5TH EU-INDIA WORKSHOP SERIES ON "ENERGY REGULATION"

THE FIFTH DEBATE ON
"RETAIL ELECTRICITY COMPETITION:
WHAT CAN IT BRING TO INDIA'S AMBITIOUS RENEWABLE ENERGY TRANSITION?"

OCTOBER 1, 2021

PROCEEDINGS

Fifth online debate on "Retail electricity competition: what can it bring to India's ambitious renewable energy transition?"

On 01st October 2021, the European Union (EU) - India Clean Energy and Climate Partnership (CECP) project in collaboration with the Florence School of Regulation (FSR) hosted the fifth of six debates, as part of the 5th EU-India workshop series on Energy Regulations. The theme of the series is 'Enablers for India's Renewable Energy Transition: Competition and Market Design for the Power Sector'.

The fifth was organized on the topic "Retail electricity competition: what can it bring to India's ambitious renewable energy transition?", which was registered by more than 160 participants, representing policy makers, regulators, power system operators, renewable energy developers, electricity trade organizations, utilities, think tanks, consultants, and academia.

1.1. Inaugural Session

Mr. Edwin Koekkoek, Counsellor, Energy and Climate Action, Delegation of the EU welcomed the participants to the fifth debate of the series. He informed about the EU-India Clean Energy and Climate Partnership (CECP), which was agreed at the highest level in 2016. He set out the work undertaken under CECP in the areas of energy efficiency, renewable energy including offshore wind energy, floating solar, rooftop solar, solar parks, smart grid, power market design, sustainable finance, cooling and cold chain, climate proofing, power market design and energy regulations, etc. He mentioned that the discussions and proceedings of each of the online debates are put up on the CECP website (https://www.cecp-eu.in/).

Mr. Matthieu Craye, International Relations Officer, DG ENER, European Commission, mentioned that the topic of discussion is also very relevant for Europe, given prevailing high energy prices and the role of electricity market liberalization. The debate would hopefully provide insights in the ways the retail market can contribute, given the ambitious renewable energy targets, and the need for making electricity decarbonized and affordable to consumers.

1.2. Panel Discussion

Tomas Gomez, Professor, Comillas University delivered a presentation to share experiences around retail competition in EU, and possible thoughts for India's retail market. He made the following points:

- He highlighted countries at different stages of allowing retail electricity liberalization. Some countries in Europe have allowed wholesale market and retail competition, which is also the case in some states in United States of America, Australia, etc., while countries like India have unbundled the power sector and progressing towards competition.
- He further discussed the EU Electricity Directives which have enabled liberalization and allow consumers to choose their electricity supplier, legal and functional unbundling of Distribution System Operators (DSOs) with consumer base more than 100,000 in numbers.
- He discussed mark-ups in the retail sector in EU, averaging about Euro 15/MWh, while the retail prices are Euro 50-60/MWh, highlighting high mark-ups. However, the margin would reduce with increase in competition.
- The degree of retail competition is reflected by the switching rates which means consumers switching their electricity suppliers. In EU, the switching rate of domestic consumers varies from 5%-15%.
- He discussed that policy makers and regulators are aware about barriers in retail competition since there are incumbent suppliers that dominate the national markets, unbundling is not fully developed, data availability and data standardization is a concern, unfair competition in retail market is often visible, and end-user prices are regulated.
- He suggested following actions to improve retail competition:
  - Need for online price comparison tools, switching procedures (next day switching),

  - Promoting entry of new suppliers and cross border suppliers,
  - Phasing out end user price regulation,
  - Allowing free opt-in and opt-out of regulated prices.
- He emphasized that the liberalized electricity tariffs can co-exist with regulated tariffs.
- While mentioning default tariff design, he suggested that the default tariff must be cost-reflective and introduce least possible regulatory intervention. Subsidized tariffs represent unfair competition and eventually would end with retail market.
- He made the following recommendations:
  - Consider advantages and disadvantages of liberalizing retail market in the international experience – consider mark-up, market concentration and consumer participation
  - Suggested to gradually implement:
    - Unbundled retailers from distribution companies
    - Remove barriers such as unbundling and branding, data, supplier switching, etc.
    - Progressively liberalize different demand segments.

