Electricity (Amendment), Bill

The Union Power Ministry on *8th August, 2022* introduced the "**Electricity (Amendment) Bill, 2022**" in Lok Sabha.

Key points of the proposed amendment bill are given below:

- Section 14(b) : Distribution of electricity by a distribution licensee in an area of supply in accordance with criteria prescribed by the Central Government
- Section 14(b) (Sixth proviso): The Bill suggests to omit the words "*through their own distribution system*" for the distribution of electricity.
- Section 42: The discom owing network shall provide non - discriminatory open access to other licensees in the area of supply.
- Section 26: More power and functions of the NLDC for ensuring safety and security of the grid, and for the economic and efficient operation of the power system
- Section 28: The Bill provides for payment security mechanism to ensure timely payment of dues.
- Section 60:
    - The power and associated costs from existing power purchase agreements (PPAs) with existing distribution licensee will be shared among all discoms in the area of supply.
    - The State Government will set up cross subsidy balancing fund to deposit surplus of cross-subsidy of distribution licensee and to provide for any deficit with another distribution licensee in same area of supply
- Section 62: The Appropriate Commission will determine maximum ceiling tariff and minimum tariff for retail sale of electricity.
- Section 64: The Bill provides for *suo-motu* determination of tariff by the Appropriate Commission, thereby reducing the time required for tariff determination and provision for interim tariff.
- Section 77: The Bill amends qualification of chairperson and members of Central Commission.
- Section 142: The Bill proposes to impose penalty onto the obligated entities for shortfall in meeting the RPO.

The document can be accessed here.

CER Opinion

1. **'Carriage and Content separation' vs 'Distribution of electricity with or without network':** The Bill proposes to bring forth retail competition in electricity supply by redefining 'distribution of electricity' (which was hitherto defined to be undertaken only through the distribution network) as 'distribution of electricity' both with and without distribution network. While 'distribution of electricity through the distribution network' refers to the existing business of the distribution licensee (i.e. wire plus energy business), 'the distribution of electricity without a distribution network' refers to 'retailing of electricity without a distribution network'.

It is important to highlight that separation of carriage and content, i.e. the network services and retail supply of electricity, is essential to ensure effective competition in retail supply. This aspect is highlighted while discussing multiple issues herein. Such an institutional separation would ensure that (i) the cost associated with retail supply of the incumbent licensee are not passed on the network business, and (ii) there is non-discriminatory open access through the distribution network to the entrant retail supplier. **Coexistence of the two activities of the distribution licensee would significantly undermine implementation of retail competition.** It is further highlighted that success of competition in the wholesale market is attributed to the separation of '**carriage and content'** at the transmission whereby the transmission services were separated from bulk supply of electricity[1]. **International experience in retail competition also highlights the need for separation of carriage and content of the incumbent distribution licensee.**

Dual attribution of 'distribution' of electricity could also create challenge for misinterpretation of the existing regulations, policies, rules, codes, etc. This may exponentially increase the burden of legal disputes for the licensees, generating company, SERC, APTEL as well as the Supreme Court. **Ambiguity of the interpretation is best avoided in a sector already overburdened with legal disputes.**

2. **Ambiguity of the definition of the existing multiple distribution licensee:** The Electricity Act 2003 provides for multiple distribution licensee (i) to accommodate the prevailing historical legacy, e.g., in the licence areas in Mumbai, (ii) to reap benefits of competition where the density of load may allow for multiple distribution licensee, (iii) to present a credible threat to the incumbent licensee. The proposed amendment to the sixth proviso of Clause (b) to Section 14 of the Act suggesting to omit the words "*through their own distribution system*" should be dropped.

3. **Criteria for distribution of electricity:** There is a need to clarify that the criteria to be prescribed by the Central Government does not apply to grant of license, but the manner of distributing electricity. The Draft Clause replacing clause (b) of Section 14
"(b) to distribute electricity as a distribution licensee in an area of supply in accordance with such criteria as may be prescribed by the Central Government;";

may be modified as follows to bring the necessary clarity

"*(b) to distribute electricity, in accordance with such criteria as may be prescribed by the Central Government, as a distribution licensee in an area of supply …*"

4. **NLDC's role in introducing schemes/ mechanisms to ensure grid stability:** The modification to the proviso to subsection 2 of Section 26 of the Act ('*Provided that the National Load Despatch Centre shall not engage in the business of trading in electricity*') by addition of the words

[1] Singh A, Power sector reform in India: current issues and Prospects, Energy Policy, 2006 *https://doi.org/10.1016/j.enpol.2004.08.013*

"except as mandated by the Central Government for implementation of any scheme to ensure the stability of the power system" shall be inserted;"
can be alternatively be done as discussed here.

The market for ancillary services, and any such initiative that may be brought about by NLDC/RLDCs may explicitly be excluded from the definition of trading by adding a proviso after the definition of 'trading' u/s 2(71) of the Act.

5. **SCED/ URS/ MBED: Optimal Scheduling and Despatch beyond the Contracts:** The implementation of SCED/ URS currently involves incremental scheduling and despatch of electricity even when the respective entity may not have entered into an existing contract for the quantum exchanged through such mechanisms.

   The existing provisions in the Act (u/s 26(3)), which is now proposed as an amendment through insertion of sub-section (4), limits the ability of NLDC to optimally schedule and despatch power if it continues to be bounded by 'in accordance with the contract'.

   "(4) The National Load Despatch Centre shall—

   (b) be the apex body to ensure integrated operation of the power system in the country;

   (b) be responsible for optimum scheduling and despatch of electricity in the country across different States and regions ***in accordance with the contracts*** *entered into with the licensees or the generating companies:…"(emphasis added)*

   Thus, **to ensure that the 'optimisation' of scheduling and despatch continues to be undertaken by the NLDC under SCED/URS (and MBED or such a mechanism introduced later), which goes beyond the contracts,** the clause (b) should be modified as

   "(b) be responsible for optimum scheduling and despatch of electricity in the country across different States and ~~regions in accordance with the contracts entered into with the licensees or the generating companies~~:…"

6. **Eligibility for Open Access:** The proposed addition of the fifth proviso to the Section 40(c) (ii) of the Act states *"….maximum power to be made available at any time* ***exceeds one megawatt*** *shall be entitled to get open access to inter-State transmission system ….. on payment of the transmission charges and a* ***surcharge*** *thereon, as may be specified by the State Commission (emphasis added)".*

   (i) Given that the regulatory framework across most of the states already provides open access for consumers having a demand of '**<u>one megawatt</u> and above**', the words '**exceeds one megawatt**' should be replaced with '**equals or exceeds one megawatt**'.

