Renewable Consumption Obligation (RCO) Under the Energy Conservation Act, 2001

Objective:

The Ministry of Power has notified Renewable Consumption Obligations (RCO) under Section 14 of the Energy Conservation Act, 2001, effective 1st April 2024. Designated consumers distribution licensees, open access users, and captive plants—must meet rising renewable energy targets from 29.91% in 2024–25 to 43.33% in 2029–30. The obligation is split into wind, hydro, distributed renewable energy (DRE), and other renewables, with special relaxations for hilly and North-Eastern states. Wind and hydro apply only to projects commissioned after March 2024, while DRE covers projects below 10 MW, including rooftop solar. Obligations under wind, hydro, and other renewables are interchangeable, but DRE is non-fungible except for surplus. Adjusted consumption excludes nuclear, fossil waste heat recovery, and part of fossil co-generation. Compliance can be achieved via direct renewable use, RECs (including virtual PPAs), or buyout payments, with penalties for shortfalls under Section 26. The Bureau of Energy Efficiency will monitor compliance, with annual reporting and certification requirements.

The Document can be accessed here

1. **Non-congruent definition of Obligated Entities vs Designated Consumers:** Draft Clause 1 "*In exercise of the powers conferred by section 14 of the Energy Conservation Act, 2001, (hereafter referred as 'Act') and in supersession of the notification vide No. S.O. 4617 (E) dated 20th October, 2023, except as respects things done or omitted to be done before such supersession, the Central Government in consultation with the Bureau of Energy Efficiency, hereby specifies the minimum share of electrical energy consumption from renewable energy sources for designated consumers, who are electricity distribution licensees, open access consumers and captive users. For open access consumers and captive users, this requirement applies to electricity consumption from sources other than distribution licensee.*"

   The draft notification introduces of Designated Consumers (DCs) that does not appear fully congruent with the earlier regulatory understanding of Obligated Entities. As per "Notice for Submission of Renewable Consumption Obligation (RCO) Compliance Report[1]", DCs are restricted to a specific list of industries meeting prescribed consumption thresholds, measured in metric tons of oil equivalent, pursuant to the Energy Conservation Act, 2001. However, under the framework of the Electricity Act, 2003, Open Access consumers—irrespective of their individual consumption thresholds—were also considered obligated entities for the purpose of Renewable Purchase Obligation (RPO) compliance. By excluding Open Access consumers below the notified mtoe threshold, the present draft effectively removes a number

[1] https://beeindia.gov.in/sites/default/files/List%20of%20DCs%20for%20RCO_based%20on%20the%20threshold%20limit%20of%20energy%20consumption%20defined%20in%20EC%20Act%202001.pdf

of consumers from the coverage of RCO. Such exclusion may dilute the compliance base and run contrary to the policy objective of progressively broadening the framework for renewable energy integration. It is therefore suggested that the notification clarify the treatment of Open Access consumers who do not qualify as Designated Consumers and specify whether they remain obligated to meet RCO in respect of consumption from sources other than the distribution licensee, in line with the earlier RPO regime. This clarification will ensure that the objectives of the mechanisms are aligned and have uniformity in targets across entities.

2. **Scope of Consumption (Electrical Energy versus Total Energy):** Draft Clause 2 "*The specified minimum share of electrical energy, referred to in first paragraph, from renewable energy sources as percentage of total electrical energy consumption (hereafter, in this notification, called as Renewable Consumption Obligation) for each category, shall be as per details given in the Table below:"*

   Section 14(x) of the Energy Conservation Act, 2001 empowers the Government to "*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 fuel*** *sources for different designated consumers".*

   The Act does not refer to 'different types of energy or feedstock', but is specific about different types of non-fossil fuel sources.

   The draft notification, however, limits the Renewable Consumption Obligation only to *electrical energy consumption*. It also limits the scope to *renewable energy, which is a sub-set of non-fossil sources* as mandated by the Act. This approach excludes non-electrical forms of energy and important non-fossil options such as green hydrogen, green ammonia, and biofuels. It is therefore recommended that the obligation be aligned with the Act by covering *total energy consumption* and retaining expand the scope covering *non-fossil sources*.

