

Quarterly Roundup: Clean Energy

APRIL TO JUNE 2023



Executive Summary

This is the second issue of our quarterly roundup series on clean energy, covering the period between **April and June 2023**.

UPDATES

- Regulatory updates have been divided month-wise (relating to April, May and June, in that order). Under each such month, updates on **renewable energy** and **electric vehicles**, respectively, have been summarized under separate categories.
- Further, within the monthly updates for *renewable energy*, **central** and **state** government notifications are listed separately, followed by miscellaneous items.
- Similarly, within the monthly updates for *electric vehicles*, **India**-related updates and **international** developments are listed separately, followed by miscellaneous items.
- Links to primary (or secondary) sources related to each update across categories have been embedded within item headings (or are embedded in-line), as applicable.

OVERVIEW AND ANALYSIS

- Following the updates, two separate notes on **carbon credit trading** provide an overview of the newly-established Indian carbon market.
- Lastly, a previously published piece analyzes the advisability of **green hydrogen** certification in India.

Updates

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April 2023

RENEWABLE ENERGY

Central Government Updates

MNRE extended the validity period of enlisted manufacturers in ALMM List-I until May 9, 2023

The Ministry of New and Renewable Energy (“**MNRE**”) provisionally extended the period of validity for enlisted manufacturers in the List - I (Manufacturers and Models of Solar PV Modules) of Approved List of Models and Manufacturers Order, 2019 (“**ALMM List - I**”), as published on March 10, 2021 under the Approved Models and Manufacturers of Solar Photovoltaic Modules (Requirement for Compulsory Registration) Order, 2019. The validity was extended only for such manufacturers which had applied for renewal of enlistment in the ALMM List - I before March 9, 2023, *i.e.*, the date on which the validity of their enlistment was supposed to expire.

MNRE issued bidding trajectory for renewable energy power projects for FY2023-24

The MNRE issued the Renewable Energy Implementing Agency-wise Bidding Calendar for FY 2023-24 (the “**Calendar**”). The Calendar includes timelines for tenders to be issued in FY 2023-24 by four renewable energy implementing agencies (“**REIA**”), *viz.* Solar Energy Corporation of India (“**SECI**”), National Thermal Power Corporation Limited (“**NTPC**”), National Hydroelectric Power Corporation (“**NHPC**”) and SJVN Limited (“**SJVN**”).

MNRE designates SJVN as a RE-implementing agency

The MNRE issued an office memorandum on April 24, 2023 designating SJVN, a public sector enterprise under the Government of India, as an REIA. SJVN will be the fourth REIA, in addition to SECI, NHPC and NTPC.

Ministry of Power issued Draft Electricity (Amendment) Rule 2023

Pursuant to a notification dated April 20, 2023 issued by the Ministry of Power (“**MoP**”), the draft Electricity

(Amendment) Rules, 2023 (the “**Draft Amendment**”) were forwarded to select stakeholders for comments. The Draft Amendment prescribes and clarifies rules relating to subsidy accounting by distribution licensees and payment of subsidy to the distribution licensee by the state commission. The Draft Amendment also proposes the insertion of a new Rule 20 in the Electricity Rules, 2005 that prescribes a framework for financial sustainability. The Draft Amendment also includes provisions relating to loss reduction trajectories, collection and billing efficiency, asset creation, gain/loss sharing, operation and maintenance standards, and reasonable returns on equity.

CERC extended the deadline for power generators to submit details on generation and transmission

The Central Electricity Regulatory Commission (“**CERC**”) extended the date for generating/transmission companies to furnish information related to their respective operational data along with their operating and maintenance expenses until May 15, 2023. Pursuant to an order dated March 29, 2023, the CERC had earlier prescribed April 15, 2023 as the last date for furnishing this information. However, it extended the previous deadline on account of representations made by generating/transmission companies about the difficulties they faced in meeting such deadline.

CERC approved the trading of power on HP-DAM in PXIL

Pursuant to an order dated April 11, 2023, the CERC approved the High Price Segment in the Day Ahead Market (“**HP-DAM**”) on the *PRATYAY* platform of Power Exchange India Limited (“**PXIL**”). Earlier, PXIL had applied for approval with respect to the introduction of HP-DAM for the purpose of allowing generating stations which have variable charges above INR 12/kilowatt hours (“**kWh**”) (this was changed to INR 10/kWh pursuant to an order dated March 31, 2023 issued by the CERC) to be able to participate in the market where the buyer’s side is ready to pay higher prices. Before the introduction of HP-DAM, generating stations with variable charges higher than INR 12/kWh were not able to sell their power through PXIL.

CEA issued guidelines for medium-term and long-term demand forecast

Pursuant to a public notice dated April 11, 2023, the Central Electricity Authority (“CEA”) issued draft guidelines (the “Draft Guidelines”) for Medium and Long-Term Power Demand Forecast for comments from stakeholders and the wider public. The Draft Guidelines seek to prescribe a uniform approach for power sector utilities with respect to carrying out their demand forecast.

MoP issued guidelines to promote the development of pumped storage projects

Pursuant to a notification dated April 10, 2023, the MoP issued guidelines to promote the development of pumped storage projects (“PSPs,” and such guidelines, the “PSP Guidelines”). The PSP Guidelines are aimed to promote PSPs in India on account of, among other things, the ecological advantages offered by PSPs, as well as the longer and more reliable duration of discharge related to PSPs – especially when compared to currently used battery energy storage systems (“BESS”).

CERC amended the DSM Regulations 2022 to cover HP-DAM

Pursuant to an order dated April 9, 2023, the CERC partially modified a previous order, which was issued on February 6, 2023 (the “Previous Order”) with respect to the CERC (Deviation Settlement Mechanism and Related Matters) Regulations, 2022 (“DSM Regulations 2022”). Among other things, the Previous Order had provided for specific regulatory actions to keep frequency within the operational band, as well as to minimize large frequency fluctuations in the grid. However, the Previous Order was partially modified for the purpose of aligning the normal rate of charge for deviation with that of HP-DAM to avoid any possibilities of arbitrage between HP-DAM and the deviation settlement mechanism (“DSM”).