   (ii) *"….maximum power* ***to be made available*** *at any time exceeds one megawatt shall be entitled to get open access to inter-State transmission system ….. on payment of the transmission charges and a surcharge thereon, as may be*

specified by the State Commission (emphasis added)".

The above proviso in its current form seems to suggest that open access can be availed by a consumer, which will make available the maximum power as identified above, by any one including that through open access. To limit the applicability of the above proviso for its intended purpose, the words 'to be made available' may be replaced with 'to be made available by a distribution licensee'. This context further emphasises the need for separately identifying the network provider and the electricity supplier, i.e. the separation of carriage and content.

(iii) To ensure that the **limit of demand specified above is flexible** and can be further relaxed based on the situation across states, the following proviso should be added to '*Provided that a Commission, may, through regulation, may further specify a lower limit of maximum power to avail open access*'.

(iv) **Criteria for availing maximum power supply requirement in 'MVA/ MW':** The criteria for considering the power requirement of supply of electricity may be considered in '**MVA/ MW**' as per the applicable policy for sanctioning of load for the state/ licensee.

7. **Sunset Clause for cross subsidy and additional surcharge:** The Bill proposes to introduce competition in retail electricity supply, while pursuing prevailing framework for open access with the obligation to pay cross subsidy and additional surcharge. The operational complexity and economic justification of these surcharges should not be perpetuated in an environment that aims to bring about retail supply competition in the sector. Hence, the Bill should also introduce a clause for **phasing out the applicability of above surcharges within five years of the notification of the Amendment.**

The Electricity Act, 2003 [No. 36 of 2003], originally provided for the elimination of above surcharges. This was removed through an amendment to the Act in 2007. The proposed sunset clause gains significance in the context of the introduction of competition in retail electricity supply as this would enable more effective competition in the sector.

8. **Efficient, Coordinated and Economic Distribution by Retailers of Electricity?:** The proposed amendment to Section 42 of the Act states "*for sub-section (1), the following sub-section shall be substituted, namely:—*

"(1) It shall be the duty of ***all*** ***distribution licensees*** *to,—*

1. *ensure an* ***efficient, co-ordinated and economic distribution system in their area of supply:***

Provided that a distribution licensee may use the distribution systems of other licensees in the area of supply for supplying power through the system of non-discriminatory open access; …" (emphasis added)

With the proposed introduction of competition in retail supply**, a 'distribution licensee',**

('retailer without a distribution network'), will neither have the means nor the powers to ensure efficient, coordinated and economic distribution system in their area of supply. Hence, this duty should be attributed only to the distribution licensee which own the distribution system. **This context further emphasises the need for separately identifying the network provider and the electricity supplier, i.e. the separation of carriage and content.**

The competition is the force that should ensure economy in the long-run. There would be instances wherein a retailer would end up undertaking business in an inefficient manner leading to uneconomic outcomes, and it may ultimately exit the business. This is a natural cycle of business. **All the distribution licensees (especially retailers) cannot and should not ensure efficiency and economy of other distribution licensees.**

The above amendment would also mean that **any (all) distribution licensee(s) can now invest to ensure 'alternate' (or a radial extension to the existing) distribution network, and seek coordination of the other 'wired' distribution licensees in doing so.** This would make the distribution network complex to operate, and for the SERCs to determine wheeling charges for the intervening components of the network.

9. **Duty to "develop and maintain" the distribution system:** The proposed modification of sub-section (1) to Section 42 of the principal Act,

"(1) It shall be the duty of ~~a~~ all distribution licensees to ensure ~~develop and maintain~~ an efficient, co-ordinated and economical distribution system in ~~his~~ their area of supply and….. to supply electricity in accordance with the provisions contained in this Act." *(emphasis added to demonstrate changes from the principle Act)*

Omission of the words 'develop and maintain' in the proposed Bill also removes the responsibility of the distribution licensees (with wired network) to further develop and maintain the distribution system. Further development and maintenance of the distribution system is necessary to ensure that growing needs of consumers are met and also that the system continues to response to support emergence and growth of behind the meter generation and adoption of electric vehicles.

Thus, **duty to develop and maintain the distribution network should be retained for the distribution licensees (with wired network)**

10. **Model Regulations by Forum of Regulators:** The proposed amendment to Section 42 of the Act states "… *in accordance with the provisions of this Act and the rules made thereunder by the Central Government and the regulations made by the Appropriate Commission and* ***in accordance with the model regulations laid down by the Forum of Regulators***."*; (emphasis added)*

The model regulations arrived at after discussions at the Forum of Regulators have played an important role in providing a starting point for the SERCs to further

modify and develop the respective regulations through the usual participation and consultation process with stakeholders. However, the **existing process of developing the model regulations does not go through the wider stakeholder discussion,** a process followed before formalising the regulation and the policies in the sector. The process of developing model regulations is **usually undertaken as a one-time exercise, wherein there is likely involvement of external consultants with very limited participation/contribution of the officers and members of the Commissions.** There is also **no feedback mechanism for review and continuous updation of model regulations.** Thus, **model regulations should be a guiding principle and amendment to that effect should be introduced** in Section 61, Section 86 and other respective regulations.

The distribution licensee, while performing its functions laid out u/s 42 of the Act, may likely face the dilemma of complying with multiple set of regulations including the model regulations. The Act (and the Bill) does not bestow binding status to the model regulations. The reference to the model regulations u/s 42 of the Act may be retained only as a guiding principle. This will avoid legal dispute arising on account of the differences between the actual regulations and the model regulations.

11. **Non-applicability of Cross-subsidy and Additional Surcharge in case of Competing Distribution Licensees:** Addition of sub-section (4A) to Section 42 of the Act granting non-discriminatory open access to a distribution system to all the distribution licensee, should also include a proviso clarifying that cross-subsidy and additional surcharge would not be applicable in such cases. This would be similar to the proviso to Section 38(2)(d) and Section 39(2)(d) in the case of captive generating plants.

12. **Wheeling Charges Vs Network Access Charges for Open Access to Competing Distribution Licensees:** Due to the natural monopoly characteristics of the distribution system, which primarily has fixed cost components associated with it, the charges for access to the same under the emerging scenario would likely be of a fixed charge basis. The approach to levy wheeling charges, currently applied to open access consumers on energy wheeled basis, cannot be carried forward in the context of retail competition with open access to distribution system. This is similar to the current context of the application of transmission charges, wherein long-term transmission access pricing is on the basis of MW, whereas short-term network charges are levied on the basis of MWh.

    The following definition of wheeling (u/s 2 of the Act) would imply that the wheeling charges would be on energy wheeled basis.

