



# Renewable Consumption Obligations (RCO)

AIDA Annual Conference



Bureau of Energy Efficiency,  
**Ministry of Power**



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# Background



# Chronology of RPO events till MoP Notification Oct 23'



Chronology  
of the key  
events

Electricity Act 2003 brings  
the provision for RPO  
under section 86(1)(e)

June  
2003

Gujarat becomes first  
state to formally launch  
the RPO trajectory

October  
2005

Tariff Policy empowers SERCs  
to specify RPO targets and  
determine tariffs for non-  
conventional energy sources

January  
2006

A key amendment in tariff policy  
calls for SERCs to reserve  
minimum share of Solar Energy  
reaching 8% by 2022

January  
2016

MoP issued the RPO and energy  
storage obligation trajectory till FY30.  
Following this trajectory, SERCs have  
issued regulations specifying RPO  
targets for their respective states.

July 2022

During COP26, India  
committed to achieving 500  
GW of non-fossil-based  
generation capacity by 2030.

November  
2021

Long-term trajectory for RPOs  
from FY20 to FY22, aiming at  
21% of RPO by 2022, including  
10.5% for solar, was notified

June  
2018

India notified a RPO growth  
trajectory, initially spanning three  
years from FY17 to FY19, targeting  
17% of RPO by FY19, with 6.75%  
for solar.

July  
2016

RPO is brought under EC  
Act after Parliament passed  
amendments to the Energy  
Conservation (EC) Act

December  
2022

MoP issues the RPO  
trajectory till FY30  
targeting 43.33% by 2030.

October  
2023

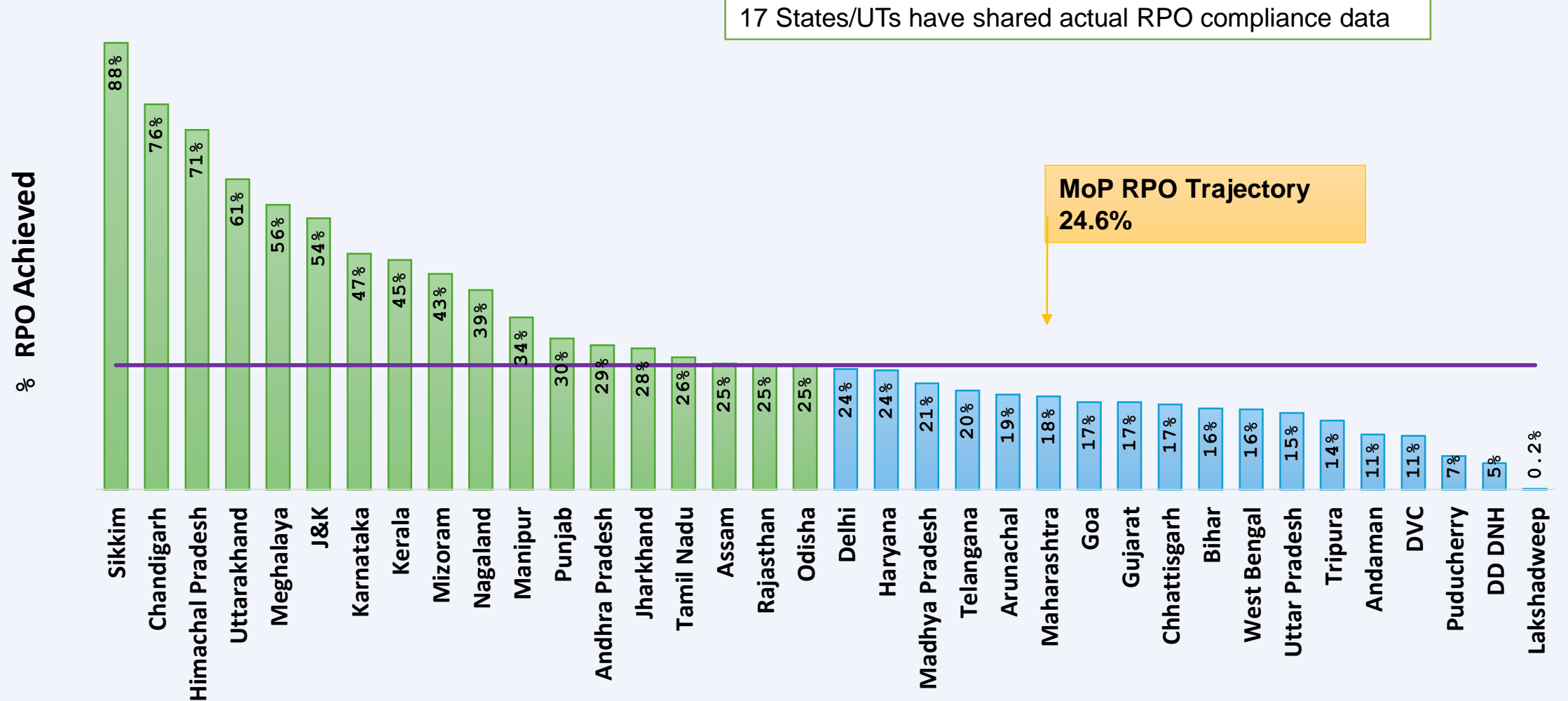
MoP issues draft Amendment  
to the October 2023  
Notification on RCO