CERC instructed power exchanges to cap transaction fees at INR 2 paise/unit

Pursuant to an order dated April 5, 2023, the CERC capped the transaction fees to be charged by power exchanges up to a ceiling of 2 paise/kWh on either side of transactions. The order was issued in compliance with Regulation 23 of the CERC (Power Market) Regulations, 2021.

MoP and MNRE issued a waiver on ISTS charges for green hydrogen and its derivatives

Pursuant to an office memorandum dated April 5, 2023, the MNRE – with the approval of the MoP – provided for a waiver on inter-state transmission (“ISTS”) charges on renewable energy used for green hydrogen and its derivatives for units commissioned up to December 31, 2030. The ISTS waiver can be provided for up to 25 years from the date of commissioning of these plants for the production of green hydrogen and its derivatives.

CERC issued new price capping for trading of power on Power Exchanges

Pursuant to an order dated March 31, 2023, the CERC, in exercise of its powers under Regulation 51(1) of the CERC (Power Market) Regulations, 2021, revised the price capping for trading of power on power exchanges. The CERC reduced the price ceiling for the Day Ahead Market (“DAM”) – including the Green Day Ahead Market (“GDAM”), Real Time Market (“RTM”), Intra-day, Day Ahead Contingency and Term-Ahead (including Green Term Ahead Market (“GTAM”)) contracts from INR 12/kWh to INR 10/kWh and for HP-DAM from the proposed INR 50/kWh to INR 20/kWh. Further, in public interest, the CERC directed all power exchanges to re-design their bidding software for the period starting April 4, 2023 (until further orders) in a way that allowed members to quote prices in the range of (i) INR 0/kWh to INR 10/kWh for all contracts in DAM (including GDAM), RTM, Intra-day, Day Ahead Contingency and Term-Ahead (including GTAM); and (ii) INR 0/kWh to INR 20/kWh in the HP-DAM segment. The CERC was of the view that such revised price capping and redesigned bidding software would reduce the cost of power for buyers, while also providing an opportunity to high cost generators and willing buyers to participate in the HP-DAM market.

MNRE issued the bidding trajectory for Renewable Energy Power Projects

Pursuant to an office memorandum dated March 31, 2023, the MNRE notified the bidding trajectory for renewable energy power projects for FY 2023-24. The timeline was divided into four quarters starting from April-June of FY 2023-24 to January-March of FY 2023-24. The MNRE specified that total bids of

at least 50 gigawatt (“GW”) capacity are to be issued in this period.

CERC approved ancillary services market segments on power exchanges

Pursuant to an order dated April 28, 2023, the CERC approved a request made by power exchanges with respect to introducing an ancillary services market segment for the purpose of facilitating bidding for procurement of capacity for the tertiary reserve ancillary service market segment in accordance with the CERC (Ancillary Services) Regulations 2022, read with Regulation 25 of the CERC (Power Market) Regulations, 2021.

State Government Updates

HERC issues Green Open Access Regulation 2023

Pursuant to an order dated April 24, 2023, the Haryana Electricity Regulatory Commission (“HERC”) approved the Haryana Electricity Regulatory Commission (Green Energy Open Access) Regulations, 2023 (the “Haryana Open Access Regulations”). Among other things, the Haryana Open Access Regulations provide for eligibility criteria and necessary procedures for the grant of open access, banking and banking charges for captive power plants to avail of open access, and leviable charges on green open access.

TNERC approved green energy tariffs for energy consumers

Pursuant an order dated April 25, 2023, the Tamil Nadu Electricity Regulatory Commission (“TNERC”) approved the additional levy of a 10% green energy tariff and the issuance of Green Energy Certificates (“GEC”) by the Tamil Nadu Generation & Distribution Corporation Limited (“TANGEDCO”) for high-tension electricity consumers who wish to avail of GEC.

Gujarat amended its Wind-Solar Hybrid Policy 2018

Pursuant to a notification dated April 17, 2023, the Energy and Petrochemicals Department of the State Government of Gujarat amended the Gujarat Wind-Solar Hybrid Policy, 2018 to allow captive projects to be treated as eligible units in accordance with the Electricity Act, 2003 and the Electricity Rules, 2005.

Uttar Pradesh Government approved stamp duty waiver for IT parks and solar plants

Pursuant to a notification dated April 12, 2023, the State Government of Uttar Pradesh waived off 100% stamp duty for the purpose of purchasing private land or taking such land on lease for establishing a new unit or park under the Uttar Pradesh Solar Energy Policy, 2022.

KERC allowed monthly wheeling and banking in Renewable Energy

The Karnataka Electricity Regulatory Commission (“KERC”) released a new wheeling and banking agreement format (“New Agreement”) for renewable energy projects, allowing monthly energy banking. The New Agreement also includes provisions related to wheeling for renewable energy projects under the KERC.

UERC approved an additional surcharge from April 2023 to September 2023

Pursuant to an order dated April 3, 2023, the Uttarakhand Electricity Regulatory Commission (“UERC”) allowed an additional surcharge of INR 0.98/unit for the period ranging from April 1, 2023 to September 30, 2023.

DERC issued Renewable Purchase Obligation and Renewable Energy Certificate Framework Implementation (First Amendment) Regulations, 2023

Pursuant to a notification dated March 29, 2023, the Delhi Electricity Regulatory Commission (“DERC”) amended the Delhi Electricity Regulatory Commission (Renewable Purchase Obligation and Renewable Energy Certificate Framework Implementation) Regulations, 2021. Pursuant to this amendment, among other things, the DERC prescribed the trajectory for renewable purchase obligations (“RPOs”) until FY 2025-26 for all obligated entities, along with applicable penalties for non-compliance with such RPOs.

