

## **Views/Comments upon Staff Paper on Market Coupling by Central Electricity Regulatory Commission published in August 2023**

CERC has published the “Staff Paper on Market Coupling” in August 2023 inviting comments/views from the stakeholders. In response Eninrac Consulting Private Limited likes to offer its views on the issues and questions highlighted in the discussion paper w.r.t to various stakeholders as given hereunder:

The introduction of market coupling in India faces significant challenges and appears unlikely to bring substantial benefits to consumers or the market. This proposal aims to fundamentally alter the existing power market landscape, but its practicality and advantages remain questionable. Market coupling is a concept initially introduced in Europe in 2006, gradually gaining acceptance through transnational mergers in countries like France, Belgium, and the Netherlands. By 2014, 15 European nations had embraced nationwide market coupling, resulting in a highly integrated electricity wholesale market across 27 countries and involving 30 transmission system operators. The European objective was clear: to integrate markets across borders, optimize cross-border transmission infrastructure, and converge electricity prices.

However, replicating this approach in India presents a flawed premise due to the country's complex landscape of various power purchase agreements (PPAs) leading to diverse pricing. In India, where 90% of power is tied up in fixed-price and long-term PPAs outside the market, the concept of achieving a single price convergence becomes irrelevant. In essence, market coupling in India would only apply to a mere 5% of the market, leaving the remaining 95% with distinct pricing structures.

Furthermore, India already operates under a voluntary market model, in line with power market regulations, featuring multiple power exchanges competing nationally. The introduction of market coupling would likely increase operational costs, introduce unnecessary rigidities, and hinder market innovation—counter to the reforms set out by the Electricity Act of 2003. Essentially, what's proposed in India is more akin to "price coupling" among different power exchanges rather than market coupling, as India already enjoys the benefits of geographic integration with uniform pricing.

The potential drawbacks of introducing market coupling in India are not limited to pricing concerns. Allowing new power exchanges to couple with well-established ones could create disadvantages and undermine the market's credibility. If some exchanges rely on dominant exchanges to cut costs, bypass technology investments, or skip system upgrades, it would create an uneven playing field, eroding the principles of efficiency, transparency, healthy competition, open access, and social welfare that have been the focus of market development.

In summary, the proposition to implement market coupling in India appears fraught with impracticalities and unlikely to yield substantial benefits. It would demand substantial structural changes without clear advantages, potentially leading to adverse consequences for both consumers and the market.

### **Summary of Views – Impact of Market Coupling on Stakeholders:**

- 1. Absence of clear justification or goals for market coupling:** There appears to be a notable absence of studies or empirical evidence that substantiate the benefits of introducing market coupling into the Indian power market. It is crucial, given the magnitude of this potential market transformation, to undertake a comprehensive study that can offer a clear and rational justification for the necessity of implementing market coupling.

- 2. Short-term market regulatory policy instability is expected to diminish investment incentives, potentially resulting in a shortage of power generation capacity and affecting resource adequacy plans. This could pose challenges in meeting the country's peak power demand following the introduction of market coupling:** The anticipated instability in short-term market regulatory policies is likely to erode the incentives for investments. This erosion of incentives carries the potential to lead to a shortfall in power generation capacity, which in turn could have a significant impact on the adequacy of resources. Consequently, there may arise substantial challenges in fulfilling the country's peak power demand, especially in the wake of the introduction of market coupling.
- 3. Government-Led Market Coupling: Implications for Price Controls:** If a government entity, such as NLDC, assumes the role of MCO, it would empower the government to unilaterally implement price caps. Currently, the government exercises caution when considering the imposition of arbitrary caps. With a government entity like the MCO, there would be no need for external consultations on this matter.
- 4. Market coupling puts thermal power generation at risk with reduced profits and price erosion as it is vastly regarded as precursor to MBED mechanism:** Market coupling, which integrates electricity markets across regions or countries, can have significant repercussions for thermal power generation companies. These companies, relying on fossil fuels, often face adverse effects in this setup, including reduced profit margins and the risk of price erosion. Market-Based Economic Dispatch of Electricity (M-BED) plays a pivotal role in this context. Under M-BED, power plants bid for electricity supply at different prices, aiming to meet demand while minimizing costs. Market coupling influences M-BED by introducing more competition and price sensitivity into the equation. Consequently, thermal power generators may struggle to compete on price as cheaper electricity sources are prioritized, potentially leading to reduced profit margins and a looming threat of price erosion in this competitive landscape.
- 5. Market coupling could potentially hinder the existing efficiencies of the exchange market:** The implementation of market coupling has the potential to disrupt the efficiency of the current exchange market for several reasons, notably in terms of agility, innovation, and responsiveness, all of which are currently exemplified by the three existing power exchanges. However, these qualities may not be as readily available after market coupling. The following contributing factors explain how these changes could unfold:

  - **Reduced Product Innovation:** Market coupling aims to achieve uniform price discovery in the exchange market, necessitating a standardized set of rules, products, and bid specifications. As a result, the coupling of power exchanges could diminish product differentiation and hinder innovation in the short-term market. This is because, with exchanges primarily serving as bid collection agencies, they may no longer have the incentive to innovate in terms of products or markets. Consequently, there could be a reduction in the diversity of available products and bid specifications on power exchanges, which may not align with the interests of distribution utilities (discoms).
  - **Loss of Agility in Systems and Processes:** Presently, the three exchanges operate with agility and rapid turnaround times, driven by competition among them to provide superior products and services to customers. The introduction of new

products occurs seamlessly and swiftly, with quick resolution of feedback and issues, often motivated by the desire to protect market share and expand their customer base. However, when competition is limited primarily to fees, exchanges may lose interest in enhancing their comprehensive range of products and services.