March  
2025

MoP issues revised draft  
Amendment to the October  
2023 Notification on RCO

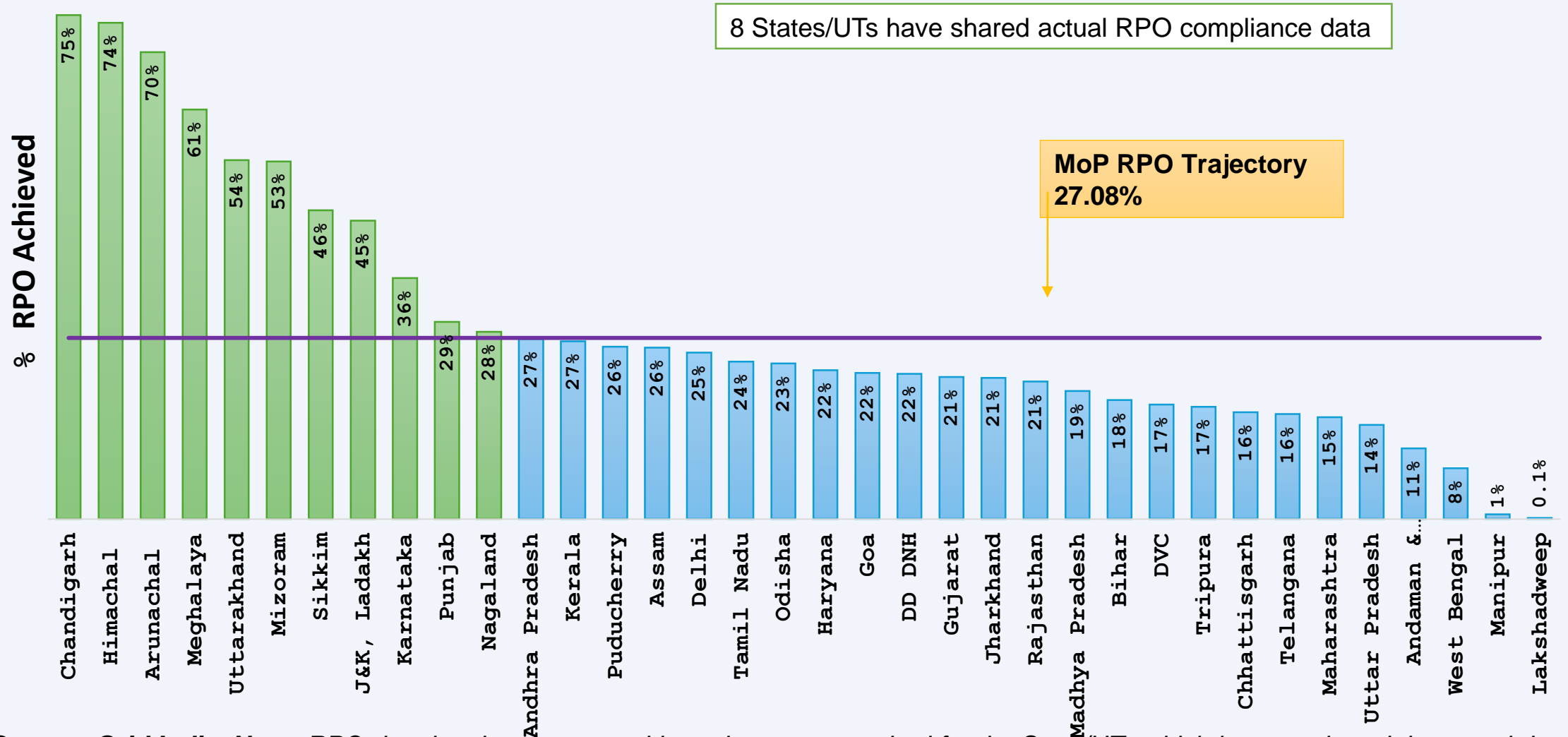
July  
2025

# RPO Compliance for FY 2022-23



**Source: Grid India, Note:** RPO data has been prepared based on proxy method for the State/UTs which has not shared the actual data

# RPO Compliance for FY 2023-24



Source: Grid India, Note: RPO data has been prepared based on proxy method for the State/UTs which has not shared the actual data