    "(76) "**wheeling**" means the operation whereby the distribution system and associated facilities of a transmission licensee or distribution licensee, as the case may be, are used by another person for the **conveyance of electricity** on payment of charges to be determined under Section 62;" *(emphasis added)*

    Given the important role for network access and the associated charges, **'charges for wheeling' should be replaced with 'charges for distribution system access and wheeling'. This would also permit application of a two-part system in the interim as**

'Network Access Charge' and 'Network Usage Charge'.

13. **Deemed Open Access for Competition Distribution Licensees:** To ensure smooth rollout of the distribution/retail competition, a 'deemed open access' criteria should be introduced for the competing distribution (retail) licensees with due information exchange and following required technical/ safety rules. This would ensure that the incumbent licensee does not create hurdles through the process for obtaining the open access even though it is to be granted in a non-discriminatory manner (as per the proposed Amendment). **A competing 'retailer' should be deemed to have been granted open access** unless there is significant increase in load or addition of new consumers (beyond an aggregate limit) necessitating investment in the distribution system.

    A competing 'retailer' should be <u>deemed</u> to have been granted open access unless there is significant increase in load or addition of new consumers necessitating investment in the distribution system.

    The rules/ methodology applicable for sharing of transmission charges ensures revenue certainty and avoids risk of over or under recovery of transmission charges. A similar methodological approach can be applied in case of distribution network access and usage charges in the emerging scenario.

    The above discussion further highlights the need for separation of carriage and content by distinguishing between the "distribution licensee" and the "retail licensee".

14. **Reporting for Regulatory Compliance:** The policies, regulations, codes, rules, orders etc which emerge out of the overall regulatory and policy environment in the power sector places a variety of compliance obligations on various stakeholders like generators, licensees, Ombudsman, Regulatory Commissions etc. The compliance reporting is at most guided by the respective document, if provided for. In many instances it is not provided for, thus leaving a significant information gap and also adversely influencing compliance thereof.

    A **new section** should be introduced for '**Reporting for Regulatory Compliance', which should mandate it through a specific regulation, rule etc.** (as applicable) placing the compliance reporting obligation for the applicable stakeholders. The report on the same should be submitted to the respective Ministry and Regulatory Commission and be archived on their respective website.

15. **Sharing of PPA's with the entrant distribution licensees (retailers):** The proposed addition to Section 60 of the Act states "*... Notwithstanding anything contained in this Act, on the issuance of licence to more than one distribution licensee in an area of supply, the power and associated costs from the existing power purchase agreements with the* ***existing distribution <u>licensee</u>****, as on the date of issuing licence to* ***another distribution <u>licensee</u>****, shall be* ***shared among all the distribution licensees*** *in the area of supply as per such arrangements as may be specified by the State Commission in accordance with the provisions of this Act and the rules made thereunder by the Central Government:*"*; (emphasis added)*

- The proposed amendment would bring **uncertainty to the existing as well as the new distribution licensees in terms of their power procurement portfolio**, both in terms of quantum as well as cost associated with the same.
- This arrangement will also **enhance the risk to the generators**, who have originally signed the PPA with a distribution licensee and are bound to receive capacity as well as the energy charges as laid down in the PPA from the distribution licensee. As an example, if one of the retailer (distribution licensee without wire) goes bankrupt[2], then in that context, now the **generator is exposed to the risk associated with the bankruptcy of the other distribution licensees to whom part of the PPA would be partly 'transferred'** through these arrangements which will be decided by the state regulators.
- In the absence of clear demarcation between the 'distribution licensee with distribution network' and the 'distribution licensee without distribution network', sharing of PPA would translate into a **significant entry barrier**. **This would be of particular concern, especially for a parallel distribution licensee who would make investment in setting up a distribution network. Hence, such distribution licensees should be excluded from applicability of the provisions under this Section.**
- **Uncertainty regarding cost and power sharing among the licensees**: The issuance of licence to a new distribution company in the area of supply of the existing licensee would require subsequent and **continuous review of the existing distribution of the existing PPAs** with all the distribution licensees. **A redistribution exercise would thus be required with each addition/departure of a distribution licensee.** Also, the addition/ withdrawal of licensees in a particular area of supply will lead to uncertainty of the cost and quantum of power purchase to be done by a licensee, thus **may cast a shadow on the financial stability of the licensees.**

16. **Cutoff Date and the Sunset Clause for Sharing of PPAs:** It needs to be clarified whether the Power Purchase Agreements which are under planning but not implemented will be included under the PPAs covered under the proposed Section 60A (1) of the Act which states '*the power and associated costs from the **existing** power purchase agreements with the existing distribution licensee, as on the date of issuing licence to another distribution licensee, shall be shared among all the distribution licensees in the area of supply*'. (emphasis added)

    Multiple issue may arise out of the proposed section. **The definition of 'existing' PPAs would be dynamic as it would be linked to those 'existing' at the 'time of issue of a**

[2] No. of bankrupt retailers in Victoria, Australia in the year 2022 are 8 (https://en.wikipedia.org/wiki/List_of_defunct_utility_companies_in_Victoria,_Australia) and total of 52 retailers have gone bankrupt in UK from 2016 till today (https://www.forbes.com/uk/advisor/energy/failed-uk-energy-suppliers-update/) indicating that a good number of retailers become bankrupt.

new license'. In the similar spirit, the 'existing' PPAs would need to be reallocated with each instance of 'surrender' or 'cancellation' of an existing distribution licence. **What is the ambit of 'associated' costs?** This may include costs associated with 'change in law' that may be approved after a licensee has surrendered its distribution licence. In such a case, **certain costs accrued and attributable to a 'set of licensees' would be recoverable from a different set of licensees (i.e. post entry/ exit of a licenses).**

Furthermore, the first proviso of proposed Section 60A (1) should be in congruence with the second proviso of the proposed section. While the first proviso specifies that these arrangements would be made on the issuance of license, the second proviso specifies periodical review of power sharing.

One would clearly ascertain the complexity arising out of the 'sharing of power and the associated costs'. **Defining a clear cutoff date for 'freezing' the PPAs that would fall under the exercise of the reallocation, and a sunset clause, beyond which the allocated PPAs would stand frozen, would provide each distribution licensee a greater room for commercial decision making and thus bring cost advantages to the consumers.**

The issue identified below in the case of multiple 'wired' distribution licensees would also be handled by specifying a cut-off date (date of gazette publication of the Amendments). Further, there should be **sunset clause identifying a date in future, beyond which such rebalancing would cease to be carried out.** A pre-defined period, say 5-7 years into the future, should be set as a sunset clause for such a rebalancing of PPAs else this would continue to impinge on the competitive outcome for the retail electricity supply and the benefits to the society as a whole.