MPERC issued guidelines for PHSPs

Pursuant to a gazette notification dated April 28, 2023, the Department of New and Renewable Energy under the State Government of Madhya Pradesh notified a scheme for the implementation of pumped hydro storage projects (“PHSPs”) in the

state. These guidelines established, among other things, the mode of PHSP development, incentives to PHSP developers, charges to be paid by PHSP developers and timelines for completing PHSPs.

Miscellaneous Updates

India will require INR 9 trillion capex to meet the 2030 green hydrogen target

India will require a capital expenditure of INR 8-9 trillion to reach a green hydrogen production capacity of 5 million metric tonne (“MMT”) per annum by 2030 (as stated in the [National Green Hydrogen Mission](#)). This will include INR 5.5-6 trillion for setting up 115-125 GW of renewable energy capacity to facilitate hydrogen production. The remaining INR 3-3.5 trillion will be required to build 35-40 GW of electrolyzer requirements.

Government plans green hydrogen incentives of at least 10% of cost

India plans to give green hydrogen fuel producers incentives which are worth at least 10% of their costs under a USD 2 billion scheme – which is set to begin before the end of June. The government will give incentives worth at least INR 30 per kg to produce green hydrogen fuel (while the cost of manufacturing green hydrogen in India is currently about INR 300 per kilogram). Within the aggregate incentive plans for the sector, the government will award about INR 130 billion for producing green hydrogen and the rest will be for manufacturing electrolyzers.

Gujarat clears 1.99 lakh hectare of land for green hydrogen projects

The Gujarat cabinet approved the draft land allocation policy for green hydrogen projects. Land parcels of 1.99 lakh hectares have been earmarked for five key players.

India needs INR 14.54 lakh crore to add 210 GW generation capacity by 2027

The CEA published the 20th Electric Power Survey Report, which outlines electricity demand projections for the country from 2021-22 to 2041-42. An investment of approximately INR 14.54 lakh crore will be required to add 210 GW of additional generation capacity in the period 2022-27, along with battery storage of 8,680 MW/ 34,720 MWh.

Currently, thermal power plants of 25,440 MW capacity are under construction, while hydroelectric projects aggregating 17,803.5 MW are under implementation. Additionally, nuclear power plants of 8,700 MW capacity are under construction, and 7,000 MW have been accorded sanction.

Maharashtra plans to generate 7,000 MW solar power for farmers by 2026

The State Government of Maharashtra is planning to generate 7,000 MW of solar power by 2026 to provide day-time electricity supply to farmers. Under the *Mukhyamantri Saur Krishi Vahini Yojana* (“MSKVY”) – 2.0, the government will ensure daytime supply by installing solar panels near the agriculture feeder with an investment of INR 30,000 crore. The government aims to run at least 30% of agricultural feeders in each district on solar energy by December 2025.

RBI framework for green deposits

The Reserve Bank of India (“RBI”) has notified a framework for raising green deposits by banks, small finance banks, and deposit-taking non-banking finance companies (“NBFCs”). The money raised from green deposits should be used for renewable energy projects, clean transportation, sustainable water and waste management, pollution prevention and control and design, and construction of energy-efficient and energy-saving systems and installations in buildings and properties. Banks and NBFCs will have to independently verify the allocation of funds raised through green deposits through third-party firms on an annual basis.

ELECTRIC VEHICLES

India-related Updates

Request for Proposal (“RFP”) for providing Electric Vehicle (“EV”) Fleet Services on “Own, Operate and Maintain Basis”

Odisha is one of the first states to come up with a tender with respect to electric mobility. The Odisha Renewable Energy Development Agency (“OREDA”) issued an RFP for EV fleet-as-a-service (“EVFaS”) for 300 EVs to be used by government departments.

Govt releases standard operating procedure under PLI scheme for the automobile sector

The Ministry of Heavy Industries (“MHI”) announced the release of standard operating procedures (“SOP”) under the production-linked incentive (“PLI”) schemes for automobile and auto components for testing agencies. Pursuant to the new SOPs, applicants under the scheme can now submit their applications for the testing and certification of advanced automotive technology (“AAT”) products, which will help them qualify for incentives under PLI schemes. Accordingly, the MHI aims to boost the domestic manufacturing sector, reduce dependence on imports, and create more jobs.

Odisha hikes incentives to promote EV

The Odisha government issued a notification regarding the amendment of the Odisha Electric Vehicle Policy, 2021. Through this amendment, the government increased the subsidy on the purchase of electric vehicles (“EVs”) comprising two-wheelers, three-wheelers and four-wheelers. The state had framed the EV policy in 2021 with an aim to adopt 20% EVs by the end of 2025 as a measure of reducing vehicular pollution.

FAME-III: Central Government to decide only if funds are in surplus

The Central Government will decide upon the third leg of the scheme related to the ‘Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles’ (“FAME,” and such third leg, “FAME-III”) if funds are left at the end of the current financial year.

INR 180 crore earmarked for EV chargers under FAME-II

Out of the INR 5,171.97 crore allocation made for the FAME scheme for its second phase (“FAME-II”), INR 180 crore has been earmarked for chargers in the union budget for 2023-24. The overall budgetary allocation for the MHI (the nodal ministry for FAME) was INR 6,171.63 crore, out of which INR 5,171.97 crore – representing 80% of the total budget – has been earmarked for FAME-II for 2023-24. Since the MHI has not been able to install as many EV chargers as initially planned, the Ministry of Petroleum and Natural Gas (“MoPNG”) has been tasked with rolling out EV charging stations in retail outlets of public sector undertakings (“PSUs”).

NITI Aayog may review existing EV policy to reduce dependence on China

The NITI Aayog plans to review India’s existing pivot on EVs that run on lithium-ion batteries. Such review has been necessitated on account of the fact that about 75% of lithium-ion imports come from China. Accordingly, instead of relying on China for lithium-ion, India may instead explore other green sources to run EVs in the future (or other kinds of vehicles).