- **Impact on New Initiatives Implementation:** Power exchanges, particularly IEX, have played a pivotal role in successfully implementing new market segments, such as the Real-Time Market (RTM), Green Term-Ahead Market (GTAM), Green Day-Ahead Market (GDAM), and High-Penetration Day-Ahead Market (HP-DAM), along with innovations in the Renewable Energy Certificate (REC) market, among others. For instance, in the case of the RTM market, while the regulatory framework was established by the Honorable Commission, it was the robust infrastructure and 24/7 support of human resources within the exchanges that streamlined operations. The exchanges' contributions have been instrumental in the market's significant growth. As the market continues to evolve, introducing complementary products and bid types, such as Firm & Dispatchable Renewable Energy (FDRE), will require exchanges to drive innovation and adapt to emerging opportunities.

- 6. Uncertainty during the transition period and the complete relinquishment of control over electricity procurement and supply arrangements for the DISCOMs:** The introduction of the market coupling mechanism poses significant challenges for discoms, primarily in terms of the transition period and the potential loss of control over electricity procurement and supply arrangements. During this transitional phase, discoms are likely to grapple with numerous uncertainties related to the new market dynamics. These uncertainties encompass aspects such as price fluctuations, shifts in market behavior, and signals emanating from market participants. These factors collectively make it difficult for discoms to effectively plan and allocate their budgets. Furthermore, global experiences with market coupling have revealed that it often entails changes in regulatory frameworks and market rules. These changes can impose an additional compliance burden on discoms, adding complexity to their operations.
- 7. Market coupling's impact upon project financing could hinder India's ambitious 500 GW renewable energy target, risking growth and investments:** Market coupling can have far-reaching implications for renewable energy (RE) generation companies, potentially causing significant challenges for project financing. In a country like India, many RE projects heavily depend on incentives to ensure their financial feasibility. These incentives can come in various forms, including Feed-in Tariffs, tax benefits, land leasing discounts, and other financial support mechanisms. However, with the integration of electricity markets through market coupling, the dynamics of the power sector change. This shift may undermine the previously reliable subsidy models for RE companies, making it less attractive for investors to finance new projects. As a result, there is a heightened risk of delays and even cancellations of upcoming renewable energy ventures, limiting their financial viability. This disruption in project financing can also have repercussions for existing projects, increasing the likelihood of stranded assets. Furthermore, the uncertainty surrounding subsidies and policy changes due to market coupling may deter potential investors. This could jeopardize the ambitious renewable energy targets, such as India's goal of reaching 500 GW of renewable capacity, by creating an atmosphere of uncertainty and reducing the willingness of investors to commit to long-term renewable projects. In essence, the evolving landscape of market coupling has the potential to disrupt the growth momentum of the RE sector and hinder the achievement of renewable energy targets, underscoring the importance of stable and supportive policies for sustainable development in the sector.