17. **'Arrangements' vs 'Resource Adequacy':** In the context of the proposed Section 60A of the Act, **the arrangements may not have a legal sanctity as these would neither be part of the regulation, nor any specific order of the commission**. **In the absence of a legal basis for such 'arrangements', a multiplicity of legal disputes may arise from time to time and will make it difficult to implement retail competition in the sector.**

    It is suggested that such **'arrangements' be issued as a part of a regulation on long-term demand forecasting and power procurement planning (the Resource Adequacy Plan for the respective state). The State Commission should specify the 'Regulations', which may be based on the Rules specified by the Central Government.**

    Notwithstanding the addition of Section 60A, the respective SERCs should still have a say in ensuring that the distribution licenses have put in place a resource adequacy plan to meet the demand for electricity in future. This should be the applicable with or without introduction of retail competition.

18. **De facto PPA and Scope of PPAs:** The Bill proposes that sharing of the Power Purchase Agreement between the distribution licensees will be based on the 'arrangements' specified by the State Commissions. Will such 'arrangements' result in de facto redistribution of PPA (between the suppliers/ generators and all the distribution licensees in an area), and hence

the associated obligations, like payment security, change in law, etc? This arrangement will essentially result in **de facto Power Purchase Agreements** between the generators and the entrant distribution licensees, and modification of existing PPAs. A reallocation of PPAs should reassign all the rights and obligations to the resulting parties with the respective share in the power purchase. A legal framework would be required to implement such a dynamic PPA reallocation otherwise the legal process for PPA amendment or signing a new one would enter into a long process involving the SERCs, the Board of the respective licensees and the generating companies through a due legal process.

The scope of PPAs sharing mechanism should include only the long-term PPAs, including those governed u/s 62 and u/s 63 of the Act. These should exclude any medium-term/ or short-term PPAs including those transacted through the power exchanges.

All the long-term PPAs entered into after the publication of the Amended Act in the Gazette should be outside the purview of the PPA sharing mechanism. This would ensure that commercial decisions taken by the incumbent distribution licensees are purely commercially oriented and ensure that it does provide a perverse incentive for locking into PPAs while the sector is being opened up for retail competition.

19. **PPA Reallocation in the case of 'existing' Multiple Distribution Licensees:** The new Section 60A and its sub-section (1) proposed to be added in the Bill

"60A. (1) Notwithstanding anything contained in this Act, **on the issuance of licence** to more than one distribution licensee in an area of supply, the power and associated costs from the existing power purchase agreements with the existing distribution licensee, as on the date of issuing licence to another distribution licensee, shall be shared among all the distribution licensees in the area of supply as per such arrangements as may be specified by the State Commission in accordance with the provisions of this Act and the rules made thereunder by the Central Government:" (emphasis added)

The above section refers to sharing of PPAs between distribution licenses 'on issuance of a new distribution licence'. Its applicability in the case of existence of multiple distribution licensees in an area (e.g. in Mumbai) needs to be established. The PPAs of the distribution licensees there has already been a subject of legal disputes. A proviso clarifying the same can avoid such legal disputes.

In the case of **presence** of multiple distribution licensees in an area of supply before the Amended Act coming into force**, the cutoff date for the sharing of PPAs should be the date of gazette notification of the Amended Act, and PPA sharing outlined in sub-section (1) should be applicable beyond that.**

Similarly, the **applicability of the cross subsidy balancing fund should also have applicability post the cut-off date. Any cross-subsidy due to the costs due and incurred prior to the amended Act coming into force would be excluded.** (see emphasised text below)

"(2) In case of **issuance** of licence to **more than one distribution licensee in an area of supply**, the State Government shall set up a **cross subsidy balancing fund** which shall be managed by a Government company or entity designated by that Government in accordance with such regulations as the State Commission may make in accordance with the provisions of this Act and the rules made thereunder by the Central Government." (emphasis added)

20. Merits and Demerits of Cross-subsidy Balancing Fund (CSBF): Clauses (2)-(3) of the new Section 60A proposed to set up a cross-subsidy balancing fund (CSBF), post a scenario with multiple distribution licensees.

"(2) In case of issuance of licence (sic) to **more than one distribution licensee in an area of supply**, the State Government shall set up a **cross subsidy balancing fund** which shall be managed by a Government company or entity designated by that Government in accordance with such regulations as the State Commission may make in accordance with the provisions of this Act and the rules made thereunder by the Central Government.

(3) Any surplus with a distribution licensee on account of cross subsidy or cross subsidy surcharge or additional surcharge shall be deposited into the fund referred to in sub-section (2), and the fund shall be utilised to make good deficits in cross subsidy in the same area **or any other area of supply**." (emphasis added)

It is highlighted that a **similar balancing (cross-subsidisation) is de facto practiced across government owned distribution licenses across different licence areas of the state**. This is implemented through 'back calculation' of the bulk supply tariff, during tariff determination u/s 62, to ensure that final consumer tariffs are uniform across these distribution licensees.

The Bill proposes a formal fund, with the onset of the retail supply competition. The intention of the proposal seems to safeguard the interest of the existing discoms from losing cross-subsidy due to migration of the creamy customers (e.g. commercial, industrial, bulk supply consumers etc.), to the competing distribution licensees. It is important to highlight that **the need for cross-subsidisation arises both due to the tariffs being misaligned to the cost of supply, but also on account of the inefficiencies that are built into the cost to supply. Perpetuation of the CSBF would also protect relative inefficiency across the distribution licensees.**

In case of multiple distribution licenses, the tariff would no longer be determined by the respective SERCs. Thus, both cost of supply as well as consumer tariff would be within the partial control of the distribution licensees. Cross-subsidisation across the distribution licensees would in-effect also mean cross subsidization across consumer categories across the competing licensees. **This would be detrimental to the spirit of competition as it would continue to shield the inefficiency of the inefficient licensees as well.**

Furthermore, with rebalancing of portfolios to be put in place with each entry/ exit of a distribution licensee, a significant part of the consumer tariff (about 70-75%) is brought

under that 'balancing' mechanism. Any further need for rebalancing (through CSBF) would significantly be applicable to differences in the operational efficiency and the consumers tariff across consumers. **If consumer tariffs are rebalanced, there would not be any need for the CSBF. Thus, it becomes important to ensure that cross-subsidies in tariff are gradually reduced with a timeframe and let competition flourish thereafter.**

21. **Calculation of Cross-subsidy:** In context of multiple licensees, the calculation of cross subsidy would become a complex exercise as under retail competition, one generally witnesses multiple tariff plans even for a single consumer category. Under such circumstances, detailed data would be required from all the distribution licensees with respect to their Average Cost of Supply and Average Billing Rate. Given the dynamics of the market on account of switching of the consumers across distribution licensees as well as across different tariff plans within a category, this would become complex and dynamic exercise.