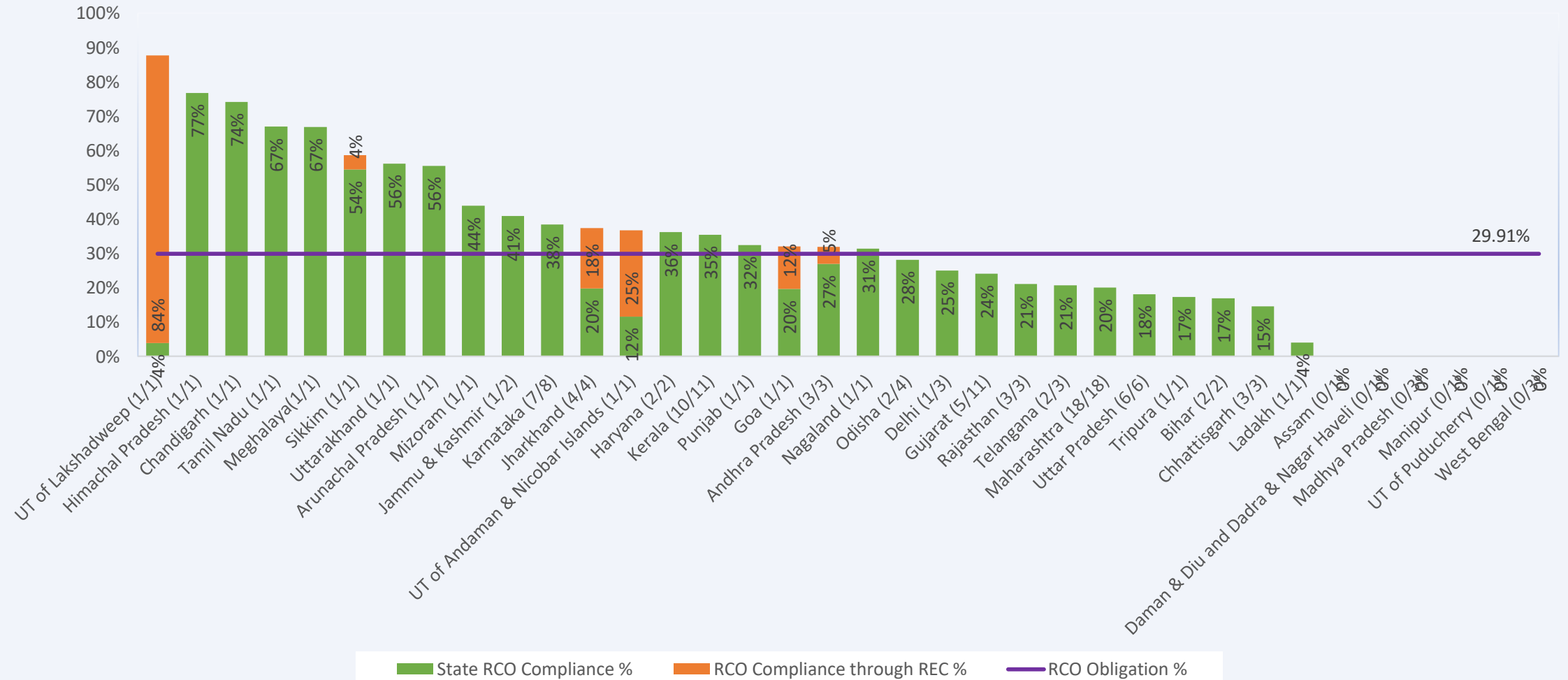




# RPO Compliance for FY 2024-25



RCO Compliance Summary FY 2024-25 for DISCOMs



# Renewable Consumption Obligations (RCO)





# Hon'ble Prime Minister's 'Panchamrit' at CoP26



Hon'ble Prime Minister at (**COP26**) to the United Nations Framework Convention on Climate Change (UNFCCC) held in Glasgow, United Kingdom, expressed to intensify its climate action by presenting to the world the following five nectar elements (**Panchamrit**) of India's climate action:

- Emissions intensity of GDP to reduce by 45% by 2030 (vs. 2005)
- Projected carbon emissions to reduce by 1 billion tonnes by 2030
- **Non-fossil energy capacity to reach 500 GW by 2030**
- Net-zero by 2070
- 50% of electricity capacity from non-fossil sources by 2030

The five elements enunciated by India at COP26 in Glasgow have been appropriately incorporated in enhanced Nationally Determined Contributions (NDCs). The updated NDCs were approved by the Union Cabinet and submitted to UNFCCC in August 2022

In light of the updated NDCs, the following events took place:

- The Energy Conservation Act, 2001 was Amended in December 2022 and RPO was brought under the purview of the EC Act.
- The RPO targets were significantly amended and trajectory till 2030 was defined.

In his 76th Independence Day speech, Hon'ble Prime Minister reiterated the India's ambitious goal of achieving 500 gigawatts of renewable energy capacity by 2030. He noted that India has been among the only G20 countries to meet its Paris Accord goals.



# The Energy Conservation Act Amended in Dec 2022



- **Amendment to the Energy Conservation Act** issued on 19<sup>th</sup> December 2022.
- **Amendment of section 14 of the Principal Act:**
  - “**Clause (x)** specify minimum share of consumption of non-fossil sources by designated consumers as energy or feedstock, provided different share of consumption may be specified for different types of non-fossil sources for different designated consumers.”
- **Non-compliance to above will attract the penal provisions as per the Energy Conservation (Amendment) Act, 2022.**
- **Amendment of the section 26(3), outlines the penalties for the non-compliance with the directions issued under clauses (n) and (x) of section 14.**



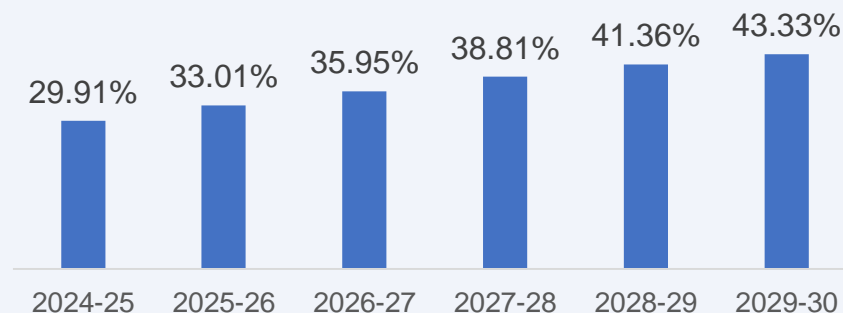
# Gazette Notification on RCO issued on 20<sup>th</sup> October 2023