Pradyumna Bhagwat, FSR Global Advisor, Florence School of Regulation, made a presentation about dynamic retail electricity tariffs:

- The fuel prices in EU, such as gas, are going up, which are pushing electricity prices. There is a need to delineate between short term and long-term priorities.
- Retail tariffs can be static or dynamic and can be further detailed into time-of-use, critical peak pricing, peak time rebate, real time pricing, etc.
  - For example, in Europe, in real time pricing, there is a possibility that the cost could be very high as all costs are getting passed onto the consumers.
- Tariff can be designed based on time block length or price periodicity:
  - Time block length – number of distinct tariff periods into which a day is divided;
  - Price periodicity – how often prices are updated.
- Various countries such as Japan, France, Australia, Sweden, Nordic countries, etc. have adopted varied tariff designs.
- The choice of tariff design depends upon regulator's choice and consumers choice. Some countries allow consumers to take their choice for tariffs- Shared tariff regime adopted by countries like Norway, Portugal, Sweden which have last resort supplier, whereas country like France have a regulated tariff option, with an option for subsidy for different classes.
- He discussed about the implementation barriers which include:
  - Physical and Information and communication technology (ICT) infrastructure requirements – smart meters and other digital infrastructure required for consumers to compare prices, etc. and make switching, as required.
  - Market arrangement requirements in form of real time pricing in dynamic arrangement,
  - Consumer behavior – need to ensure incentives required to motivate them to adopt this mechanism.

Abhishek Ranjan, Vice President of Power Markets, BSES Rajdhani Power Limited shared his experiences from the Distribution Company's point of view:

- In India, retail tariffs are completely regulated by State Regulators (SERCs), in line with the National Tariff Policy and the Electricity Act, which is the ceiling tariff and the Discoms can offer lower tariffs.
- Retail tariff is getting reflected from cost of supply, which has various components:
  - 80% is power purchase cost, and 50% of this 80% is fixed cost (Long term Power Purchase Agreements PPAs) which has to be met in all cases.
  - Power purchase cost burden on Discom is thus 50% fixed and 50% variable, however retail tariff follows different structure with almost 90% variable and 10% fixed component. Discoms are not able to recover most of fixed cost which they are liable to pay to the generation companies.

- In India, the government is agile on these issues and has given provisions in tariff regulations, allowing exiting the PPA post 25 years and has given some respite in retail tariffs by reducing fixed cost burden.
- In retail tariff, two new provisions have been brought in:
  - Green energy open access, draft regulations have been put up. Any consumer above 100kW can opt for 100% green power from any source – including Discom or through open access.
  - Government is also trying to assess the ways in which the Distribution can be de-licensed – wire and supplier provider. This will be successful once wholesale market penetration is very high, which is at present ranges from 3-4% which is very low.
    - This situation is expected to improve, starting April 2022, when Market Based Economic Dispatch (MBED) is expected to be implemented, and thus the wholesale market penetration would go up to 25-30%.
- Delhi has allowed virtual and group net metering:
  - Any surplus generation from rooftop solar can be set off with other peers/consumers at regulated retail tariff – which is happening for the first time in India.
  - Peer to peer market – allowing market to discover prices at local level.
- At present individual consumers cannot trade, as it is a licensed activity.
- Rooftop solar, Demand Response, Automated Demand Response, Distribution Energy Resources (DERs) will play a crucial role and can be a source of revenue for retail consumers.
- India is on the verge of expanding retail tariff competition and MBED will play a crucial role in this.
- Time of Day (ToD) tariff is limited from the lens of power purchase cost and not from load shaping.
- BSES did a recent study on the ways ToD and Time of Use (ToU) can help consumers shape up their load curve in alignment with Discom's network, without adding more wires and specially for charging electric vehicles (EVs).
- TOD and ToU will increase competition in retail where consumers can opt for battery storage coupled with solar to supply to Discoms, in a bi-directional flow.

Mr. Sutirtha Bhattacharya, Chairperson, West Bengal Electricity Regulatory Commission (WBERC) shared his experiences as a Regulator:

- He shared India's journey in the sector wherein Electricity Act introduced competition and allowed multiple suppliers.
- The Electricity Act allowed multiple licenses to operate in the same area under the Section 14, however also specifies that a particular Discom shall have its own network and shall not use other's network.
- The Regulators have clarified that the discount or innovativeness in supply has to be through Discom's margin and cannot be charged to the consumers.
- In Open Access Regulations, Cross Subsidy Surcharge (CSS) has to be paid unless the consumer is a captive one and getting power from own plant. Further, the Additional Surcharge has to be paid if the Discom can show that it is necessary to maintain their Universal Service Obligation (USO) in that particular area.
- Most of regulators are following CSS within 20% of the average cost of supply, however, cost of supply based on voltage is not being followed in tariff formulation.
- With advent of renewable energy, especially when prices started falling; many states in south and west India which were consumers of thermal, became producers of renewable energy.
- Pumped storage and other storage options being pursued for round the clock supply to any consumer by the Discom at the request of the consumer.
- With green power becoming cheaper, and with support from stakeholders, consumers would be preferring EVs charged by green power.

