Annexure-II

Report on Power Sector related Recent Developments:

Crisis created by Solar Dominance:

India's power sector during April–May 2026 experienced unprecedented operational stress due to severe heatwave conditions, rapid increase in cooling demand, industrial growth and rising electrification across various sectors. The country recorded its all-time highest peak electricity demand of 256.1 GW on 25 April 2026 at 15:38 hrs. Despite the extraordinary surge in demand, the national grid successfully met the requirement without any major nationwide shortage or grid collapse. During the peak demand period, coal-based generation continued to remain the backbone of the Indian power system, contributing nearly 67% of the total generation, while solar power played a major supporting role by contributing around 21.5% during peak hours. This clearly demonstrates both the continuing importance of conventional thermal generation and the rapidly increasing contribution of renewable energy sources in meeting India's growing electricity demand.

However, although the national demand was technically met, the power system experienced considerable operational stress, particularly during evening and night peak hours. The rapid reduction in solar generation after sunset coupled with sustained cooling demand created significant supply pressure across the grid. Several regions faced difficulties in securing sufficient power during non-solar hours, and reports indicated that the night-time deficit during certain periods reached around 5.4 GW. **The shortage situation also resulted in exceptionally high electricity prices in the power exchanges, with market clearing prices touching the regulatory ceiling of Rs 20 per unit during scarcity conditions. These developments highlighted the growing challenge of managing steep evening ramping requirements in a power system increasingly dependent on solar generation.**

The developments during the summer of 2026 indicate that the present power sector challenge is structurally different from earlier crises primarily caused by coal shortages. **While renewable energy, especially solar generation, substantially reduced daytime shortages, the absence of sufficient storage infrastructure and flexible balancing resources exposed vulnerabilities in the system during non-solar hours.** This has significantly increased the importance of Battery Energy Storage Systems (BESS), pumped storage projects, hydro generation and flexible thermal stations for ensuring future grid reliability and resource adequacy.

The seriousness of the situation was further evident from the intervention of the Ministry of Power under Section 11 of the Electricity Act, 2003. Invoking powers under the said provision, **the Ministry directed even high-cost imported coal-based generating stations and gas-based generating stations to operate and maximize power generation in public interest to ensure uninterrupted electricity supply during the peak demand season.** Directions

under Section 11 are generally issued only under extraordinary circumstances affecting grid security and public interest. The necessity to operate costly generating stations itself demonstrates the increasing difficulty faced by the country in meeting rapidly rising electricity demand, particularly during periods of extreme weather and high evening peak requirements.

Further, the increasing dependence on short-term power markets and exchange-based procurement during peak demand periods has imposed substantial financial burden on State Distribution Companies (DISCOMs). Several state utilities were compelled to procure costly short-term power to avoid load shedding and maintain supply reliability. **The situation needs for strengthening long-term resource adequacy planning, expansion of storage infrastructure, modernization of transmission systems and development of flexible generation resources capable of supporting large-scale renewable energy integration.**

Category wise Power Mix

Category	Sub-Category	Installed Capacity (MW)	% Share in Total
Fossil Fuel	Coal	221,898	41.30%
	Lignite	6,620	1.23%
	Gas	20,122	3.75%
	Diesel	589	0.11%
	Total Fossil Fuel	**249,229**	**46.39%**
Non-Fossil Fuel	RES (including Hydro)	279,255	51.98%
	Hydro (including PSPs)	51,665	9.62%
	Wind, Solar & Other RE	227,591	42.36%
	Wind	56,437	10.50%
	Solar	154,236	28.71%
	BM Power	10,869	2.02%
	Waste to Energy	877	0.16%
	Small Hydro	5,171	0.96%
	Nuclear	8,780	1.63%
	Total Non-Fossil Fuel	**288,035**	**53.61%**
Grand Total	**Total Installed Capacity**	**537,264**	**100.0%**

1. **India's Power Sector Surpasses 500 GW Capacity**

India has achieved a historic milestone in the power sector by surpassing 500 GW of installed electricity generation capacity, marking a major transformation in the country's energy landscape.