    To ensure that such an exercise can be carried out with certain amount of reliability, significant data disclosure including the commercial ones (which are otherwise closely guarded by a business entity facing competition) would be required and be included within the purview of the Act. Appropriate Rules/ Regulations to that effect would be required to ensure that there is a common approach to estimate the same.

22. **Cross Subsidisation with Non-competing Distribution Licensees?:** While sub-section (2) of Section 60A proposes a CSBF in case of multiple distribution licensees, sub-section (3) proposes to extend its domain to 'any other area of supply'. By extension, this would mean that the **CSBF can be used to support deficit in licence areas that do not have multiple distribution licensees**. To avoid such a scenario, **the words 'any other area of supply' appearing at the end of the sub-section (3) may be replaced with 'any other area of supply with multiple distribution licensees within the state.'**

    In the context of Joint ERCs, is may also be clarified that the jurisdiction of CSBF is limited to the respective state only.

23. **Sunset Clause for CSBF:** As experienced in some of the developed countries, the cross-subsidy paradigm may be inverted, with the emergence of retail supply competition, wherein commercial and industrial consumers would face a tariff close to or even lower than the 'average' cost of supply (ACOS), whereas domestic, commercial and some other categories may pay higher than ACOS. This would invert the cross-subsidy paradigm. Given that the CSBF is a protection shield, with maturity of competition**, the mechanics of the cross subsidy balancing fund should be gradually phased out.** Furthermore, **such phase out would likely be differentiated across states/ areas of supply of distribution licensees** (but limited to an upper cap i.e. sunset date) depending on the economics of power procurement, cost and revenue dynamics, and the intensity of retail supply competition.

24. Prudent cost recovery by tariff will hinder competition among licensees: The proposed amendment to Section 61 of the Act states "*In section 61 of the principal Act, for clause (g), the following clauses shall be substituted, namely:—*

"(g) ***the tariff recovers all prudent costs*** *incurred for supply of electricity;*

(ga) the tariff reduces cross subsidies in the manner specified by the Appropriate Commission;". (emphasis added)

..."

The original clause (g) is outlined below.

"(g) that the tariff progressively reflects the cost of supply of electricity and also, reduces and eliminates cross-subsidies within the period to be specified by the Appropriate Commission;"

The proposed emphasis on recovery of 'all prudent costs' should make way for performance based tariff regulation. Section 61 is applicable for distribution licensees whose tariff would be determined u/s 62 of the Act, and under the absence of competition in the distribution segment. The mechanism of 'recovery of all prudent costs' would delay introduction of competition through issue of multiple distribution licensees, would not only **safeguard the existing (single) licensee. This, in turn, would further delay introduction of competition as the historical legacy of PPAs and inefficiency would be translated and passed on to competing licensees through sharing of PPAs and CSBF**.

Section 61 is applicable for a single distribution licensee whose tariff would be determined u/s 62 of the Act. Thus the above mentioned clause aiming reduction in cross subsidies remains limited to the single distribution licensee in an area of supply. **In case of multiple distribution licensees, Section 61 is not applicable. Thus the need for 'reduction in cross subsidies' does not apply. Once the mechanism for cross-subsidy balancing fund would be set in place, it would perpetuate the prevalence of cross-subsidies in the distribution areas subject to competition.**

This will reduce the incentives for the incumbent distribution licensees (especially those owned by the government) to improve their performance as the elimination of progressive cross subsidy reduction and creation of cross subsidy fund would reduce the incentive for cost reduction by the incumbent distribution licensees.

25. Ceiling for 'Overall' Tariff: As per the proposed second proviso u/s 62(1)(d) of the Act, *"Provided further that in such ceiling tariff, the cross subsidy, wheeling charges and* ***adjustment in tariff pertaining to the period prior to the introduction of ceiling tariff****, if any, shall be indicated separately by the Appropriate Commission.",* (emphasis added)

Since the purpose of the above proviso is to implement overall ceiling rather than ceiling for individual components (which would also provide flexibility to the retailer to design appropriate tariffs), the same may be clarified by the following **additional proviso**,

"*Provided further that in such a ceiling tariff would be applicable on the overall tariff rather than individual components of tariff, and would include all components excluding any taxes or duties, as applicable."*

26. **Unbundling of Consumer Tariff:** As highlighted by Singh (2010)[3], effective implementation of retail competition in the country would require unbundling of tariff identifying various components thereof. Implementation of the above provision would also necessitate unbundling of tariff even before such retail competition is implemented. **Therefore, the Bill should mandate unbundling of tariff for consumer tariff as a new sub-section (3A) to Section 62 as suggested below**

    "(3A) The tariff for any consumer shall have multiple parts, separately identifying fixed as well as variable components. Such components shall be further segregated into sub-components identifying charges related to load/ demand sanctioned, energy supplied, wheeling charges, cross-subsidy, subsidy provided by the government, service charge and, any other charges as determined by the Appropriate Commission u/s 62 or, fixed by a distribution licensee in case of multiple distribution licensees."

27. **Capacity and Capacity Building of ERCs, Model Staffing Plan and Regulatory Cadre:**

    The Electricity Regulatory Commissions (ERCs) are understaffed due to limited number of sanctioned posts, as well as lack of a regulatory cadre. Lack of ample resources significantly undermines the ability and capacity of the ERCs to engage on various duties in a timely manner[4]. **Our discussions with ERCs have often revealed the paucity of manpower and dependence on external sources, which also does not help in building internal capacity and institutional memory. Lack of such institutional capacity is also a reason for delay in issuing of relevant orders and regulations.**

    Under Section 72, the Authority (CEA) has powers to appoint officers/employees, on such terms and conditions, which are to be fixed in consultation with the Central Government. On similar lines, the Appropriate Commission should have the powers to appoint officers/employees as required with terms and conditions for the same to be fixed in consultation with the Appropriate Government. Section 91(2) may be amended as

    "(2) The Appropriate Commission may, <u>in consultation</u> with the ~~approval of~~ appropriate government, specify the numbers, nature and categories of other officers and employees." (underlined text to be added, strikethrough text to be deleted)

    A <u>"Regulatory Cadre for the Infrastructure Sector"</u> be introduced so that the regulatory institutions across the infrastructure sectors have access to properly trained manpower with a stable career path. The cross-sectoral Cadre would also

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[3] Singh, A, Towards a Competitive Market for Electricity and Consumer Choice in the Indian Power Sector, Energy Policy, 2010 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2759247

[4] A comparison with resource availability with similar institutions in the developed world is highlighted here. During FY 22, Federal Energy Regulatory Commission (FERC) of USA is estimated to spend more than USD 338 million for the electricity and hydro sector with a total of 1,154 full-time equivalents (FTEs) of employees for the electricity including hydro sector.

bring a mix of ideas and would also strengthen the regulatory independence in the functioning of the regulatory institutions.