Aggregator policy may mandate 100% electric cabs in Delhi by 2030

Delhi is likely to see only electric cabs by 2030 with its transport department planning to make the transition to cleaner fuel in a phased manner. Under the aggregator policy, which may come into force soon, all cab companies, food delivery firms and e-commerce entities may be mandated to go for an all-electric fleet by April 2030.

Extension of date for testing parameters to enhance human safety in the context of EVs

Guidelines for testing parameters with respect to human safety in the context of EVs will be applicable from October 1, 2023. Guidelines under the Central Motor Vehicles Rules, 1989 (the “CMV Rules”) are required to be followed with effect from April 1, 2023 in this regard.

International Developments

Japan may provide up to USD 1.8 billion in subsidies for storage battery and chip projects

Japan may provide as much as USD 1.8 billion in subsidies for several storage battery and semiconductor chip-related projects for the purpose of greater supply chain security.

U.S. proposed major vehicular emissions cuts by 2032, which may boost EV sales

The U.S. Environmental Protection Agency (“EPA”) proposed major emissions cuts (in terms of annual average pollution) for new cars and trucks, which could make two out of every three new vehicles electric within a decade. The EPA also proposed new stricter emissions standards for medium-duty and heavy-duty trucks through 2032. Accordingly, the EPA [may release](#) a proposed regulation to set new and stricter limits in respect of greenhouse gas

emissions for model years ranging from 2027 to 2032 for passenger vehicles.

South Korea may offer USD 5.3 billion in financing to support battery investment in North America

South Korea will provide 7 trillion won (USD 5.32 billion) in financial support for Korean battery-makers which seek to invest in infrastructure in North America over the next five years to help Korean companies cope with the U.S. Inflation Reduction Act (“IRA”). The Korean government’s support may include lower lending rates and lower insurance premiums, as well as more loans and tax credits for Korean battery and material production facilities in the region.

Swiss government may end auto import tax exemption for electric cars

From next year, the Swiss government may impose an automobile import tax on electric cars, which have been exempted from such charge since 1997. The auto tax is a levy on the import value rather than on the final sales price.

Miscellaneous Updates

Uttar Pradesh may become the first Indian state with 100% EVs in government departments

Pursuant to a major push in respect of promoting the sale and use of EVs in Uttar Pradesh, the State Government has set a target and started to convert vehicles used in government departments into EVs in a phased manner until 2030.

Delhi government may study the feasibility of converting its trucks into EVs

The transport department of the Delhi government may soon examine the feasibility of converting government trucks into EVs for the purpose of reducing pollution levels in Delhi. Proposed to be conducted by the International Council on Clean Transportation, the study’s recommendations are expected to be submitted in a few months. The aim of the study is to electrify government trucks such as garbage disposal trucks, water tankers, horticulture trucks, etc. as well as to check levels of energy consumption.

SIDBI announced a scheme for small companies that seek to buy EVs

Small Industries Development Bank of India (“SIDBI”) announced a new scheme pursuant to which it proposed to provide direct finance for the purchase of EVs to micro, small and medium enterprises (“MSMEs”). The proposed scheme may cover vehicle aggregators, fleet operators and leasing companies as well. SIDBI may also fund NBFCs that provide loans for EV purchases, especially in the three-wheeler segment.

May 2023

RENEWABLE ENERGY

Central Government Updates

MNRE clarified time extensions for solar and solar-wind hybrid projects tendered by SECI, NTPC and NHPC

Pursuant to a letter dated May 30, 2023, the MNRE clarified that its letters dated December 29, 2022 and January 25, 2023 – which had prescribed time-extensions in respect of project completion for solar photovoltaic/solar photovoltaic-wind hybrid power projects – were not ‘general blanket extensions’. Instead, such extensions would be given on case-by-case basis. The letter further clarified that REIAs would examine each request from such developers that sought time-extensions, and based on such examination, REIAs would grant extensions only in such cases where the developer concerned had made sincere efforts to complete the project but had been unable to do so due to events beyond its control.

MoP and MoEFCC to develop Carbon Credit Trading Scheme for Decarbonization

As reported by the Press Information Bureau (“**PIB**”) on May 12, 2023, the Bureau of Energy Efficiency (“**BEE**”) and the MoP, in collaboration with the Ministry of Environment, Forests & Climate Change (“**MoEFCC**”), are in the process of developing the Indian carbon market, where a national framework will be established with an objective to decarbonize the Indian economy by pricing greenhouse gas emissions through the trading of carbon credit certificates.

MoPSW launched ‘Harit Sagar’ guidelines to reduce carbon intensity in ports

Pursuant to an office memorandum dated May 11, 2023, the Ministry of Ports, Shipping and Waterways (“**MoPSW**”) notified Harit Sagar Green Port Guidelines (the “**Harit Guidelines**”). The Harit Guidelines prescribe measures for major ports to adopt for the purpose of reducing their carbon intensity and developing an environment-friendly ecosystem.

MoP panel outlines a roadmap to develop the electricity market in India

An MoP-constituted group for the purpose of developing the Indian electricity market (“**Electricity Market Group**”) submitted its report to the MoP on May 15, 2023. The Electricity Market Group provided a roadmap outlining specific recommendations for redesigning the Indian electricity market in the future, along with necessary policy interventions required in the near, medium, and long term, for achieving the objectives of such roadmap. The Electricity Market Group also suggested that the share of renewable energy in the country’s overall energy mix ought to be increased, and further highlighted the importance of electricity markets to integrate renewable energy.