- ❑ Notification is issued as per Energy Conservation (Amendment) Act, 2022 notified in December 2022
- ❑ Trajectory is prepared on similar lines of RPO order issued earlier by MoP in July 2022
- ❑ Trajectory is applicable from 1<sup>st</sup> April 2024

FY	Wind RE	Hydro RE	Distributed RE	Other RE
2024-25	0.67%	0.38%	1.50%	27.35%
2025-26	1.45%	1.22%	2.10%	28.24%
2026-27	1.97%	1.34%	2.70%	29.94%
2027-28	2.45%	1.42%	3.30%	31.64%
2028-29	2.95%	1.42%	3.90%	33.10%
2029-30	3.48%	1.33%	4.50%	34.02%

Total RCO Trajectory



## Electricity distribution licensee:

- Includes Distributed RE
- Separately defines targets for Wind, Hydro RE and Other RE.
- **Total fungibility between Wind, Hydro and Other RE**
- **No fungibility for DRE with other RE sources.**
- **DRE target is half for Hilly and North-Eastern States, Remaining half is added under 'Other RE'**

## DCs with CPPs and OA Consumers:

- Total RCO targets shall be applicable irrespective of the non-fossil fuel source.

Bureau of Energy Efficiency has been entrusted with the task of maintaining data related to compliance of RE utilization by DCs and report to the Central Government.

# Renewable Consumption Obligations (RCO)

## Applicability for Obligated DCs



**DISCOMs:** Any designated consumer who is a distribution licensee.



**CPP\*:** Any designated consumer consuming electricity from a captive power plant(s) based on sources other than Captive WHRS plants



**Open Access\*:** Any designated consumer procuring electricity through open access

*\*Obligated DCs shall be obligated to the extent of their consumption of electricity from a captive power plant(s), or Open Access based on sources other than non-fossil sources*



# Superceeding Notification on RCO issued on 27<sup>th</sup> September 2025



## New Modes of Compliance

Corporate Level Compliance

VPPAs

RCO Buyout

## DRE

Increased multiplier: 4kWh/kW/day

DRE target: 75% for urban DISCOMs

One-way fungibility

## Exemptions to various technologies

Nuclear: 100%

Energy consumed in aluminium smelters: 50%

Electricity generated and self consumed from WHRS\* : 100%

Electricity generated and self consumed from fossil-based Co-gen: 50%

Electricity generated and self consumed from Waste Energy Recovery: 100%

## Compliance verification

OA consumers / CPPs: by BEE empanelled AEA Agencies

DISCOMs: By SLDCs

## Compliance timelines defined

Submission of certified energy accounts :

- 31st October 2025 for 2024-2025
- 31st July for each subsequent year

AY compliance window :

- 31st March 2026 for the year 2024-2025
- 31st December for each subsequent year

**For all DCs, no additional Renewable Purchase Obligation (RPO) shall apply under the Electricity Act, 2003**

*\* Except for electricity generated from WHRSG in captive combined-cycle gas-based generating station*



# Components of Total RE Targets Notified



## DRE for Hilly and NE States

- In hilly and North-Eastern States/UTs, half of the Distributed Renewable Energy component under RPO trajectory will be allocated, with the rest categorized as 'Other RE'

## Wind RE

- **Wind renewable energy** requirement will be met through the energy generated by Wind Power Projects which have been **commissioned after March 31<sup>st</sup>, 2024.**

## Hydro RE

- **Hydro renewable energy** requirement will solely be met by energy generated from Hydro Power Projects (Including Pump Storage Projects and Small Hydro Projects), **commissioned after March 31<sup>st</sup>, 2024.**
- Hydro Power Projects situated outside India, subject to approval by the Central Government.

## Distributed RE

- Requirement under the distributed renewable energy will exclusively be sourced from energy produced by renewable energy projects **upto 10 MW in capacity** ( including net metering, gross metering, virtual net metering, group net metering, behind-the-meter installations, and any other configurations notified by the Central Government).