The Act should strengthen the hands of the regulatory institutions by including provision of adequate resources and manpower as per the model staffing pattern to be issued by the Forum of Regulators. The model so developed should include the timeliness and adequacy of human resources, their capacity building needs and required certification.

Appropriate amendment to the Act under Section 91 (2) via a proviso, as suggested below, may address the same.

"Provided that the Appropriate government would provide adequate resources, and timely sanction the adequate manpower as per the requirements framed by the Appropriate Commission."

Forum of Regulators has made concerted efforts to undertake capacity building of the ERCs over the years. A similar approach is required to **strengthen the regulated entities to ensure better regulatory compliance through a dedicated regulatory cells with adequate and trained manpower.** Certification based programs for supplementing these efforts can be adopted[5].

28. **Strengthening Regulatory Governance for all Stakeholders: The institutional governance structure of ERCs plays an important role in regulatory outcomes. The existing criteria for selection of Chairpersons and Members should be more inclusive, and should have better gender representation. The proposals in the amendment to include heads of certain organisations would raise concerns for regulatory independence and may tilt the outcome in favour of the represented organisations.** This would also significantly reduce the potential for candidates who are not heads of such organisations. Keeping a wider criteria would present a larger bandwidth for wider stakeholder representation. Given the evolutionary phase of the Indian power market henceforth, **head of a system operator, who plays a key independent role in the power sector, should also be included in the list, if retained in a modified form with wider criteria.**

The existing provisions of the Act includes a criteria for representation of various sets of stakeholders. However, the space is generally dominated by those with public administration experience. While this is also desirable, the role of candidates having direct experience with discoms, even though included in the qualification of members of CERC, had limited or perhaps no representation. **To bring a balance in representation, rotational representation of the respective set of stakeholders may be adopted as a philosophy for appointing the Members of the Commissions.**

[5] The Centre for Energy Regulation (CER) at IIT Kanpur has also undertaking the task of capacity building of ERCs, on behalf of Forum of Regulators. The Centre has also launched a Regulatory Certification Program on a variety of topics including "Power Sector Regulation: Theory and Practice", "Power Market Economics and Operation" and "Renewable Energy: Economics, Policy and Regulation"'

Representation of DISCOMs or the consumers at large needs to be encouraged in the Central Commission. This will ensure that consumers' interests are protected as 40-45% of the total cost paid by them are taken into consideration are subject to the regulatory environment emerging out of the Central Commission.

To ensure uniformity in applicability of basic attributes for the Chairpersons as well as Members of the Commission, amendment to Section 77(2) of the Act, may be rephrased as "(2) The Members, including the Chairperson of the Central Commission shall be persons of ability, integrity and standing, having adequate knowledge of……".

29. **Fuel and Power Purchase Adjustment Surcharge (FPPAS):** Fuel and Power Purchase Adjustment Surcharge (FPPAS) can be defined as a component of the tariff itself during the determination process and be applicable on the 'energy charges'. **The tariff determination exercise should itself define the approach to determine the FPPAS on a quarterly basis. In doing so, the FPPAS would need not be defined as 'amendment' in tariff,** which is proposed to be included through the addition of a proviso to sub-section (4) to Section 62.

30. **The Central and the State Advisory Committee, Coordination Forum:** The Central and the State Advisory Committees are often given less importance in the overall governance mechanism. While some commissions conduct such meetings before most of the crucial business like key regulations, tariff orders etc., in case of others, it is given a lip service with limited and less important agenda items.

    Furthermore, the agenda and minutes of the meetings are often not available for all the years on the respective website of some of the ERCs in a timely manner. Framework for compliance of such an institutional contribution should include timely meetings with relevant agenda items, perhaps at the time of each crucial regulatory decision. **Agenda and minutes of the central Coordination Forum (u/s 166 (1)) and state-level Coordination Forum (u/s 166 (4)) to be set up by the Central and the State Governments respectively should be reported regularly in the public domain in a timely manner. A proviso to that effect be included in the Act to strengthen such feedback mechanisms from a wide spectrum of stakeholders**.

31. **Prudent Cost Recovery and 'Financial Stability' of Licensees:** The proposed addition to Section 86 of the Act states "*In section 86 of the principal Act, in sub-section (1),—*
    (*a) in the proviso to clause (a), for the words "Provided that", the following shall be substituted, namely:—*
    "Provided that the ***tariff recovers all prudent costs*** *incurred for supply of electricity and also provide reasonable returns on investment and take necessary steps to ensure* ***financial stability*** *of the licensees: Provided further that";(emphasis added)*

    Evolution of the regulatory approach to tariff determination should **gradually move away from the concept of 'cost recovery'.** In fact, Section 61 alludes to incentives for efficiency, and tariff policy also invokes the need for disincentives for continued

inefficiency. **In the developed countries with matured regulatory framework, cost recovery has long been replaced by incentive or performance-based regulation.** The Bill should enable such an environment for the sector.

The **regulatory framework for generation of electricity** has already moved towards normative cost of service based approach, which does not **assure recovery of costs as tariffs are based on norms set for various financial and technical parameters.**

Furthermore, **section 86 would be applicable**, in its proposed form' to distribution licensees who are effectively **in competition under a multiple distribution licensee**, wherein cost recovery is no longer valid and, thus should be excluded from the applicability of the above proviso.

Furthermore, the cost recovery itself will not ensure financial stability. It also depends on external as well as internal factors. **The Act should not aim to ensure financial stability through means of tariff determination, otherwise continue inefficiencies would further linger in the sector.** The external factors may include change in electricity demand, resource mix of power supply, financial stress in the economy etc. The internal factors may include the managerial decisions that influence the commercial and financial health of the distribution licenses. In the context of multiple distribution licensees, by its very nature some businesses would be under financial stress[6]. **The SERCs should not be custodian of the financial health of the licensees facing competition in the sector.**

32. **Promotion of Co-generation (from fossil fuels?):** India's updated Intended Nationally Determined Contribution (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC) committing it to **reduce emissions intensity of its GDP by 45 percent (from 2005 level) by 2030**, and **achieve about 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030**. **Progress towards these targets would require reduction in share of fossil-fuel based electricity generation.**

    The original intent of the Act was to promote generation and co-generation of electricity (both) from renewable energy sources[7]. The proposed amendment inherently seeks to emphasise role of fossil fuel based co-generation. **Given India's INDC commitments and target to increase penetration of renewable energy, the following proposed clause (ea) to sub-section (1) of Section 86 should be excluded.**

    "(ea) promote co-generation of electricity;"

33. **Role of Renewable Energy Certificates (RECs) in RPO Compliance:** The RPO obligation enshrined under Section 86 (1) (e) of the Act can be met through procurement

[6] The experience from developed countries with retail supply competition reveals that numerous retailers loose out to competition and are forced out of business due to financial stress.