MNRE revised the application fee and inspection fee under ALMM

Pursuant to an office memorandum dated May 10, 2023, the MNRE amended the Approved Models and Manufactures of Solar Photovoltaic Modules (Requirement for Compulsory Registration) Order, 2019. Pursuant to such amendment, the MNRE revised provisions relating to application fees, inspection fee, validity of enlistment in the ALMM and the minimum module efficiency required for a manufacturer to enlist under the ALMM.

MoP ordered all SERCs to determine green tariffs and notify green energy open access regulations

Pursuant to a letter dated May 13, 2023, the MoP instructed all State Electricity Regulatory Commissions (“**SERCs**”) to (i) determine green tariffs, and (ii) notify green energy open access regulations in alignment with the Electricity (Promoting Renewable Energy Through Green Energy Open Access) Rules, 2022 – as previously notified by the MoP.

MoF issued a tender for the engagement of a Registrar and Share Transfer Agent

The Department of Investment and Public Asset Management under the Ministry of Finance released a tender on May 15, 2023 for the purpose of engaging a Registrar and Share Transfer Agent. Such engagement was proposed to be made in respect of the listing and partial disinvestment of the central government’s shareholding in Indian

Renewable Energy Development Agency Limited (“IREDA”) through an initial public offering (“IPO”) and for the purpose of raising funds through the issue of fresh equity shares in the domestic market.

MoP issued an order regarding the waiver in ISTS charges from offshore wind, Ammonia and Green Hydrogen Projects

Pursuant to an order dated May 29, 2023, the MoP granted an exemption with respect to the payment of ISTS charges for a period of 25 years. This exemption was granted to offshore wind power projects commissioned on or before December 31, 2032; and to green hydrogen/green ammonia plants commissioned on or before December 31, 2030, respectively, which use renewable energy from solar, wind, large hydro (commissioned after March 8, 2019) or energy storage systems (“ESS” – such as PSPs and BESS) or any other hybrid combination of these technologies for the production of green hydrogen or green ammonia.

MoP issues Electricity (Promoting Renewable Energy Through Green Energy Open Access) (Second Amendment) Rules, 2023

Pursuant to a gazette notification dated May 23, 2023, the MoP notified the Electricity (Promoting Renewable Energy Through Green Energy Open Access) (Second Amendment) Rules, 2023 (“OA Amendment”). The OA Amendment, among other things, prescribes eligibility criteria for consumers who want to draw power through green energy open access and clarifies that no additional surcharge will be applicable on electricity produced from offshore wind projects commissioned until December 2032 and then supplied to open access consumers.

MNRE clarified the limitations of the open-ended extension provided earlier in respect of the commissioning date for undergrounding of transmission lines in habitats of GIB in Rajasthan and Gujarat

Pursuant to an office memorandum dated May 31, 2023, the MNRE revoked the 30 days’ open ended extension provided by its earlier office memorandum dated February 2, 2022 with respect to schedule commission dates of projects where an REIA is the intermediary procurer and for which transmission infrastructure lies wholly or partially in habitats of the Great Indian Bustard (“GIB”) in the states of Rajasthan and Gujarat. The new office

memorandum clarifies that developers can now seek extensions only for good and valid reason and pursuant to necessary approvals from REIAs – which, in turn, will decide each case based on the merits of the underlying request.

CERC issued regulations on the Indian Electricity Grid

Pursuant to a notification dated May 29, 2023, the CERC issued the CERC (Indian Electricity Grid Code) Regulations, 2023 (“Grid Code Regulations”). The Grid Code Regulations seek to promote a stable, reliable and secure grid and aim to achieve maximum economy and efficiency with respect to grid operations and the power system.

CERC requested generating stations to be prepared for ancillary services during peak demand

Pursuant to an order dated May 31, 2023, under Regulation 25 of the CERC (Ancillary Services) Regulations, 2022, the CERC directed the following to make themselves available for use by the National Load Dispatch Center: (i) regional generating stations other than those whose tariffs are determined by the CERC, (ii) state generating stations whose tariffs are determined or adopted by SERCs, and (iii) generating stations mandated by the central government whose tariffs are discovered through a competitive bidding process. This requirement is applicable in case of a shortfall with respect to an economic dispatch of ancillary services on lines similar to those applicable for generating stations whose tariffs are determined by the CERC.

MNRE updated List- I of ALMM order-2019 based on module efficiency

Pursuant to an office memorandum dated May 31, 2023, the MNRE updated the ALMM List - I. According to this office memorandum, the MNRE considered only such models for enlistment under ALMM List - I where the module frequency was equal to or more than 19%.

CEA issued a new National Electricity Plan

The CEA released the National Electricity Plan (“NEP”) (Volume - I Generation) for the period starting from 2022 until 2032. The NEP includes a review of the last five years (2017-22), a detailed plan for the next five years (2022-27) and the

prospective plan for the five years thereafter (2027-32). According to the NEP, the share of non-fossil fuel-based capacity is expected to increase to 57.4% by the end of 2026-27, and further, to 68.4% by the end of 2031-32 (from around 42.5% as of April 2023).

Ministry of Steel invited proposals to set up a pilot project on green hydrogen

Pursuant to a letter dated May 31, 2023, the Ministry of Steel invited proposals on research, development and demonstration with respect to the setting up of pilot plants for the production and utilization of green hydrogen in the iron and steel-making process.

State Government Updates

RERC issued the draft Grid Interactive Distributed Renewable Energy Generating Systems (First Amendment) Regulations, 2023

The Rajasthan Electricity Regulatory Commission (“RERC”) invited comments/ suggestions from interested persons on the draft RERC (Grid Interactive Distributed Renewable Energy Generating Systems) (First Amendment) Regulations, 2023 (“Draft RERC Regulations”). The Draft RERC Regulations prescribe and/or clarify rules relating to net metering and net billing arrangements.