- 8. The economic feasibility of energy storage could face challenges, potentially impeding the growth trajectory of renewable energy players:** The integration of renewable energy into the grid is expected to become more intricate after the implementation of market coupling, particularly when there are disparities in generation patterns across various regions. Addressing these disparities would necessitate substantial investments in infrastructure and the deployment of larger-scale energy storage solutions. This heightened need for infrastructure and energy storage would inflate the overall costs associated with integrated renewable energy projects that incorporate storage solutions. Consequently, these increased costs could erode the competitiveness of renewable energy projects within a price-pooled market. As a result, the economic feasibility of energy storage projects would face adverse impacts, with potential repercussions extending to the growth trajectory of the renewable energy market in the country. This could set off a chain reaction that hinders the market's expansion.
- 9. A direct influence on power purchase agreements (PPAs) could have repercussions on the project financing of renewable energy projects:** The direct influence on Power Purchase Agreements (PPAs) will be instrumental in securing project financing for renewable energy (RE) projects in a post-market coupling scenario. The coupling proposal is considered a precursor to Market-Based Economic Dispatch (MBED), where RE projects will enjoy scheduling priority without incurring variable charges. However, it's worth noting that the MBED mechanism lacks the necessary flexibility for RE projects to adjust their schedules in real-time. This limitation can lead to forecasting errors, which in turn can affect returns. The repercussions of this would be felt across both existing and future RE projects.
- 10. There is a risk of market concentration among traders. They may also be allowed to couple going forward i.e. the small traders may be protected by giving them access to the order book of larger traders:** Currently in India, there are over 50 power traders, with the top 3 accounting for nearly 70% of the total trading volume. However, with the introduction of market coupling, the prospects for small traders appear bleak due to reduced support from power exchanges. As a result, it's highly likely that the top 3 traders will further dominate the market, potentially reaching up to 90% of the total trading volume. This concentration would effectively marginalize and sideline the small traders. In this context, the honorable CERC may consider developing market mechanisms, such as the coupling of exchanges, specifically tailored to couple the power traders.
- 11. There is a risk of market concentration, with most of the trading volume becoming centralized among the top 2-3 traders only:** Currently in India, there are over 50 power traders, with the top 3 accounting for nearly 70% of the total trading volume. However, with the introduction of market coupling, the prospects for small traders appear bleak due to reduced support from power exchanges. As a result, it's highly likely that the top 3 traders will further dominate the market, potentially reaching up to 90% of the total trading volume. This concentration would effectively marginalize and sideline the small traders. In this context, the honorable CERC may consider developing market mechanisms, such as the coupling of exchanges, specifically tailored for power traders. This strategic move could mitigate the risk of excessive concentration of trading volumes among just a few major players and promote a more equitable distribution of trading activity, thus reducing market imbalances.
- 12. Innovation within the market may decrease, and there is a potential for abrupt changes in market rules following the coupling:** Market coupling is poised to bring about a substantial

transformation in the market structure, significantly impacting the volume of power traded on exchanges. This shift has the potential to introduce uncertainty for market participants. In the event of abrupt alterations in market rules or regulations, the established business models and strategies could be easily disrupted, causing apprehension among market participants due to the potential ambiguity in their operations. Furthermore, the transition towards a more centralized market structure, particularly with the introduction of a Market Coupling Operator (MCO), may diminish the incentives for exchanges to drive innovation and introduce new products. This, in turn, could hinder the progression of innovation within the power sector.

- 13. Power exchanges will lose their motivation to foster market innovations, and their ability to invest in providing support and services to consumers will be constrained:** Over the years, exchanges have played a vital role as market makers, offering essential services to participants. However, their potential absence or disinterest in these services could result in a significant loss. Power exchanges have traditionally provided valuable market information, including price trends and demand forecasts, among other pertinent data. The introduction of market coupling would bring about substantial changes in this regard, affecting the ability of distribution companies (DISCOMs) to make well-informed procurement decisions. In the past 15 years of their operations, power exchanges have consistently supported participants through capacity-building initiatives such as workshops and seminars, contributing to the overall development of the market. They have been instrumental in guiding participants through the various rules, regulations, and procedures issued by the Ministry of Power (MoP), the Central Electricity Regulatory Commission (CERC), and the State Electricity Regulatory Commissions (SERCs). However, in a post-market coupling scenario, power exchanges may lose their incentives and motivation to invest in facilitating the market, particularly in providing critical information about price trends and demand forecasts. This could also impact their ability to lead market innovations that benefit all consumers alike. Consequently, the reduced or lack of investments by the exchanges would have repercussions affecting all market participants, including DISCOMs, power traders (especially smaller ones), and power generation companies.
- 14. Loss of the advantages of market-driven pricing for commercial and industrial (C&I) consumers and an increased risk of cross-subsidization:** The adoption of market coupling, often seen as a precursor to Market-Based Economic Dispatch (MBED), poses a potential challenge for large-scale Commercial and Industrial (C&I) electricity consumers. These entities, due to their substantial energy needs, traditionally engage in direct negotiations with electricity generators or suppliers to secure favorable rates for their consumption. However, market coupling can disrupt this negotiation process and potentially result in increased costs for C&I consumers. This disruption stems from the harmonization of electricity prices across different regions and states, a core objective of market coupling. While this harmonization enhances overall market efficiency, it concurrently diminishes the opportunities for C&I consumers to access lower-cost electricity. As a result, large-scale C&I consumers may find it increasingly challenging to negotiate competitive rates with generators or suppliers, potentially leading to higher operating costs in the absence of access to favorable pricing.
- 15. There is the possibility of energy security concerns and the risk of discouraging sustainability investments in industries:** Industries heavily depend on a consistent and reliable energy supply to sustain their operations effectively. However, the transition to pooled pricing following market coupling might not offer adequate incentives for investments in enhancing grid reliability and upgrading infrastructure. This situation could raise concerns about energy security within

industrial sectors. Moreover, the introduction of market coupling may result in reduced transparency in pricing mechanisms. This lack of transparency could dissuade industrial consumers from investing in energy-efficient technologies and sustainability initiatives. Consequently, this could impede the country's progress on the path towards decarbonization.

In view of the above, the Hon'ble Commission is requested to conduct a detailed independent study on the market design rather than taking such steps like market coupling in an isolated manner. The market design should reflect the current need of the power sector and should be conducive for all the stakeholders.