A significant feature of this milestone is that more than half of the installed capacity now comes from non-fossil fuel sources, including solar, wind, hydro, and nuclear power. **The rapid growth of renewable energy has substantially altered India's traditional electricity mix, with solar energy emerging as one of the fastest-growing sectors.** The achievement is also closely linked to India's long-term target of achieving 500 GW non-fossil fuel capacity by 2030 as part of its climate and energy transition commitments.

2. **The Electricity Amendment Bill**

The proposed Electricity Amendment Bill, 2025 has generated strong opposition from electricity employees' federations, Officers' associations, trade unions, and various State electricity utilities across the country. Following reports regarding the proposed introduction of the Bill in Parliament, several national-level power sector organisations announced protest programmes and nationwide strike actions against the proposed amendments. The issue has emerged as a major concern in the Indian power sector due to its potential impact on public sector electricity utilities and the existing structure of electricity governance.

3. **Draft National Electricity Policy 2026 and the Emerging Transformation of India's Power Sector**

The Government of India has released the Draft National Electricity Policy (NEP) 2026. The draft policy aims to increase per capita electricity consumption from around 1,460 kWh in 2024–25 to 2,000 kWh by 2030 and more than 4,000 kWh by 2047, while simultaneously aligning the power sector with India's net-zero emissions target for 2070. The policy strongly promotes expansion of renewable energy, large-scale battery storage systems, flexible coal operation, private sector participation, and a massive increase in nuclear energy capacity from the present level of about 8–9 GW to nearly 100 GW by 2047.

One of the most notable features of the draft policy is the increasing dependence on competitive markets and investment-led growth for future expansion of the electricity sector.

The policy indicates a gradual reorientation of the electricity sector away from the traditional welfare-centred public utility structure towards a commercially driven energy architecture. **While the policy advertises efficiency, innovation, and modernization as key objectives, there is concern that the increasing role of corporate investment may reduce the operational and financial space available to State-owned utilities.**

The policy also gives extraordinary importance to nuclear energy expansion, including future development of small modular reactors and advanced reactor technologies with greater private sector participation. **Simultaneously, discussions have emerged regarding easing land-use restrictions and rationalising exclusion-zone norms around nuclear installations to facilitate project implementation and accelerate investment inflows.**

Another important shift reflected in the Draft NEP 2026 is the recognition that future power systems will increasingly depend not merely on installed capacity additions but on system flexibility and balancing capability. Accordingly, the policy advocates large-scale deployment of Battery Energy Storage Systems (BESS), pumped storage projects, ancillary services, and advanced scheduling frameworks to maintain grid stability and reliability.

The policy also indirectly highlights the emerging financial contradictions within the electricity sector. **While renewable energy expansion and technological modernization are accelerating, distribution utilities are simultaneously facing increasing revenue pressures due to open access migration, captive generation, and rapid rooftop solar growth among high-paying consumers. This may lead to a situation where public utilities continue bearing the social and infrastructure responsibilities of maintaining the grid, while revenue-generating segments progressively move towards competitive private markets.** Such a transition could have long-term implications for tariff stability, cross-subsidy structures, and equitable access to affordable electricity.

4. **PM Modi's Call for Global Investment and the Future Direction of India's Power Sector**

At the Bharat Electricity Summit 2026, Prime Minister Narendra Modi called upon global investors, technology companies, and multinational energy corporations to actively participate in the transformation of India's power sector. The Prime Minister emphasized that India requires nearly USD 2.2 trillion of investment over the next two decades. The summit reflects the increasing integration of India's electricity sector with global finance and corporate investment frameworks. The repeated emphasis on foreign investment, market expansion, and private participation indicates that the future growth model of the power sector is being shaped substantially around capital-intensive private infrastructure development.

Another significant aspect emerging from the summit is the growing dependence on large-scale energy infrastructure financing and corporate-led technological transition. The Government's roadmap includes substantial investments in smart metering, transmission corridors, grid balancing systems, energy storage facilities, and digitalized electricity management systems. Certainly, the aggressive commercialization without adequate strengthening of public regulatory institutions will eventually lead to tariff pressures, increased dependence on private energy markets, and weakening of democratic oversight over essential infrastructure.

The Bharat Electricity Summit 2026 therefore represents a broader policy transition in which India's electricity sector is increasingly positioned as a globally integrated investment ecosystem driven by large-scale private participation, technological commercialization, and market-based reform as specified in the draft National electricity policy.

