trajectory at National level	29.0%	33.0%	37.0%	40.0%	43.0%

- Grouping of states can be done based on capacity mix of RE in states and accordingly RCO with differential approach can be set for states with the objective to achieve suggested RCO trajectory above.

All India Energy Requirement Projections

Particular	FY25 (Actual)	FY26 (projection)	FY27 (projection)	FY28 (projection)	FY29 (projection)	FY30 (projection)
All India	18,24,220	19,33,673	20,49,694	21,72,675	23,03,036	24,41,218

Projection assuming 6% growth rate YoY



State wise Energy Requirement Projections

States/UTs	FY25	FY26	FY27	FY28	FY29	FY30
Andhra Pradesh	90,687	97,822	1,05,461	1,13,728	1,22,583	1,32,103
Assam	14,483	15,368	16,278	17,285	18,377	19,471
Bihar	53,218	58,033	62,588	67,587	72,904	78,431
Chhattisgarh	44,375	47,496	50,718	54,261	58,030	62,092
Delhi	41,982	43,881	45,731	47,782	49,982	52,088
Gujarat	1,70,786	1,83,315	1,96,077	2,10,129	2,25,023	2,42,166
Himachal Pradesh	14,886	15,630	16,371	17,178	18,012	18,877
Kerala	33,079	34,743	36,424	38,267	40,249	42,260
Meghalaya	2,720	2,818	2,913	3,015	3,120	3,205
Odisha	48,425	50,250	52,243	54,621	57,255	60,307
Punjab	79,113	83,488	88,053	93,027	98,359	1,04,127
Uttar Pradesh	1,82,493	1,93,695	2,05,350	2,18,141	2,31,896	2,45,990
Jammu & Kashmir	23,017	23,463	24,181	25,478	26,821	27,984
Ladakh	279	310	345	384	428	474
Rajasthan	1,28,280	1,35,738	1,43,480	1,51,856	1,60,743	1,70,091
Uttarakhand	19,470	20,549	21,640	22,831	24,088	25,382
Chandigarh	1,967	2,012	2,053	2,099	2,150	2,192
Goa	5,423	5,672	5,922	6,197	6,494	6,800
Daman & Diu	3,360	3,527	3,693	3,894	4,107	4,328
Madhya Pradesh	1,19,944	1,27,809	1,38,424	1,47,396	1,56,823	1,66,808

States/UTs	FY25	FY26	FY27	FY28	FY29	FY30
Maharashtra	2,15,387	2,25,581	2,36,064	2,46,567	2,57,536	2,69,405
Dadra & Nagar Haveli	9,263	9,764	10,270	10,825	11,406	12,020
Telangana	88,611	94,082	99,880	1,05,972	1,12,381	1,18,835
Karnataka	87,110	90,550	94,793	98,742	1,02,803	1,06,827
Tamil Nadu	1,38,949	1,46,803	1,54,800	1,63,481	1,72,723	1,82,053
DVC	21,637	23,194	24,804	26,575	28,463	30,500
Puducherry	3,481	3,586	3,691	3,804	3,926	4,044
Jharkhand	23,803	25,665	27,356	29,176	31,085	33,300
West Bengal	72,681	77,298	82,029	87,272	92,609	98,274
Sikkim	786	832	880	932	989	1,043
Arunachal Pradesh	1,089	1,145	1,200	1,258	1,321	1,380
Tripura	2,143	2,231	2,387	2,479	2,574	2,657
Manipur	1,311	1,387	1,464	1,549	1,639	1,724
Nagaland	1,073	1,120	1,169	1,219	1,273	1,315
Haryana	77,313	83,107	89,151	95,730	1,02,803	1,10,487
Andaman & Nicobar	384	391	395	401	407	410
Lakshadweep	67	69	71	73	76	78
Mizoram	1,144	1,244	1,345	1,459	1,576	1,689
All India	18,24,220	19,33,673	20,49,694	21,72,675	23,03,036	24,41,218

MoP RCO Targets

Minimum Share of consumption from Non-Fossil Fuel (RE) Sources/ Renewable Consumption Obligations (RCO)
(MoP Notification 27 Sept 2025)

(Year	Wind RE	Hydro RE	Distributed RE*	Other RE	Total RE
2024-25	0.67%	0.38%	1.50%	27.35%	29.91%
2025-26	1.45%	1.22%	2.10%	28.24%	33.01%
2026-27	1.97%	1.34%	2.70%	29.94%	35.95%
2027-28	2.45%	1.42%	3.30%	31.64%	38.81%
2028-29	2.95%	1.42%	3.90%	33.10%	41.36%
2029-30	3.48%	1.33%	4.50%	34.02%	43.33%