RERC issued the draft Terms and Conditions for Tariff determination from Renewable Energy Sources (First Amendment) Regulations, 2023

The RERC invited comments/ suggestions from interested persons on the draft RERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) (First Amendment) Regulations, 2023 (“Draft RERC Tariff Regulations”) that seek to amend the RERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020. The Draft RERC Tariff Regulations propose to amend, among other things, provisions relating to transmission and wheeling charges and banking, and seek to introduce green tariffs through green certificates and ratings in line with the Electricity (Promoting Renewable Energy Through Green Energy Open Access) Rules, 2022 to promote renewable energy-based power generation.

KERC granted captive status to Clean Wind Power’s 50 MW wind power project in Karnataka

Pursuant to an order dated May 2, 2023, the KERC granted captive power plant status to a special purpose vehicle (“SPV”) operating a 50 MW wind power plant, where the SPV fulfilled the twin criteria of shareholding pattern and minimum consumption by shareholder consumers – since shareholders holding 32.9% of equity shares were consuming 100% of the total energy generated by the SPV. Relying on an order dated September 27, 2022 issued by the Appellate Tribunal for Electricity (“ATE”), the KERC also clarified that a generator claiming captive power status need not prove that it had established the plant as a captive plant.

Kerala State Electricity Board proposed INR 2.54/kWh premium tariff for green energy consumers

Pursuant to a submission dated May 2, 2023 made before the Kerala State Electricity Regulatory Commission (“KSERC”), the Kerala State Electricity Board Limited (“KSEB”) proposed INR 2.54/kWh as the premium green tariff over existing retail tariff and all other charges approved by the KSERC.

HERC approved the additional surcharge for open-access consumers

Pursuant to an order dated May 11, 2023, Haryana’s HERC approved an additional surcharge of INR 0.75/kWh on open access consumers under Regulation 22 of HERC (Terms and Conditions for Grant of Connectivity and Open Access for Intra-State Transmission and Distribution System) Regulations, 2012 read with Section 42 of the Electricity Act 2003.

Gujarat framed green hydrogen land policy

Pursuant to a resolution dated May 8, 2023, the State Government of Gujarat formed a policy for leasing fallow government land for green hydrogen production using non-conventional energy sources such as solar, wind, and wind-solar hybrid energy (“Gujarat GH Land Policy”). The Gujarat GH Land Policy provides a framework for promoting green hydrogen production capacity in the state by leasing out non-fertile government-owned land for such purpose.

MERC approved INR 2.90/kWh to procure 500 MW on a long-term basis from solar power projects

Pursuant to an order dated May 11, 2023, the Maharashtra Electricity Regulatory Commission (“**MERC**”) adopted and approved a tariff of INR 2.90/kWh for 500 MW solar power procurement on a long term basis (*i.e.*, for a period of 25 years) in response to a request from the Maharashtra State Electricity Distribution Company Limited (“**MSEDCL**”) in this regard.

MERC granted approval for procurement of 150 MW solar power under MSKVY at a tariff of INR 3.30/kWh

Pursuant to an order dated May 11, 2023, the MERC granted approval to MSEDCL for procurement of 150 MW on a long-term basis at a tariff of INR 3.30/kWh from solar power projects connected to the distribution network under Maharashtra’s MSKVY.

KERC issued a draft amendment relating to open access regulations

Pursuant to a notification dated May 8, 2023, the KERC proposed the Draft KERC (Terms and Conditions for Open Access) (Fifth Amendment) Regulations, 2023 (“**Draft KERC OA Regulations**”) inviting objections, suggestions and/or views of affected persons. The Draft KERC OA Regulations *inter alia* propose that open access consumer should be divided into short-term, medium-term, and long-term categories based on their duration of contract for availing open access and priority for allowing open access. The Draft KERC OA Regulations also propose procedures for granting open access in day-ahead and other transactions.

GERC adopted a tariff of INR 2.51/kWh for procuring 860 MW of solar power

Pursuant to an order dated May 19, 2023, the Gujarat Electricity Regulatory Commission (“**GERC**”) accepted Gujarat Urja Vikas Nigam Limited’s request for the former’s approval to the tariff discovered by the latter in connection with a 500 MW grid-connected solar photovoltaic project, along with a greenshoe option related to an additional capacity of 360 MW through a competitive bidding process.

MERC issued Generic Renewable Energy Tariff for FY 2023-24

Pursuant to an order dated May 24, 2023, the MERC notified INR 3.05/kWh as a generic tariff for the procurement of surplus power from rooftop-solar photovoltaic projects for FY 2023-24 under Regulation 8 of the MERC (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2019.

MERC approves the tariff of INR 3.10/kWh for the 117.5 MW of Solar Power

Pursuant to Section 63 of the Electricity Act, 2003, the MERC issued an order dated May 24, 2023 through which it approved MSEDCL’s request with respect to adopting a tariff of INR 3.10/kWh for a long-term power procurement amounting to 117.5 MW of solar power projects selected through a competitive bidding process under Component C of the *Pradhan Mantri Kisan Urja Suraksha Evam Uthhan Mahabhiyan* (“**PM-KUSUM**”).

Miscellaneous

NTPC plans to install 20 GW RE capacity with pumped storage at Andhra Pradesh green hydrogen hub

NTPC is planning to install 20 GW of renewable power capacity (13.4 GW of solar along with 6.6 GW of PSP), which will be utilized for manufacturing green hydrogen through electrolysis. In this regard, land around 50 km from Visakhapatnam has been allotted by the AP Industrial Investment Corporation (“**APIIC**”) for the proposed project, which is expected to be completed by 2030.

NLC signed MOU with WAPCOS to develop Pumped storage projects in India

NLC India Limited (“**NLC**”), a central PSU, signed a memorandum of understanding (“**MoU**”) with WAPCOS Limited (“**WAPCOS**”), also a central PSU, for the purpose of collaborative technical and advisory services in respect of developing pumped storage, reservoir/storage, and run-of-river hydropower projects in India.