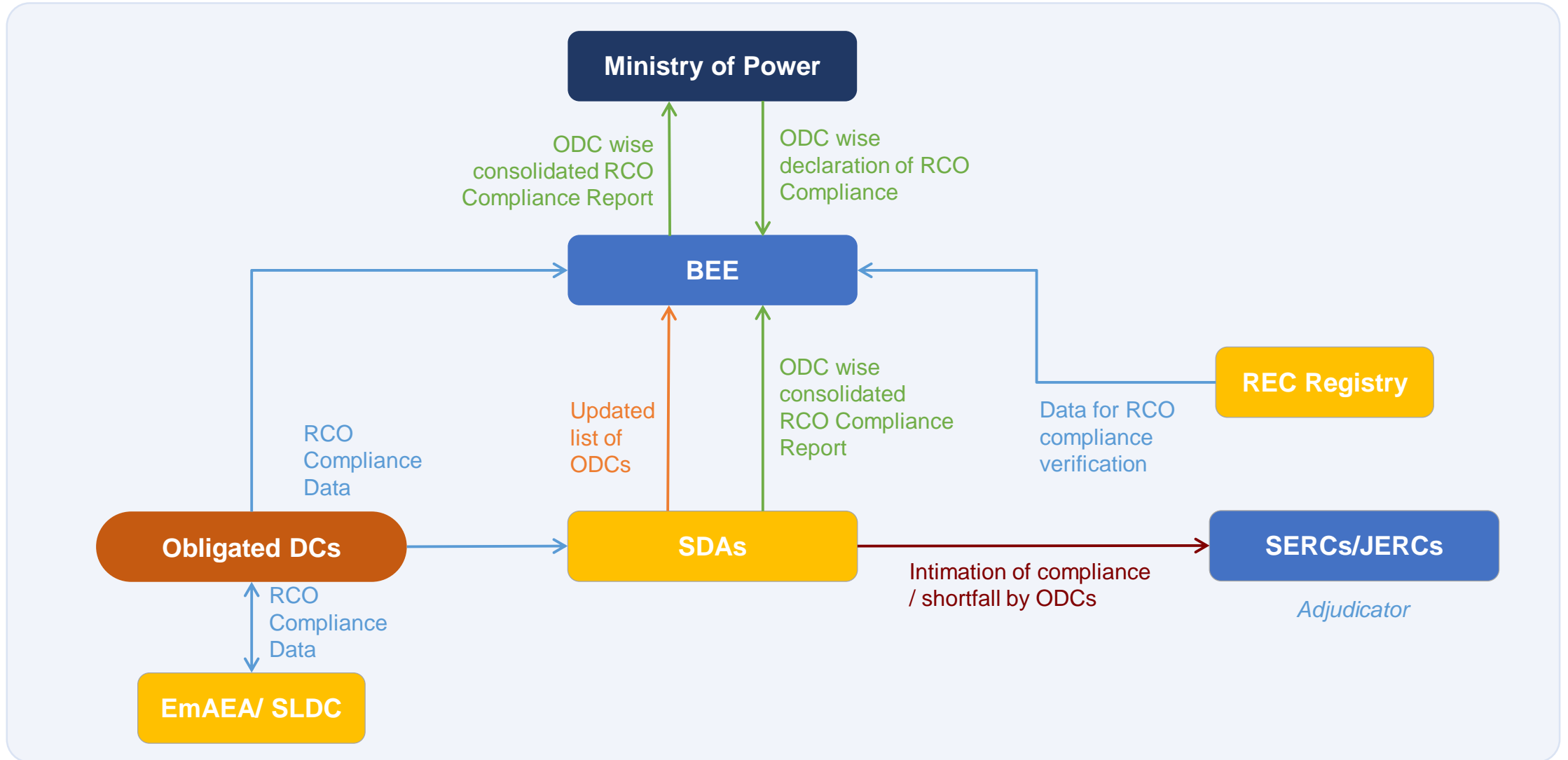
## Other RE

- Other RE component may be met by energy produced from any renewable energy power project comprise energy from Wind, hydro power **commissioned before April 1<sup>st</sup>, 2024.**
- Surplus energy consumption exceeding wind or hydro RE component in that year may be considered under other RE.
- Surplus consumption of DRE component in that year may be considered under other RE.