PLF / CUF considered... (1/2)

Sr. No.	State/ UT	Solar		Wind		Large Hydro		Small Hydro		Other RE (Biomass, Bagasse)	
		Existing Capacity	Planned Capacity	Existing Capacity	Planned Capacity	Existing Capacity	Planned Capacity	Existing Capacity	Planned Capacity	Existing Capacity	Planned Capacity
1	Andaman & Nicobar	17.00%	17.00%	18.00%	18.00%	-	-	30.00%	30.00%	-	-
2	Andhra Pradesh	21.80%	22.00%	20.80%	25%	23.00%	23.00%	17.00%	17.00%	20.00%	20.00%
3	Arunachal Pradesh	16.00%	18.00%	22.00%	33.00%	37.00%	45.00%	15.00%	15.00%	18.00%	18.00%
4	Assam	16.00%	18.00%	22.00%	33.00%	37.00%	45.00%	15.00%	15.00%	18.00%	18.00%
5	Bihar	18.00%	21.00%	24.00%	24.00%	30.00%	30.00%	15.00%	15.00%	18.00%	18.00%
6	Chandigarh	18.49%	23.36%	24.36%	24.00%	25.00%	25.00%	18.00%	18.00%	18.00%	18.00%
7	Chhattisgarh	20.00%	21.00%	25.00%	25.00%	34.00%	35.00%	17.20%	17.20%	18.00%	18.00%
8	D&NH	19.54%	23.47%	27.16%	27.16%	18.00%	18.00%	15.00%	15.00%	0.00%	0.00%
9	DD	19.54%	23.47%	27.16%	27.16%	18.00%	18.00%	15.00%	15.00%	0.00%	0.00%
10	Delhi	24.00%	25.90%	0%	31.80%	46.00%	46.00%	15.00%	15.00%	75.00%	75.00%
11	Goa	19.54%	23.47%	27.16%	27.16%	40.00%	40.00%	15.00%	15.00%	18.00%	18.00%
12	Gujarat (GUVNL)	18.00%	18.00%	22.00%	27.00%	-	-	-	-	35%	35%
13	Haryana	27.00%	30.00%	33.00%	35.00%	47.00%	47.00%	15.00%	15.00%	18.00%	18.00%
14	Himachal Pradesh	10.00%	10.00%	27.50%	27.50%	55.00%	55.00%	47.85%	47.85%	18.00%	18.00%
15	J&K and Ladakh	18.49%	23.36%	24.36%	24.00%	45.00%	45.00%	25.00%	25.00%	20.00%	20.00%
16	Jharkhand (JBVNL)	18.00%	22.00%	27.00%	27.00%	31.00%	31.00%	25.00%	25.00%	18.00%	18.00%
17	Karnataka	20.50%	24.00%	22.20%	33.00%	37.00%	37.00%	15.00%	15.00%	20.00%	20.00%
18	Kerala	22.10%	23.00%	26.60%	26.60%	41.00%	41.00%	17.00%	17.00%	25.00%	25.00%

Source: <https://cea.nic.in/resource-adequacy-study-report/?lang=en>



PLF / CUF considered... (2/2)