3. **Deemed Generation Multiplier and Need for Regional CUF-Based Approach:** Draft Clause 2 (4) *"Provided further that in case the designated consumer is unable to provide generation data against Distributed renewable energy installations, the reported capacity shall be converted into Distributed renewable energy generation in terms of energy by a multiplier of* ***4-kilowatt hour per kilowatt*** *per day (kWh/kW/day)."*

   The proposed fixed multiplier of 4 kWh/kW/day for estimating deemed generation does not capture regional resource variability and may inflate RCO compliance in periods of low generation, particularly for the regions with low solar insolation. It is recommended to replace this with a region-specific CUF benchmark that reflects local conditions. A penalty multiplier, of say, 0.8, be applied for persistent non-reporting of actual data for ensuring better accountability.

4. **Exclusion of Nuclear Energy from Definition of Non-Fossil Fuel Sources:** Draft Clause 4 *"For all the designated consumers, the Renewable Consumption Obligation shall exclude electricity consumed from Nuclear Power sources."*

   The draft notification seeks to exclude nuclear energy from the ambit of non-fossil fuel sources. This is inconsistent with the broader spirit of the Energy Conservation Act, which is to promote consumption from all non-fossil fuel sources. It is being reemphasized that the Energy Conservation Act, 2001 mandates consumption from 'non-fossil fuel sources'.

5. **Definition of "Consumer's Network":** Draft Clause 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."*

   The draft notification uses the term 'consumer's network' (for instance, in relation to injection of energy), but this expression is not defined in the Energy Conservation Act. In practice, it may be intended to cover dedicated transmission lines of large consumers. However, absence of a clear definition, may lead to ambiguity in its interpretation and disputes in implementation. It is therefore recommended that the notification explicitly define the term 'consumer's network' (for example, if that includes both inter- as well as intra-state network irrespective of the metering point) to ensure clarity and consistency.

6. **Clarity on the Definition of Consumption and Its Applicability:** Draft Clause 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 waste energy recovery - including from by-product gases, or other forms of residual energy sources associated with industrial processes. Further,* ***the obligation shall exclude 50% (fifty percent) of the electricity generated and self-consumed from a fossil-fuel based co-generation plant."***

   As per the State Electricity Duty Rules, auxiliary consumption is treated as part of consumption for the purpose of electricity duty. This position is supported by the Supreme Court in *"State of Mysore v. West Coast Paper Mills Ltd*[2]*., (1975) 3 SCC 448,"* where a three-Judge Bench held that **electricity consumed for the purpose of further generation of electricity constitutes "consumption" and is, therefore, exigible to duty**.
   However, the draft notification excludes auxiliary consumption from the definition of

[2] https://indiankanoon.org/doc/840448/

consumption for captive consumers identified as designated consumers. This inconsistency may lead to legal disputes, since the statutory position already considers auxiliary use as consumption.

The draft also creates ambiguity regarding *self-consumed electricity*. It is unclear whether consumption is to be measured at the generating busbar or at the consumer's end, in case of a captive plant is not co-located. For captive plants located far from consumer premises, this lack of clarity could create compliance and monitoring issues. In contrast, open access cases explicitly mention injection into the consumer's network.

Also, draft language on Waste Heat Recovery (WHR) and cogeneration creates ambiguity and may inadvertently allow fossil fuel-based cogeneration to qualify under the Renewable Consumption Obligation (RCO). Such a provision risks becoming a **back-door entry for fossil fuel generation**, which undermines the core intent of the Energy Conservation Act, i.e., promoting non-fossil energy sources. To maintain policy integrity, it is essential to explicitly exclude fossil fuel-based cogeneration from being treated at par with renewable or non-fossil co-generation.