# Proposed RCO Ecosystem and compliance process

# Proposed Institutional Mechanism



# Eligible RE sources and Modes of Compliance

# Eligible RE sources for RCO

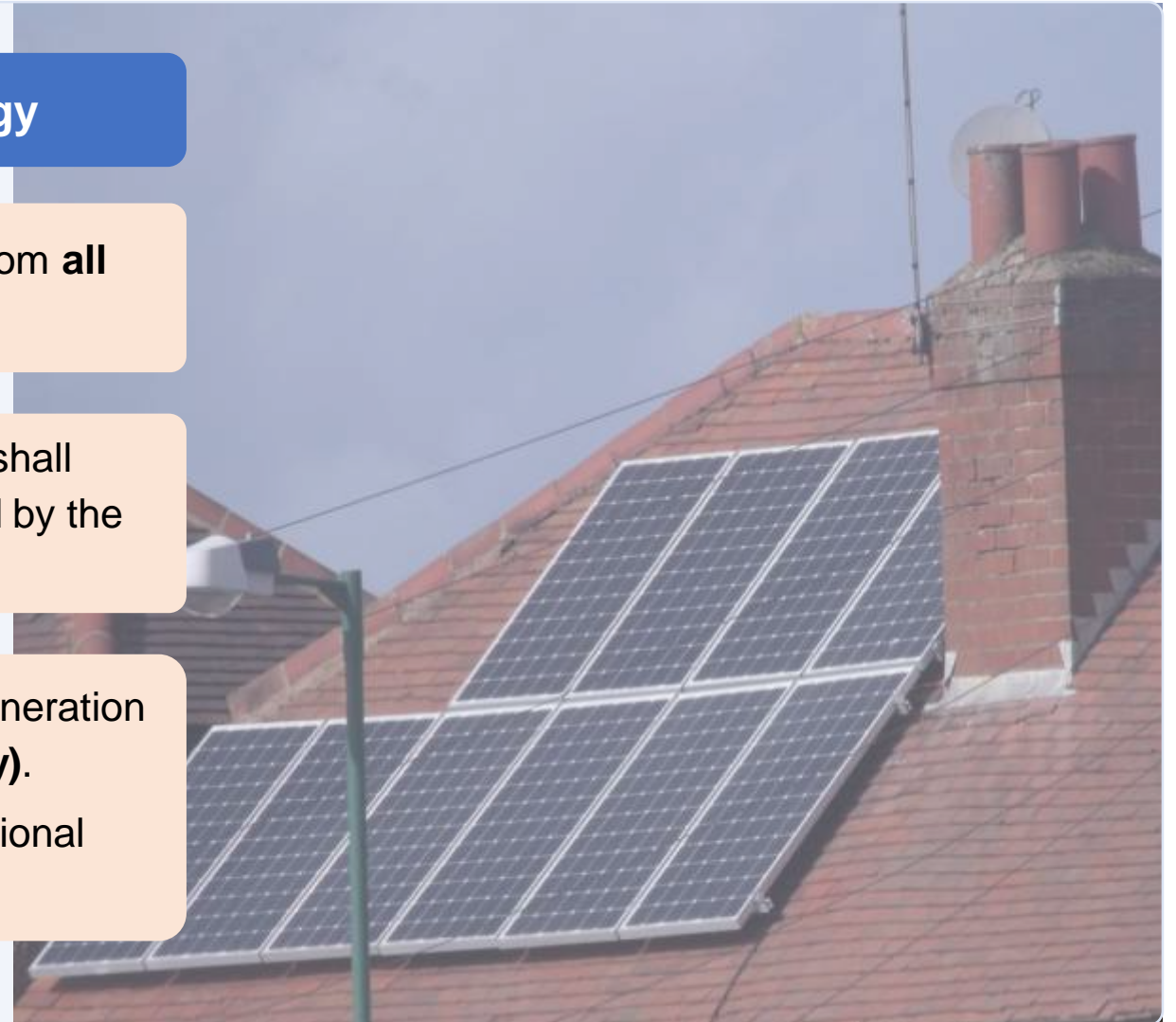
## Definition of Distributed Renewable Energy

**Sources:** Non-fossil based electrical energy generated from **all eligible RE sources**.

**Capacity and configuration :** **Upto 10 MW in size** and shall include Solar installations under all configurations notified by the Central Government.

**DC fails to provide generation data** – The estimated generation by DRE installation shall be calculated as **4 (kWh/kW/day)**.

The no. of days that the DRE installation has been operational shall be certified by the ODC and/or the AEA / ACV.



# Treatment of Losses



**DISCOM:** Supply of electricity to their consumers being the primary business process for a DISCOM, the electricity consumed by all consumers including the distribution losses shall be the energy deemed to be consumed by the DISCOM.

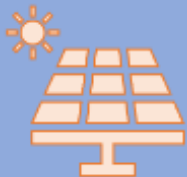
The distribution infrastructure is controlled by Discoms.

Discoms are responsible for minimizing the Distribution losses



**Open Access Consumers:** The quantum of energy consumed by the OA consumer at the point of drawl from grid shall be considered as its energy consumption

Transmission losses are not under the control of OA consumer



**CPPs:** consumption of power by DCs shall include all self-consumption of power except the auxiliary power consumption in the CPPs

Auxiliary consumption is largely based on inherent heat rate of CPP, not part of power consumed in the production facility of DC



**ESS:** Only the energy consumed after deducting losses in the energy storage system and the banking charges in terms of energy wherever charged by an energy storage provider, shall be considered towards fulfilment of RCO.

ESS losses are not consumption  
RCO encourages minimizing ESS losses - DCs will have less RE to consume if losses are higher



# Mode of fulfillment of RCO

1

Captive mode

- Own generation (**grid connected or otherwise**) under captive mode.
- ODC shall not have availed RECs/ other Energy Attribute Certificates
- Methodology defined for calculating RE from **co-firing of AFR of renewable nature** such as BLDS, Biomass, RDF etc. and related WHR

2

Open Access

By procuring Renewable Energy through **Open Access** from any Developer either directly or through a trading licensee or through power markets.

3

Requisition from  
Distribution  
Licensee

By **requisition of green power** from distribution licensee as per **Green OA Rules, 2022**, as amended from time to time. NOC required from the Discom.

4

RE stored in  
ESS

Energy stored in any energy storage system including BESS and Pumped Hydro Storage Plants, shall be eligible to the extent the stored energy is generated from eligible non-fossil energy source

Combination of any of the above



# Mode of fulfillment of RCO

5

RECs

By redemption of **Renewable Energy Certificates** (RECs) by self retention or by purchase from power exchange(s) or electricity trader(s).

6

VPPA

by entering into Virtual Power Purchase Agreements as notified from time to time by Central Government or CERC

7

RCO Buyout

In case of shortfall of availability of RECs in the market, the DCs may choose to pay a buyout price (to be specified by CERC)

8

Green Hydrogen

By Consumption of Green Hydrogen or Green Ammonia **as energy**.