1.3. Questions and Answers

- **Question to Tomas Gomez** – From your experiences, what lessons can India learn from Europe?
  - **Response from Tomas Gomez:**
    - Implementing efficiency in the systems is important to achieve the ultimate objective of affordable electricity for consumers from renewable energy sources.
    - It is important to consider two key aspects for promoting retail market competition – the electricity consumed being sourced from wholesale market; and network utilized for distributing electricity.
    - The regulated business should be unbundled from wholesale market.
    - Attempt should be made to recover network cost without the interference of energy; otherwise, this will hamper retail competition.

- **Query to Pradyumna Bhagwat** – requested to throw more light on dynamic tariffs.
  - **Response from Pradyumna Bhagwat:**
    - Each country is unique and is undergoing unbundling for a different reason.
    - Competition is required at regulatory level and choices offered to consumers may not be in the similar way as in western countries, wherein there are many retailers.
    - For efficient retail competition, cost benefit analysis is required to assess the key drivers.
    - Green power is attractive and becoming cheaper however still expensive than traditional power
    - Discoms in India are coming up with innovative business models and technologies. It is important for the industry to take up leadership role and not wait for regulators to adopt such business models in the retail sector.

- **Question to Sutirtha Bhattacharya** – views on multi-part tariff for retail consumers.
  - **Response from Sutirtha Bhattacharya:**
    - There are several challenges with Indian tariff system. The tariff is too volumetric in term of classes of consumers, tariff is not cost specific but average cost specific and urban-rural adjustment in areas.
    - Attempts are been made to allocate cheaper power to rural areas, which leads to cross subsidy
    - Multi part tariff already exists for consumers – fixed and variable tariff.
    - Private Discoms are giving tailored tariffs, including ToD tariffs.

- **Question to Abhishek Ranjan –** ways to promote innovation in Discoms, and views on multi-part tariff for retail consumers.
  - **Response from Abhishek Ranjan:**
    - Innovation in retail tariff design is important. While we explore innovation for residential consumers, clubbed with Demand response, ToD, the ultimate objective should be to ensure that the total amount being paid by the consumer post innovation should not exceed the amount paid prior to the innovation.
    - It is important to reduce the dependence of consumers on regulated slab rates, till the consumer does have the option of ToU rates. This can be possible with decentralized energy resources (DERs) such as rooftop solar.
    - There is a need to build retail tariff models/innovations around DERs, rather than wholesale market alone, since DERs offer better flexibility than remote utility resources.
    - Design of peer-to-peer trading platform can help.
    - Retail competition can take algorithms from wholesale market and apply at retail level.
  - **Comments from Pradyumna Bhagwat –** Innovations are important for the sector; however, these involve upfront cost. Hence, there is a need to delineate between short term and long-term priorities

and innovations should be considered as a long-term solution, wherein such costs get absorbed in long run. He quoted an example of Gujarat wherein ToU tariffs are applicable to residential consumers as well, whereas in India it is mainly limited to industrial consumers.

- **Question to Sutirtha Bhattacharya** – How do you see innovations with challenges in the sector?
  - **Response from Sutirtha Bhattacharya:**
    - Delhi is an urban area and can be compared with Calcutta Electricity Supply Corporation (CESC), whereas West Bengal, which has areas like Sundarbans or Darjeeling, has a different approach and cannot be compared to Delhi.
    - Innovations in residential segment is a positive idea and need to be conveyed to the consumers that the long-term implications would be cost saving to make it successful.
    - Future will certainly take a reformed path - India has done a generation revolution and will also be able to do distribution revolution.

- **Question to Tomas Gomez**– views on innovation in retail sector?
  - **Response from Tomas Gomez:**
    - Innovation is critical and also important to differentiate between regulated and competitive aspects.
    - In general, network should be regulated, and innovation should include network efficiency, quality of service.
    - Competition between distributed and satellite resources is critical in order to minimize long term cost.

1.4. Conclusion

Ms. Swetha RaviKumar Bhagwat, Head of FSR Global, Florence School of Regulation, summarized the online debate by mentioning the key discussions points:

- Transition to retail competitive market would be progressive, as seen in the case of Europe and India will also adopt the similar route
- Innovation would be the central theme on two fronts – network front and retail fronts and shall lead to efficient price discovery in times to come.
- It is important to keep consumers at the center of transition, considering the socio-economic factors.
- There is a need for different solutions for different part of India. This will be an uphill task for India while unbundling and opening up of retail competition is undertaken.

Swetha concluded by inviting all the participants to join the next and last session on "Interconnection and cross-border trade" as part of the series, with a focus on India and neighboring countries, scheduled for 29th October 2021.