7. **Buyout Price: Penalty vs. Compliance Mechanism:** Draft Clause 9 "*Designated Consumers may fulfil the specified Renewable Consumption Obligation through one or more of the following methods:*
    - I. *Consumption of renewable electricity, either directly or through an energy storage system:*
    - II. *Purchase of Renewable Energy Certificates (RECs) issued in accordance with regulations notified by the Central Electricity Regulatory Commission (CERC)*
    - III. *Payment of the buyout price specified by CERC. Provided that the sums received through the buyout mechanism.*

      provided that the sums received through the buyout mechanism shall be credited to the Central Energy Conservation Fund under a separate head, from which ***fifty percent*** *of the amount shall be transferred to the respective State Energy Conservation Fund. Appropriate Government shall utilize these sums to support the development of* ***specified renewable energy sources and storage capacities****."*

The draft rules allow the **buyout price** to be treated as a mechanism for 'compliance', rather than as a deterrent against non-compliance. This undermines the spirit of the Energy Conservation Act, 2001, which seeks to promote actual energy savings and renewable energy use, not to create a **revenue-earning mechanism for the government**. The buyout price should therefore be retained **strictly as a penalty**, not as an alternative route for meeting obligations While the underlying mechanism remains the same, the associated terminology should be appropriately reworded.

There is also confusion across documents regarding the sharing of collected penalties whether

it is 50:50 or 90:10. The recently issued **draft Energy Conservation (Compliance Enforcement) Rules, 2025 (dated 04th August 2025)** under Rule 3[3] specify that "*all penalties shall be credited into the Central Energy Conservation Fund, from which 90% shall be transferred to State Governments and 10% to the Central Government"*. This inconsistency creates ambiguity and needs clarification.

Further, if penalty proceeds are routed to the Consolidated Fund of central government, their use **will depend on annual grants**, which may **delay or dilute their intended application**. The rules should explicitly ensure that funds are earmarked and utilized for the purpose identified in the Energy Conservation Act, 2001. It should be technology-neutral and cover all non-fossil fuel sources in line with the spirit of the Act.

8. **Holding Company-Level Aggregation:** Draft Clause 10 *"The Renewable Consumption Obligation compliance for multiple designated consumers under common control, as defined in the Companies Act, 2013, may be considered on an aggregate basis at the Holding Company level."*

   Allowing compliance at the holding company level creates jurisdictional and monitoring challenges. A State Electricity Regulatory Commission (SERC) may not have the authority to seek plant-level information if the facilities are located outside its state. Moreover, the Energy Conservation Act identifies the "designated consumer" at the plant level, not the head office. Therefore, aggregating compliance at the holding company level could dilute accountability and weaken regulatory oversight.

9. **Carry Forward of Surplus Obligations:** The draft does not clarify whether obligated entities can carry forward or adjust surplus renewable energy procurement from previous years. The absence of such a banking provision creates ambiguity and may discourage proactive over-compliance. Since a rollover mechanism already exists under the REC framework, the rules should explicitly state the treatment of surplus procurement to ensure consistency and avoid potential disputes.

10. **Data Reporting and Unique DC Identifier**: The draft (Annexure) requires information from designated consumers, but it should be clarified that reporting must be at the *plant-level* rather than at the company-level to ensure accuracy and traceability. The required details should include the plant's full address (including taluka and village) and the Discom under which the plant falls. Additionally, a unique DC identifier (such as the one used in the Open Access Registry) should be incorporated to avoid duplication and ensure consistency across regulatory processes.

[3] https://beeindia.gov.in/sites/default/files/Draft%20Notification%20for%20Public%20comments.pdf

11. **Role of SLDC in Data Verification:** The draft does not clearly define how the State Load Despatch Centre (SLDC) will confirm consumption data to the designated renewable energy (DRE) authority, particularly in the case of *behind-the-meter consumption*. Since SLDCs typically monitor grid-interfaced transactions, their role in validating behind-the-meter data remains ambiguous. This lack of clarity may lead to gaps or inconsistencies in reporting and compliance. The rules should therefore specify the mechanism and responsibility for validation of such data, by defining SLDC's role.

12. **Data Archival and Accessibility for Research:** All the DC-wise RCO compliance data, including that for the captive as well as open access consumers submitted through the RCO Web Portal should be archived and be publicly accessible in a machine-readable format. This would enable further research in this emerging domain area and would help device India specific solutions.