9

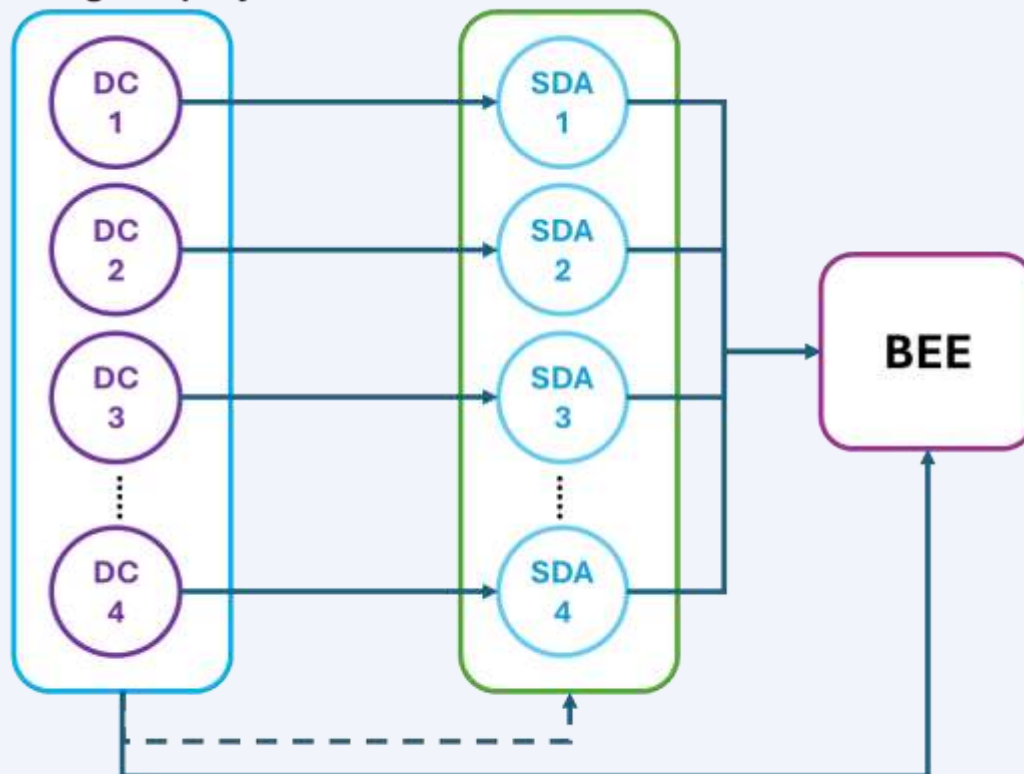
Corporate level compliance

Corporate level compliance shall be allowed for corporates having multiple obligated DC entities under its common control

Combination of any of the above

# Corporate Level Compliance

## Holding Company



Holding Company shall submit DC-wise and cumulative compliance data to BEE with copy to all concerned SDAs

The corporate entity shall **submit to the Bureau, with a copy to respective SDAs**, the compliance assessment form (**Form C**) with compliance information for the complete target year duly certified and signed by the AEA / ACV.

The compliance assessment form (Form C) shall contain the following:

- Compliance information** for each of the multiple ODCs
- Cumulative compliance information** for all the ODCs
- The Certified Form D** shall be appended with **supporting documents** for each of the multiple ODCs

### Timelines:

**After Target Year:** Form C with Part A to Part D with relevant supporting documents by 15th August of assessment year

**After Assessment Year Compliance Window:** Form C with relevant supporting documents by 15th January of the assessment year.



# Corporate Level Compliance



- Allowed for corporates having multiple obligated DC entities under its **common control** as defined in the **Companies Act, 2013** or under the relevant **Cooperative Societies Act**.
- The multiple DC entities may be **co-located** or **located** in different geographies in India
- The multiple DC entities **may belong to any of industry sectors**.
- considered **at the level of the holding company** having common control of the DCs.
- RCO compliance will be considered in **aggregate across the multiple DCs** of registered corporate

The parent entity shall submit **certification**:

- by the **CEO/** equivalent of the Holding Company, and from **CA/ CS**
- mentioning the legal name of the Holding Company and the legal names of all ODCs under the common control

Certification shall be accompanied by:

- the Certificate of Incorporation issued by the Registrar of Companies.
- any relevant documents submitted to the Registrar of Companies

## **Special Case: licensed entity procures power on behalf of the State DISCOMs**

- the licensed entity will act as the holding company.
- licensed entity shall issue a monthly category-wise (conventional (brown) power, nuclear power, and the categories of renewable power) statement of allocation of power to the respective DISCOMs by the 15th day of the following month.

# Compliance & Penalty

*Amendment to the EC Act issued on 19<sup>th</sup> December 2022, Section 26(3) and Section 26(4) outline penalty for non-compliance against the requirement of RCO defined under the Section 14 (x)*

**Sub-section (3) of section 26 of EC Act: Failure to comply with obligations**

- Liable to a penalty which shall not exceed ten lakh rupees for each such failure.
- Additional penalty which shall not exceed twice the price of every metric ton of oil equivalent prescribed under this Act.