[7] The legal process had also set aside an interpretation wherein the Section 86(1)(e) was argued to mean 'promotion of cogeneration from fossil fuel' as well. There is legal clarity on the same now.

of green energy or purchase of RECs[8]. The market for REC has played a key role in improving the compliance especially for captive and open access consumers. **It has potential for playing a greater role in RE development as well as the emerging market for carbon trading[9].**

The amendment bill can codify the role of **RECs** further in ensuring the guarantee of origin for the RE. This **would further aid the success of green hydrogen mission as well.** A proviso to Section 86 (1) (e) of the Act can be added as follows

"Provided that the above commitment can be met though the market instruments like the Renewable Energy Certificates and other such market-based instruments to be recognized by the Central Commission under Section 65 of the Act."

34. **Role of SERCs in fostering Consumer Choice:** The enabling provisions (as suggested to be modified herein) of the Bill, aims to provide consumers a choice of electricity supplier. To strengthen the right of the consumers to exercise such a choice,

    - Clause No. 23 (e) states "*after clause (j), the following clauses shall be inserted, namely:—*
    - *"(ja) issue directions or guidelines or specify regulations to secure consumer choice and an efficient,…"*It is important to replace the word 'specify' with 'issue' in the draft Clause. This would be in line with the context of other regulations 'issued' by the respective Commissions.

35. **Definition of Resource Adequacy:** Alongside inclusion of clause '(jb)',
    "(jb) review the resource adequacy at intervals of every six months for each of the distribution licensees….",
    a definition of "Resource Adequacy" should be included in Section (2), or it may be pointed be included in Section 79 and Section 86 in respect to the 'Grid Code' and 'State Grid Code' respectively.

36. **Supplier of last resort[10]:** Effective implementation of consumer choice would also need to be accompanied with the definition of the responsibility of a 'Supplier of Last Resort'.

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[8] For contributions to development of the REC market in the country, see
Singh A, A market for renewable energy credits in the Indian power sector, Renewable and Sustainable Energy Reviews, 2009 https://www.sciencedirect.com/science/article/pii/S1364032107001463
Singh A, "Economics, Regulation, and Implementation Strategy for Renewable Energy Certificates in India", in India Infrastructure Report 2010, OUP,
https://www.researchgate.net/publication/335790471_Economics_Regulation_and_Implementation_Strategy_for_Renewable_Energy_Certificates_in_India
Singh A, Directions for Effective Regulation for Renewable Energy: An Analysis of Renewable Energy Certificates, Indian Energy Security Summit: Energy Security for a sustainable future, 3-4 March 2011, New Delhi,
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3440341

[9] CER's Comments on "Policy paper for Indian Carbon Market, 2022 [Draft]", Indian carbon market, BEE India https://cer.iitk.ac.in/blog/new_blog/?id=MTg2NQ==

[10] Singh, A, Towards a Competitive Market for Electricity and Consumer Choice in the Indian Power Sector, Energy Policy, 2010
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2759247

In case of the inability of a distribution licensee to serve an embedded consumer, the consumer cannot be left stranded and need to be served electricity. In fact, such a grid connected consumer would keep consuming the electricity while the required injection of energy by its contracted supplier may have ceased due to either breach of contract or failure at the end of the supplier.

In the present context of open access, such consumers are billed at temporary tariff and, applicable penal demand charges are also levied. In case of competitive retail suppliers, small domestic, commercial consumers etc, who have exercised choice to secure supply from an alternate supplier, should have right to return to an identified supplier(s), the **'Supplier of Last Resort', for a limited duration at the applicable tariff for the same category for such supplies (i.e. not being subjected to temporary tariff and penal demand charges).** Thereafter, such a consumer would have to enter into a supply contract with another supplier. **A fund may be created from a pool of resources (CSBF?), which may compensate such suppliers of last resort for identified additional cost to temporarily serve such consumers. In the absence of such a mechanism, consumers may face significant barriers to implement choice of supply.**

37. Implementation of RPO Shortfall Penalty: The substituted Section 43 provides for imposition of penalty for RPO shortfall by the obligated entities.

"(3) Notwithstanding anything contained in sub-sections (1) and (2), where the Appropriate Commission is satisfied on a complaint filed before it or otherwise, that obligated entity has not purchased power from renewable sources of energy as specified under clause (e) of sub-section (1) of Section 86, the Commission shall after giving such entity an opportunity of being heard, by order in writing, direct that, without prejudice to any other penalty to which he may be liable under this Act, such person shall be liable to pay a penalty of a sum calculated at a rate of—

(i) not less than twenty-five paisa per kilowatt-hour and not more than thirty-five paisa per kilowatt-hour for the shortfall in purchase **in the first year of default**;

(ii) not less than thirty-five paisa per kilowatt-hour and not more than fifty paisa per kilowatt-hour for the shortfall in purchase continuing **after the first year of default**."

(emphasis added)

As per the proposed amendment in Section 142(3) of the Act, the penalty to be implemented for shortfall in meeting RPO target to be proposed, should not be specified through the Act as this will sacrifice the flexibility to adjust the level of penalty as per the market economics of RE, and the overall regulatory framework for RE/REC.

It is proposed that such a penalty or its basis may be specified under the rules made by Central Government, in consultation with the SERCs/JERCs, and the other stakeholders. This can then be revised from time to time to strengthen RPO compliance considering stakeholders' input.

The proposed implementation framework for penalty highlights needs for clarity as the same can be interpreted in different ways as set out in the following example considering RPO for a three-year period (considering lowest level of penalty).

Case 1:
The penalty rate imposed for the 1st year would be Rs. 0.25/ kWh (as per Section 142 (3)(i)). For the shortfall of 2nd and 3rd year in meeting the RPO targets, the penalty imposed is at the rate of Rs. 0.35/ kWh (as per Section 142 (3)(ii)).