5. **CEA Recommendation on Rising Financial Stress in India's Power Distribution Sector**

The recent report of the Central Electricity Authority (CEA) has raised serious concerns regarding the worsening financial condition of electricity distribution companies (DISCOMs) in India. The report points out that the power sector is witnessing a structural financial imbalance where the fixed costs associated with generation capacity, transmission systems, and distribution infrastructure are increasing continuously, while the recovery of corresponding fixed charges from consumers remains inadequate. As a result, State-owned DISCOMs are facing mounting financial pressure despite increasing electricity demand in the country.

The report further highlights that the rapid growth of rooftop solar projects, captive generation by large industries, and open access power procurement are significantly reducing the high-paying consumer base of DISCOMs. While these consumers continue to rely on the grid for backup support and network stability, the utilities are unable to recover the full cost of maintaining the infrastructure.

The report also serves as a warning that continued weakening of DISCOM finances could adversely affect the long-term sustainability of India's public electricity infrastructure. If corrective measures are not introduced through stronger regulatory protection, equitable tariff mechanisms, and enhanced public investment support, the financial instability of DISCOMs may eventually impact reliable and affordable electricity supply to domestic consumers, farmers, and economically weaker sections of society. The issue therefore raises important questions regarding the future direction of India's electricity sector and the balance between public welfare and commercialization of essential services.

6. **Supreme Court rules Railways liable to pay cross-subsidy and additional surcharge**

The Hon'ble Supreme Court, vide judgment dated 08.05.2026 in Civil Appeal No. 4652 of 2024 and connected matters, has upheld the judgment of the Appellate Tribunal for Electricity (APTEL) and categorically held that Indian Railways is liable to remit Cross Subsidy Surcharge (CSS) and Additional Surcharge (AS) for availing power through open access, in the same manner as any other consumer under the provisions of the Electricity Act, 2003.

The court held that Railways cannot claim the status of a deemed distribution licensee under the Electricity Act, 2003, as it does not supply electricity to independent consumers. Instead, Railways functions as a consumer of electricity, procuring power exclusively for its operational requirements, including traction systems, signalling and station-related services. The court further observed that operation of transmission or

distribution infrastructure alone does not qualify an entity as a deemed distribution licensee under the Act.

A. Major Regulatory Matters:

1. Market Coupling and Increasing Marketisation of the Electricity Sector

The Draft Central Electricity Regulatory Commission (Power Market) (Second Amendment) Regulations, 2026 proposing implementation of Market Coupling has generated serious concerns among public sector stakeholders, electricity workers' organisations, and State utilities. The proposed reform represents another major step towards deeper marketisation and commercialization of the power sector, which will increase dependence on speculative market mechanisms.

The proposed Market Coupling mechanism seeks to establish a uniform market clearing price across power exchanges through a centralized Market Coupling Operator (MCO). At present, multiple power exchanges operate independently and discover different prices for the same time blocks, enabling DISCOMs to optimise procurement based on comparatively lower prices available across exchanges. The proposed framework may eliminate this flexibility and centralise price discovery, thereby increasing procurement risks for State DISCOMs.

The proposal may increase operational complexity, compliance requirements, transaction costs, and administrative overheads without delivering proportionate benefits to consumers or utilities. The proposal is a linkage between Market Coupling and the proposed framework for Market-Based Economic Dispatch (MBED).

MBED could significantly alter the existing scheduling and procurement structure by shifting operational control from State DISCOMs and State generating companies towards centralized national-level dispatch systems. Such changes, may weaken the operational autonomy of States, disrupt existing long-term and medium-term Power Purchase Agreements, and adversely affect State GENCOs and independent power producers operating under approved contractual arrangements.

The explanatory memorandum claims that Market Coupling may increase sell bids and improve market liquidity while lowering prices. However, such assumptions are speculative and unsupported by long-term evidence. In fact, the additional operational expenses of exchanges, the MCO framework, algorithm management, compliance infrastructure, and settlement mechanisms are likely to be passed on ultimately to consumers through increased electricity procurement costs.

The power sector cannot be treated purely through the lens of market efficiency. Electricity is central to social development, industrial growth, agricultural sustainability, and public welfare. The objective of the sector must remain

universal, affordable, and equitable access rather than profit maximisation and speculative market integration.