Sr. No.	State/ UT	Solar		Wind		LHP		SHP		Other RE (Biomass/ Bagasse)	
		Existing Capacity	Planned Capacity	Existing Capacity	Planned Capacity	Existing Capacity	Planned Capacity	Existing Capacity	Planned Capacity	Existing Capacity	Planned Capacity
19	Lakshadweep	17.00%	17.00%	20.00%	20.00%	-	-	-	-	-	-
20	Manipur	16.00%	18.00%	22.00%	33.00%	37.00%	45.00%	15.00%	15.00%	18.00%	18.00%
21	Meghalaya	20.00%	40.00%	24.00%	24.00%	40.00%	40.00%	17.00%	17.00%	18.00%	18.00%
22	Maharashtra	19.54%	23.47%	27.16%	27.16%	40.00%	40.00%	15.00%	15.00%	18.00%	18.00%
23	Mizoram	20.00%	20.00%	24.00%	24.00%	40.00%	40.00%	17.00%	17.00%	18.00%	18.00%
24	Madhya Pradesh	24.00%	25.00%	18.00%	28.50%	27.00%	48.00%	18.00%	18.00%	30.00%	30.00%
25	Nagaland	16.00%	18.00%	22.00%	33.00%	37.00%	45.00%	15.00%	15.00%	18.00%	18.00%
26	Odisha	18.00%	18.00%	22.00%	22.00%	35.00%	35.00%	30.00%	30.00%	18.00%	18.00%
27	Puducherry	19.76%	23.74%	23.93%	24.00%	35.00%	35.00%	25.00%	25.00%	18.00%	18.00%
28	Punjab	19.30%	22.00%	19.50%	24.00%	27.00%	48.00%	17.20%	17.20%	25.00%	25.00%
29	Rajasthan	18.00%	22.00%	24.00%	24.00%	43.00%	43.00%	17.20%	17.20%	25.00%	25.00%
30	Sikkim	16.67%	20.02%	25.00%	25.00%	35.00%	35.00%	25.00%	25.00%	20.00%	20.00%
31	Telangana	21.00%	23.00%	27.00%	27.00%	23.00%	23.00%	17.00%	17.00%	15.00%	15.00%
32	Tamil Nadu	19.76%	23.74%	23.93%	23.93%	35.00%	35.00%	25.00%	25.00%	18.00%	18.00%
33	Tripura	16.00%	18.00%	22.00%	33.00%	37.00%	45.00%	15.00%	15.00%	18.00%	18.00%
34	Uttarakhand	22.00%	22.00%	0.00%	0.00%	45.00%	45.00%	17.00%	17.00%	30.00%	30.00%
35	Uttar Pradesh	18.50%	22.23%	23.85%	23.85%	42.76%	45.35%	15.00%	15.00%	20.00%	20.00%
36	West Bengal	18.00%	18.00%	27.00%	27.00%	42.00%	42.00%	25.00%	25.00%	18.00%	18.00%

Source: <https://cea.nic.in/resource-adequacy-study-report/?lang=en>



• Salient features: MoP Revised Draft RCO Notification....(2/3)

Provisions regarding applicability of RCO Targets:

“

4. For **all the designated consumers**, the Renewable Consumption Obligation shall **exclude** electricity consumed from **Nuclear Power** sources.

5. Open Access consumers and Captive users specified as designated consumers shall meet the specified total Renewable Consumption Obligation, from any renewable energy source.

6. For **open access consumers specified as designated consumers**, Renewable Consumption Obligation shall include electrical energy consumption **at the point of injection** from grid into the consumer's network.

7. For **captive users specified as designated consumers**, Renewable Consumption Obligation shall include electricity generated and self-consumed, excluding auxiliary consumption. The obligation shall exclude electricity generated and self-consumed from waste heat recovery process using fossil-based sources, except for electricity generated from a Waste Heat Recovery Steam Generator (WHRSG) in a captive Combined Cycle Gas-Based Generating Station. The obligations shall also exclude electricity generated and self-consumed through waster energy recovery – including from by-product gases, or other forms of residual energy sources associated with industrial processes. Further the obligation shall exclude 50% of the electricity generated and self-consumed from a fossil-fuel based co-generation plant.

8. For **designated consumers who are distribution licensees**, the Renewable Consumption Obligation shall be calculated based on the electrical energy supplied to consumers **within the periphery of the distribution licensee**. This supply shall not include the consumption of open access users from sources other than the distribution licensee, and the electricity generated and self consumed by captive users.

.....”

Salient features: MoP Revised Draft RCO Notification....(3/3)

Illustration of RCO Compliance for DCs (Under Clause 7)

Example: Imagine a designated consumer whose total electricity consumption in a year is 1000 MU, which includes the following:

Source	
A.From nuclear sources	100 MU
B.Electricity generated and self-consumed from waste heat/energy recovery process	200 MU
C.Electricity generated and self-consumed from fossil fuel based co-generation plant	300 MU
D.Electricity purchased from distribution licensee	100 MU
E. Renewable electricity procured from grid-connected Captive sources/Open Access / behind the meter installations	200 MU

So, the Adjusted Consumption for RCO calculation becomes:

$$= \text{Total consumption} - (A + B + 0.5 \times C + D)$$

$$= 1000 \text{ MU} - (100 + 200 + 0.5 \times 300 + 100) \text{ MU} = 450 \text{ MU}$$

Therefore, the RCO compliance percentage is:

$$= (\text{Renewable energy consumed} / \text{Adjusted Consumption}) \times 100$$

$$= (200 \text{ MU} / 450 \text{ MU}) \times 100 = 44.4 \%$$

Illustration of RCO Compliance for DISCOMs (Under Clause 8)

Example: Imagine a Distribution Licensee has a total electricity input of 30,000 MU in a year, which includes:

Source	
A.From Nuclear sources	2000 MU
B.From renewable sources including hydro, wind, solar, and cofiring biomass & municipal solid waste	10,000 MU
C.Distribution Losses	1500 MU
D.From fossil sources	Remaining

In addition to 30,000 MU electricity input, 500 MU is generated behind the meter from roof top solar (F)

Adjusted consumption for RCO calculation:

$$= \text{Total input} + F - A$$

$$= 30,000 + 500 - 2000$$

$$= 28,500 \text{ MU}$$

Renewable energy consumed:

$$= B + F$$

$$= 10,000 \text{ MU} + 500 \text{ MU} = 10,500 \text{ MU}$$

RCO compliance percentage:

$$= (\text{Renewable energy consumed} / \text{Adjusted consumption}) \times 100$$

$$= 10500 / 28,500 \times 100 = 36.84\%$$

Computation of RCO compliance at different peripheries for different entities will have significant impact of RE capacity addition by FY30.

Proposed State wise RCO trajectory....

- Constant for Group A

Groups	States/UTs	FY26	FY27	FY28	FY29	FY30
Group A: 45% and above	Arunachal Pradesh	93.0%	93.0%	93.0%	93.0%	93.0%
	Chandigarh	72.0%	72.0%	72.0%	72.0%	72.0%
	Meghalaya	71.0%	71.0%	71.0%	71.0%	71.0%
	Sikkim	63.0%	63.0%	63.0%	63.0%	63.0%
	Himachal Pradesh	62.0%	62.0%	62.0%	62.0%	62.0%
	Manipur	52.0%	52.0%	52.0%	52.0%	52.0%
	Uttarakhand	48.0%	48.0%	48.0%	48.0%	48.0%
	Nagaland	48.0%	48.0%	48.0%	48.0%	48.0%
	Karnataka	47.0%	47.0%	47.0%	47.0%	47.0%
	Mizoram	45.0%	45.0%	45.0%	45.0%	45.0%
	Jammu & Kashmir, Ladakh	45.0%	45.0%	45.0%	45.0%	45.0%
Group B: 30% to 44%	Telangana	36.5%	40.0%	43.5%	47.0%	50.5%
	Andhra Pradesh	33.5%	37.0%	40.5%	44.0%	47.5%
	Tripura	31.5%	35.0%	38.5%	42.0%	45.5%
	Odisha	33.5%	37.0%	40.5%	44.0%	47.5%
	Tamil Nadu	34.5%	38.0%	41.5%	45.0%	48.5%
	Maharashtra	27.0%	30.5%	34.0%	37.5%	41.0%
	Kerala	33.0%	36.5%	40.0%	43.5%	47.0%
	Haryana	30.0%	33.5%	37.0%	40.5%	44.0%
	Punjab	28.5%	32.0%	35.5%	39.0%	42.5%
	Rajasthan	27.5%	31.0%	34.5%	38.0%	41.5%
	Gujarat	26.5%	30.0%	33.5%	37.0%	40.5%
	Madhya Pradesh	30.0%	33.5%	37.0%	40.5%	44.0%
	Assam	34.0%	37.5%	41.0%	44.5%	48.0%

Groups	States/UTs	FY26	FY27	FY28	FY29	FY30
Group C: Below 30%	Goa	27.0%	31.5%	36.0%	40.5%	45.0%
	Bihar	27.0%	31.5%	36.0%	40.5%	45.0%
	Delhi	26.0%	30.5%	35.0%	39.5%	44.0%
	Jharkhand	22.0%	26.5%	31.0%	35.5%	40.0%
	Uttar Pradesh	20.0%	24.5%	29.0%	33.5%	38.0%
	Chhattisgarh	17.0%	21.5%	26.0%	30.5%	35.0%
	West Bengal	16.0%	20.5%	25.0%	29.5%	34.0%
	Andaman & Nicobar	15.0%	19.5%	24.0%	28.5%	33.0%
	Lakshadweep	11.0%	15.5%	20.0%	24.5%	29.0%
	Puducherry	3.0%	7.5%	12.0%	16.5%	21.0%
	Daman & Diu	3.0%	7.5%	12.0%	16.5%	21.0%
Dadra & Nagar Haveli	3.0%	7.5%	12.0%	16.5%	21.0%	
All India possible achievement		29.29%	32.72%	36.16%	39.61%	43.06%
All India proposed trajectory		29.00%	33.00%	37.00%	40.00%	43.00%

Note: The RPO/RCO targets for states are considering ex-bus energy requirement of states incl. nuclear energy, although MoP RCO Notification dated 27 Sept 2025 specify that RCO shall be applicable on energy requirement excl. nuclear energy.