BPCL collaborates with BARC to scale up alkaline electrolyzer technology for green hydrogen production

Bharat Petroleum Corporation limited (“**BPCL**”) is planning to build about 1 MW of electrolyzer manufacturing capacity in India by 2025 using the technology of the Bhabha Atomic Research Center (“**BARC**”) for green hydrogen. It is expected that the alkaline electrolyzers produced from the proposed facility will cost 20-30% less than the current rate (about USD 800 per kW).

Major state-owned oil and gas companies are targeting 38,000 tonnes per annum of green hydrogen capacity

Major state-owned oil and gas companies are targeting to build a combined green hydrogen generation capacity of 38,000 tonnes per annum by the next financial year. In turn, such proposed green hydrogen facilities will require the setting up of a combined electrolyzer capacity of 279 MW by 2024-25. Hindustan Petroleum Corporation Limited (“**HPCL**”) is planning to have 115 MW capacity at its refineries in Visakhapatnam and Barmer. GAIL (India) Limited (“**GAIL**”) is targeting a capacity of 60 MW. Indian Oil Corporation Limited (“**IOCL**”) is planning to develop a capacity of 56 MW at its Mathura and Panipat refineries.

India plans 37 GW offshore wind energy power by 2030

India is planning to invite bids to set up about 37 MW capacity in a phased manner by 2030 which could attract an investment of about USD 100 billion. Tamil Nadu and Gujarat may have in excess of 70 GW of offshore wind power potential. These two states are reportedly prepared to buy power from initial projects at around INR 4/kWh.

MAHAPREIT and GEAPP partner to implement 1 GW of solar projects in Maharashtra

The Global Energy Alliance for People and Planet (“**GEAPP**”) and Mahatma Phule Renewable Energy and Infrastructure Technology Limited (“**MAHAPREIT**”), a wholly-owned subsidiary of Mahatma Phule Backward Class Development Corporation Limited (“**MPBCDC**”, a state PSU of the Government of Maharashtra) announced a strategic partnership to implement 1 GW of solar projects across Maharashtra. GEAPP and MAHAPREIT are

expected to collaborate for the purpose of implementing 500 MW of rooftop solar for small and medium enterprises (“**SMEs**”), and 500 MW of ground-mounted decentralized solar under the PM-KUSUM program. GEAPP aims to solarize agriculture feeders and SMEs under this project.

CEA issued a report on Optimal Generation Mix for 2029-30

The CEA released a “Report on Optimal Generation Capacity Mix for 2029-30.” The report seeks to determine the most efficient and cost-effective mix in respect of electricity generation sources to meet India’s energy needs in 2029-30. Specifically, the report attempts to make this determination for the purpose of meeting: (i) a peak electricity demand of 340 GW, and (ii) an electrical energy requirement of 2,400 billion units (“**BU**”) by the year 2029-30.

The EU’s CBAM regulation officially entered into force

The EU’s Carbon Border Adjustment Mechanism (“**CBAM**”) regulation officially entered into force the day following its publication in the official journal of the EU on May 16, 2023. The CBAM itself will enter into application in its transitional phase on October 1, 2023, with the first reporting period for importers ending January 31, 2024.

The reporting obligations and information sought from EU importers of CBAM goods, as well as the provisional methodology for calculating embedded emissions released during the production process of CBAM goods will be further specified in an Implementing Regulation to be adopted by the Commission after consulting the CBAM Committee, made up of experts from EU Member States.

CBAM will initially apply to imports of certain goods and selected precursors whose production is carbon intensive and at most significant risk of carbon leakage, viz.: cement, iron and steel, aluminum, fertilizers, electricity and hydrogen.

To start with, importers of goods in the scope of the new rules will only have to *report* GHG emissions embedded in their imports (both direct and indirect emissions) – without making any financial payments or adjustments. Indirect emissions will be covered in the scope after the transitional period for some

sectors (cement and fertilizers) on the basis of a methodology to be defined later.

During the first year of implementation, companies will have the choice of reporting in three ways: (a) full reporting according to the new methodology (the “**EU method**”); (b) reporting based on equivalent third country national systems; and (c) reporting based on reference values. From January 2025, only the EU method will be accepted.

Once the permanent system enters into force in January 2026, importers will need to declare each year the quantity of goods imported into the EU in the preceding year and their embedded GHG. They will then need to surrender the corresponding number of CBAM certificates. The price of the certificates will be calculated depending on the weekly average auction price of the EU’s [emissions trading system](#) (“**EU ETS**”) allowances expressed in €/tonne of CO₂ emitted. The phasing-out of free allocation under the EU ETS will take place in parallel with the phasing-in of CBAM in the period 2026-2034.

India and CBAM

Media reports suggest that India aims to [convince](#) the EU to recognize the former’s carbon credit certification system for the purpose of reducing additional tariff burdens on carbon intensive products under CBAM. While [discussions](#) are ongoing in this regard, India may even [challenge](#) CBAM before the World Trade Organization (“**WTO**”) along with [other](#) countries –although it may ultimately [prefer](#) negotiations to WTO proceedings, given other factors, including the EU-India [free trade agreement](#) (“**FTA**”) negotiations.

ELECTRIC VEHICLES

India-related Updates

The Delhi government published the Draft Delhi Motor Vehicle Aggregator and Delivery Service Provider Scheme

The Delhi government released a draft Delhi Motor Vehicle Aggregator and Delivery Service Provider Scheme. This draft indicated that the scheme is proposed to apply to aggregators, delivery service providers (“**DSPs**”), and e-commerce entities with at

least 25 motor vehicles associated with each aggregator or DSP. Specifically, the proposed scheme will apply to aggregators which have onboarded two-, three-, and four-wheeler passenger vehicles. It will also apply to DSPs which have onboarded any category of delivery vehicles other than buses. The draft scheme further specified that only electric 2-wheelers can be onboarded for the bike-taxi fleet from the scheme’s commencement date. Additionally, the target for achieving 100% EV adoption in net new onboarded delivery vehicles was set at four years for two- and three-wheelers, and at five years for four-wheelers.