2. CERC issues guidelines for VPPAs

The Central Electricity Regulatory Commission (CERC) has issued a regulatory framework for Virtual Power Purchase Agreements (VPPAs), introducing a new market-based mechanism for Renewable Consumption Obligation (RCO) compliance. Under the framework, large consumers, distribution licensees, open access consumers and designated consumers can enter into financial contracts with renewable energy generators without actual physical supply of power.

The renewable generator will sell electricity through power exchanges or other authorised mechanisms, while the financial difference between the agreed "strike price" and market price will be settled bilaterally between the parties. Renewable Energy Certificates (RECs) associated with such projects will be transferred to the consumer for RCO compliance purposes.

While the framework is projected as a modern and flexible renewable energy procurement mechanism aligned with global market practices, it also reflects the increasing financialisation and commodification of the electricity sector, where renewable energy obligations are gradually being converted into tradable and contract-based market instruments rather than strengthening direct public investment in renewable generation and grid infrastructure. The framework further expands the role of over-the-counter bilateral contracts and market-linked pricing mechanisms in the power sector, potentially increasing the influence of corporate energy markets and speculative financial structures in electricity governance.

3. CERC notifies CERC (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2026

The Central Electricity Regulatory Commission (CERC) has notified the Second Amendment to the Tariff Regulations, 2026, formally bringing Energy Storage Systems (ESS), including Battery Energy Storage Systems (BESS) and Pumped Storage Projects (PSPs), under the national tariff framework. While the amendment is projected by policymakers and private developers as a major step towards renewable energy integration and grid flexibility, concerns remain regarding the increasing corporatisation and commercialisation of the electricity sector in the name of energy transition.

The policy direction indicates a gradual shift towards large-scale private investment in storage infrastructure, backed by assured tariff recovery mechanisms, return on equity provisions, and long-term payment security arrangements. Such regulatory measures may eventually transfer substantial financial burdens to electricity consumers and State utilities through higher tariff liabilities and capacity charges.

At the same time, public sector utilities are being compelled to invest heavily in expensive storage technologies to support the rapidly expanding renewable energy market, even when many States are already facing severe financial stress.

4. **CERC releases discussion paper proposing shorter scheduling timeline for RTM**

The Central Electricity Regulatory Commission (CERC) has issued a discussion paper proposing to reduce the scheduling timeline in the real-time market (RTM).

The objective is to match demand and supply, reduce forecasting errors and minimise renewable energy curtailment. The paper proposed reducing the RTM bidding window from 15 minutes to 5 minutes. It also proposed reducing the 45-minute gap between RTM clearing and the commencement of power delivery by 15 minutes. As a result, the total timeline between the end of revision of schedule and actual delivery is proposed to be reduced from the existing 75 minutes to 50 minutes. **It is very crucial as it tends to further make the power transaction a short-time speculative affair.**

5. **CERC issues staff paper on capacity market for electricity in India**

The Central Electricity Regulatory Commission (CERC) has released a staff paper outlining a framework for introducing capacity markets in India to strengthen resource adequacy and system reliability.

The paper has proposed three market design models including capacity market for resource adequacy/capacity obligation, reserve capacity market and secondary short-term capacity market (for existing capacities). The paper has been drawn on global models and seek to address limitations of the current power purchase agreement-based system, where capacity availability is not always assured.

6. **CERC Proposal on Compensation Charges for GNA Timeline Extensions**

The Central Electricity Regulatory Commission (CERC) has proposed a new framework for levying compensation charges for granting additional time to renewable energy developers and other project proponents for achieving milestones under the General Network Access (GNA) Regulations, 2022. The Commission has proposed a graded compensation mechanism that would allow developers to retain connectivity by paying specified charges for delayed compliance with milestones such as land acquisition, financial closure (FC), and commissioning of projects.