	Year 1	**Year 2**	**Year 3**
RPO Target (kWh)	1000	1000	1000
RPO Met (kWh)	900	950	975
RPO Shortfall (kWh)	100	50	25
Cumulative RPO Shortfall (kWh)	100	150	175
Penalty Rate (Rs./kWh)*	0.25	0.35	0.35
Penalty for 1st time shortfall (Rs.)	0.25*100 = **25**		
Penalty for 2nd time shortfall (Rs.)		0.35 * 50 = **17.5**	
Penalty for 3rd time shortfall (Rs.)			0.35*25 = **8.75**
Overall Penalty for three years (Rs.)	**51.25**		

*- Lower limit mentioned in the proposed amendment taken as reference for calculation

Case 2: The penalty rate imposed for the 1st year would be Rs. 0.25/ kWh (as per Section 142 (3)(i)). For the continued shortfall, the penalty rate for shortfall **in the** 2nd year would be Rs. 0.25/ kWh (as per Section 142 (3)(i)) and for shortfall of the previous year penalty would be Rs. 0.35/kWh (as per Section 142 (3)(ii)). Similarly, it would be calculated for the 3rd year.

	Year 1	**Year 2**	**Year 3**
RPO Target (kWh)	1000	1000	1000
RPO Met (kWh)	900	950	975
RPO Shortfall (kWh)	100	50	25
Cumulative RPO Shortfall (kWh)	100	150	175
1st time RPO shortfall	100	50	25
2nd time RPO shortfall		100 (of 1st year)	50 (of 2nd year)
3rd time RPO shortfall			100 (of 1st year)
Penalty Rate (Rs./kWh)*	0.25	0.35	0.35
Penalty for 1st time shortfall (Rs.)	0.25*100 = **25**	0.25*50 = **12.5**	0.25*25 = **6.25**
Penalty for 2nd time shortfall (Rs.)		0.35*100 = **35**	0.35*50 = **17.5**
Penalty for 3rd time shortfall (Rs.)			0.35*100 = **35**
Overall Penalty for three years (Rs.)	**131.25**		

*- Lower limit mentioned in the proposed amendment taken as reference for calculation

Case 3: The penalty rate imposed for the 1st year would be Rs. 0.25/ kWh (as per Section 142 (3)(i)). For the continued shortfall, the penalty rate applicable on the cumulative shortfall of 1st year and 2nd year would be imposed at Rs. 0.35/kWh (as per Section 142 (3)(ii)) and so on.

	Year 1	**Year 2**	**Year 3**
RPO Target (kWh)	1000	1000	1000

RPO Met (kWh)	900	950	975
RPO Shortfall (kWh)	100	50	25
Cumulative RPO Shortfall (kWh)	100	150	175
1st time RPO shortfall	100	50	25
2nd time RPO shortfall		100 (of 1st year)	50 (of 2nd year)
3rd time RPO shortfall			100 (of 1st year)
Penalty Rate (Rs./kWh)*	0.25	0.35	0.35
Penalty for 1st time shortfall (Rs.)	0.25*100 = **25**		
Penalty for 2nd time shortfall (Rs.)		0.35*150 = **35**	
Penalty for 3rd time shortfall (Rs.)			0.35*175 = **61.25**
Overall Penalty for three years (Rs.)	**121.25**		

*- Lower limit mentioned in the proposed amendment taken as reference for calculation

Suppose an obligated entity fails to meet its RPO target by 100 kWh for 1st year. Hence, the penalty imposed would be Rs. (0.25*100) in all the three cases for the first year as per the above tables. For the 2nd and 3rd year there is ambiguity in calculation of the penalty to be imposed if the obligated entity fails to meet its RPO target. **Thus, the provisions for imposition of penalty should not leave any room for ambiguity.**

38. RPO Fund: It is also suggested that the **revenue collected from such penalty should be deposited in separate fund to be created/ existing for the particular State and may be called as the Renewable Purchase Obligation Fund (RPO Fund), which should be utilized for promotion of RE and research and capacity building thereof. Alternatively, the fund can be used to purchase RECs and extinguishing the same, thereby transferring the economic benefits to the REC market.**

To ensure that the RPO shortfall penalty is dynamic and reflects the prevailing economics of RE, the average MCP for the REC for the respective quarter may be applied as penalty. The amount to be collected through such a penalty (in the fund as suggested above) can be used to purchase the equivalent RECs for meeting the RPO. **This would also ensure that the overall RPOs is fulfilled irrespective of the same being done by the respective obligated entity or the fund created for the penalties. This would give direct incentive to participate in the REC market for RPO fulfilment and ensure much better RPO compliance.**

39. Development of Market-based Instruments: RECs and Carbon Credits: Section 66 of the Act provides for development of the market in electricity by the Appropriate Commission. Given the role played by the renewable energy certificates (RECs) and the energy efficiency certifications (EScerts), and the emerging role of carbon market in the country (**post enactment of Energy Conservation (Amendment) Act, 2022**, this Section should also include a reference to the development of market-based instruments, which would also include derivatives. Section 66 of the Act may be modified as

"66. The Appropriate Commission shall endeavour to promote the development of a market (including trading) in power **and market-based instruments** in such manner as may be specified and shall be guided by the National Electricity Policy referred to in

Section 3 in this regard." (text to be added highlighted in bold)

Given the current institutional framework for REC implementation, it provides a credible guarantee of origin for both renewable energy generation and hence displacement of carbon. Section 86 (1) (e) of the Act, mandating RPO obligation for the obligated entities should also **provide for use of RECs and carbon credits in a fungible manner to the RPO obligations denominated in energy terms**. A proviso to that affect may be added therein.

40. **Market Monitoring:** A proviso to Section 66 should also mandate effective market monitoring by the Appropriate Commission. While market monitoring is already essential for efficient functioning of the wholesale market, it would also be equally important in the case of the retail market. A proviso should mandate the market monitoring and publication of its reports on a monthly/quarterly basis through the respective web portal of the Appropriate Commission.

    "Provided that the Appropriate Commission would continuously monitor the market behaviour and its outcome and publish a periodic (monthly/quarterly) report on the same including incidences of malpractices identified and action taken thereof."

41. **Data disclosure: System Operation and Storage:** Design of policy and regulatory framework depends significantly on the availability of data on technical, operational, financial as well as regulatory aspects for the entities in the sector. Section 73 (i) and (j) of the Act mandates the Central Electricity Authority (CEA) to collect and make. public data secured from the entities in the sector. The current scope of the data does not include system operation, market-based instruments (those traded on PXs including the RECs, Escerts etc.), storage etc. The existing clause (i) and (j) may be modified as follows

    "(i) collect and record the data concerning the generation, transmission, **system operation**, trading, **market-based instruments**, distribution, **storage** and utilisation of electricity and carry out studies relating to cost, efficiency, competitiveness and such like matters;

    (j) make public from time-to-time information secured under this Act, **archive the same through its web-portal** and provide for the publication of reports and investigations;" (text to be added is highlighted in bold)