**Sub-section (4) of section 26 of EC Act: Failure to provide information**

- Liable to a penalty which may extend to fifty thousand rupees on first such non-compliance or failure.
- Additional penalty not exceeding ten thousand rupees per day for every subsequent non-compliance or failure.

# Penalty Amount for non-compliance

## Illustration of the RPO Penalty

One MTOE = 11,630 kWh

Price of one MTOE = INR 21,650.00

*(As per MoP Notification dt 26.12.2023 for the year 2019-20 and it may be 20-30% higher for the year 2024-25)*

**Maximum Penalty** on each unit of shortfall in meeting RE consumption norms  
=  $(2 \times 21,650) / 11,630$   
= **INR 3.72 per kWh**

Maximum Penalty - Let's take example of Delhi for FY 2022-23		
Obligation Target (MU)	Compliance (MU)	Shortfall (MU)
8643	8368	275
Maximum Penalty Amount = $3.72 \times 275$ Million INR		
<b>= 102.3 Crore Rupees</b>		



Thank You

# Modes of fulfillment of RCO

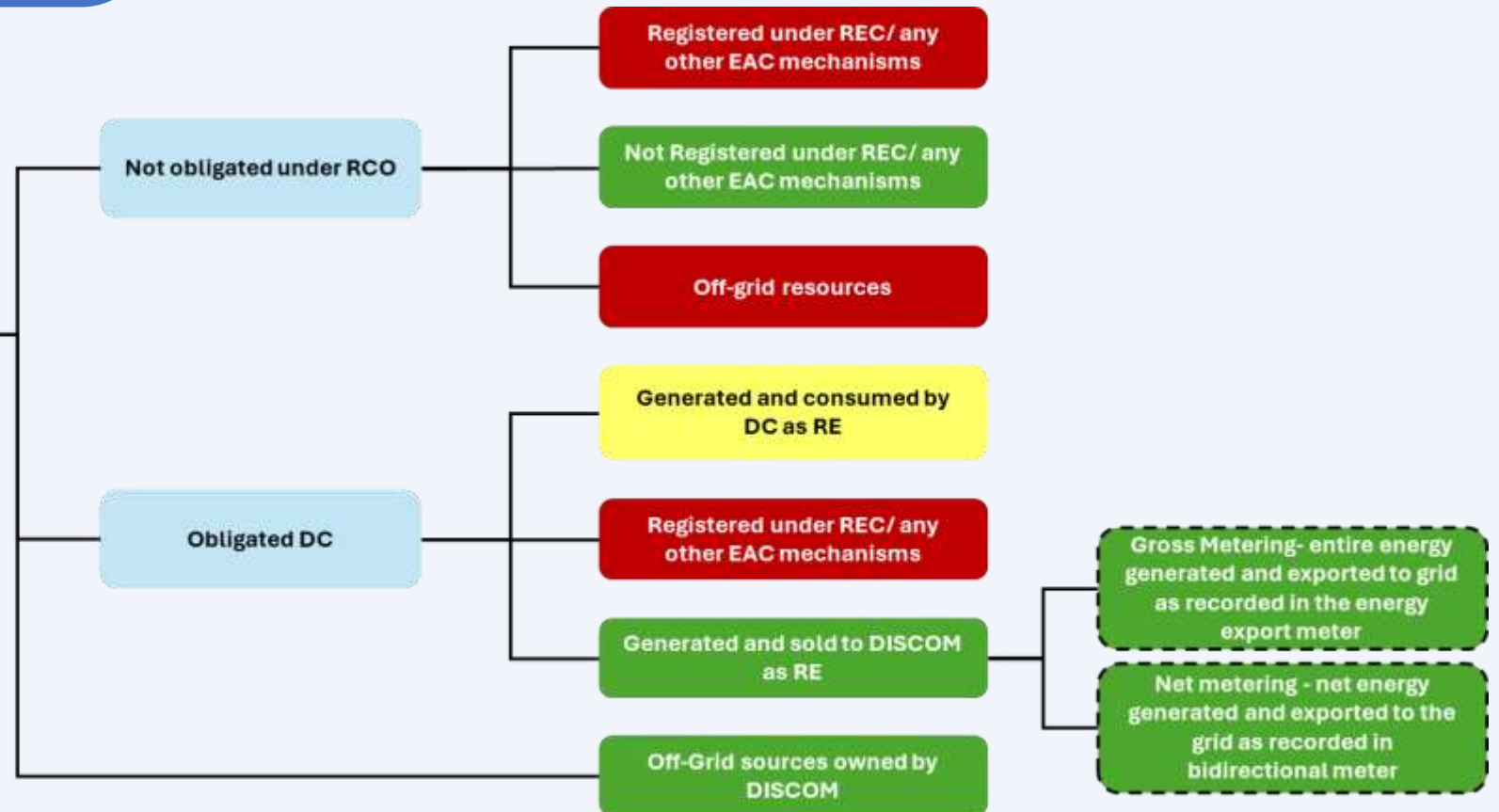
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Other Modes of compliance  
specific to Distribution Licensees

Consumers in area of supply of  
DISCOM with CGPs based on  
eligible non-fossil energy sources

Legend

- No direct use for RCO compliance
- RCO compliance of DC
- RCO compliance of DISCOM



# Virtual Power Purchase Agreements (VPPAs)