7. Ministry of Power issues draft Electricity (Rights of Consumers) Amendment Rules, 2026

The draft amendments introduce provisions relating to demand response, timelines for new and modified electricity connections, abnormal billing review, time-of-day tariffs, rooftop solar billing arrangements and consumer grievance redressal. **A key proposal is the introduction of a demand response framework under which state commissions will specify eligibility criteria for demand response providers, incentives for participating consumers, communication protocols and procedures for measurement, verification and financial settlement.** The draft also revises timelines for release or modification of connections, requiring supply within three days in metropolitan and municipal corporation areas, seven days in other municipal areas and fifteen days in rural areas, with a higher limit of thirty days for hilly rural areas. **In addition, distribution licensees will be required to identify abnormal consumption patterns in billing cycles and resolve such cases within thirty days, while no disconnection will be allowed if the consumer continues to pay on the basis of average consumption until the issue is resolved. The amendments further mandate implementation of time-of-day tariffs for commercial and industrial consumers with demand above 10 kW by April 1, 2027.**

8. CEA notifies draft CEA (Installation and Operation of Meters) Amendment Regulations, 2026

The amendment provides that all consumers in areas with communication networks shall be supplied electricity through smart meters conforming to the relevant Indian Standards, within the timelines specified by the central government. It further allows the installation of prepayment meters in areas not covered by communication networks, subject to approval by the respective State Electricity Regulatory Commission. In addition, all advanced metering infrastructure must include prepayment functionality and be interoperable in accordance with the authority's guidelines. The regulations also specify that smart meters with an accuracy class of 1.0/0.5S will act as interface meters for consumers permitted open access at voltage levels not exceeding 650 V, while the metering arrangement for open access consumers at different voltage levels has also been revised.

B. Power Sector related Other Matters:

1. Bharat Coking Coal introduces incentive scheme for power sector consumers

Coal India subsidiary Bharat Coking Coal Limited (BCCL) has announced a new incentive scheme aimed at increasing coal offtake by thermal power plants during the first quarter of FY 2026–27 by offering relaxation in Performance Incentive (PI) charges and providing cash discounts of up to 10% on additional coal lifting. The scheme is applicable to power sector consumers under Fuel Supply Agreements (FSA), including those covered under the flexi-linkage mechanism, with incentives linked to actual coal lifting through rail, road, and

road-cum-rail modes. The government and coal sector authorities have projected the initiative as a measure to improve coal logistics, ensure stable electricity generation during peak demand periods, and reduce generation costs for power utilities.

2. NTPC signs MoU with EDF to explore cooperation in nuclear power

The recent Memorandum of Understanding (MoU) signed between NTPC Limited and Électricité de France for exploring nuclear power projects in India reflects the growing tendency of the Indian energy sector to move towards large-scale corporatised and foreign technology-driven energy development. The agreement focuses on assessing EDF's European Pressurised Reactor (EPR) technology, localisation possibilities, tariff structures, training, and site feasibility for future nuclear projects in India. This development raises important concerns regarding the increasing entry of foreign corporations and private participation into India's strategic nuclear sector, which was historically developed under strong public-sector control through institutions like Nuclear Power Corporation of India Limited. The recent policy changes, including the SHANTI Act 2025 and the opening up of the nuclear sector to wider private participation, indicate a shift towards liberalisation and commercialisation of atomic energy.

3. Distribution Utilities Ranking (DUR) Report FY 2023-24 – Concerns on Power Sector Reforms and Corporate-Oriented Benchmarking

The Ministry of Power and REC Limited have introduced the Distribution Utilities Ranking (DUR) Report FY 2023-24 as a new national benchmarking framework for evaluating electricity distribution utilities across the country. The report assesses DISCOMs based on parameters such as financial performance, consumer service delivery, Renewable Purchase Obligation (RPO) compliance, communicable smart metering, demand side response measures, and resource adequacy planning. While the report is presented as a reform-oriented initiative aimed at improving efficiency and sustainability in the power distribution sector, it also reflects the increasing push towards market-driven and corporatized reforms in the electricity sector under the broader policy direction of the Union Government.

The DUR framework places significant emphasis on financial indicators, smart metering penetration, demand-side tariff mechanisms, and resource contracting arrangements, which are closely aligned with the ongoing restructuring agenda promoted through schemes such as RDSS and the Electricity (Rights of Consumers) Rules. The report explicitly links distribution sector reforms with operational efficiency, subsidy accounting, automatic fuel surcharge pass-through mechanisms, and demand-side tariff rationalisation. Such approaches increasingly shift the focus of public electricity utilities from their traditional social welfare and universal service obligations towards commercially driven performance metrics. This trend raises concerns regarding the gradual transformation of electricity from a public welfare service into a market-oriented commodity.