MHI revised the subsidy on the FAME scheme

Pursuant to a notification dated May 19, 2023, the MHI revised the per kWh incentive on electric two-wheelers (“**E2Ws**”). With effect from June 1, 2023, for all E2Ws registered on or after such date, the demand incentive will be revised to INR 10,000/kWh (revised from INR 15,000/kWh). Furthermore, the cap on incentives for E2Ws has been brought down to 15% of the ex-factory price of vehicles as opposed to the 40% benefit extended earlier.

The Himachal Pradesh government plans to encourage EV use and aims to become a Green Energy State by March 2026

The Himachal Pradesh government discussed plans to encourage the use of EVs and has set a target to transform the state into a ‘Green Energy State’ by March 2026. During a review meeting, the Chief Minister stressed the importance of identifying suitable locations for EV charging stations along the proposed three green corridor highways in the state. To achieve this goal, the Himachal Pradesh cabinet approved the Rajiv Gandhi Self-Employment Scheme 2023. This scheme will provide a uniform 50% subsidy for the purchase of e-taxis, e-buses, and e-trucks.

The Delhi government has started to work on its new EV policy

The Delhi government has started to draft a revised EV policy for the next three years, pursuant to stakeholder consultations. The Delhi EV Policy 2020 expires in August this year. The revised policy is expected to extend previous targets and involve aggressive measures in new focus areas. Such new focus areas include setting up private charging

stations, electrification of commercial heavy vehicle fleets, increasing private vehicle ownership, etc.

Govt scans China firms exploiting EV sops loophole

India may crack down on Chinese companies which attempt to circumvent a 2020 government policy that requires prior approval for investments from countries that share land borders with India. Reportedly, certain Chinese companies may be forging ties with Indian shell companies to access subsidies – especially in the EV market. Accordingly, the Department for Promotion of Industry and Internal Trade (“**DPIIT**”) is scrutinizing Chinese automobile companies having ties with suspected Indian proxy partners.

Incentives on buying EVs in Chandigarh

The union territory (“**UT**”) administration of Chandigarh received INR 15 crore for paying incentives to EV buyers this financial year. This amount was allocated in the 2023-2024 budget of the administration pursuant to an assessment of EV registrations in the city.

Private EV manufacturing companies that provide skill training will receive additional subsidies and incentives in Uttar Pradesh

Private EV manufacturing companies which provide skill training to workers will be given additional subsidies under the Uttar Pradesh government’s EV policy. A separate financial incentive will be provided (in addition) for the purpose of training employees. Under the skill development subsidy, a one-time subsidy at the rate of INR 5,000 per employee per year will be provided for a maximum of 50 employees in the form of stipend reimbursements for all defined manufacturing projects. A subsidy will also be paid for training a maximum of 10 employees in a particular year.

Government will release INR 500 crore to four E2W companies under FAME-II

With E2W manufacturers agreeing to reimburse consumers for chargers, the government has decided to release an amount of over INR 500 crore in terms of subsidy payments under FAME-II to four e-scooter companies, the aggregate of which will be released once such companies submit details of reimbursements made by them.

NDMC approved the second expansion phase for EV charging stations

The New Delhi Municipal Council (“**NDMC**”) approved the second expansion phase for EV charging stations in the city. The NDMC agreed to sign MOUs with three PSUs, which will conduct feasibility studies and install public EV charging and battery swapping stations in the coming months. Accordingly, the NDMC plans to collaborate with Rajasthan Electronics and Instruments Limited (“**REIL**”), Kerala State Electronics Development Corporation Limited (“**KELTRON**”), and HLL Infra Tech Services Limited to scale up its public EV infrastructure.

NDMC to increase the number of EV charging stations in Lutyens’ Delhi and provide battery-swapping facilities at some points

NDMC is planning to increase the number of EV charging stations in Lutyens’ Delhi and provide battery-swapping facilities as well.

BESCOM to set up fast charging stations at toll plazas along the NH-48 in Karnataka

Bangalore Electricity Supply Company Limited (“**BESCOM**”) is planning to set up fast charging stations at toll plazas along the national highway (“**NH**”)-48 including the Bengaluru-Pune section within the state of Karnataka. Accordingly, BESCOM submitted a proposal to the National Highways Authority of India (“**NHAI**”) to establish charging stations at ten toll plazas.

International Developments

The US canceled a USD 200 million grant to a battery company on account of alleged links to China

The U.S. Energy Department canceled a USD 200 million grant for a lithium battery company pursuant to concerns over its alleged links to the Chinese government.

Sri Lanka may convert existing tuk-tuks to EVs

Facing a severe energy crisis, Sri Lanka may switch to electric mobility by converting ‘tuk-tuks’ (autorickshaws) to EVs within the next five years. Supported by the United Nations Development Program (“**UNDP**”) in Sri Lanka, the Ministry of

Transport and Highways and the Ministry of Power and Energy, together with the Department of Motor Traffic and the National Transport Commission, started a project to mainstream e-mobility by converting tuk-tuks to e-tuk-tuks.

Indonesian tax reduction led to increased sales of electric cars

Sales of electric cars in Indonesia increased after the government launched tax incentives. From April 2023, Indonesia reduced the value-added tax (“VAT”) on electric cars from 11% (earlier) to 1%, (ow) provided that such cars are manufactured with at least 40% local content.

South Korea may introduce strict safety standards pursuant to EV fires

The government of South Korea and Korean car manufacturers may be forced to focus significantly more on the safety of EV battery packs on account of several instances where EV batteries reportedly caught fire. Reports of such instances may, in turn, have a major impact on EV demand in South Korea.

UK may witness reduced EV sales in 2023

According to the UK Society of Motor Manufacturers and Traders (“SMMT”), EV sales in 2023 are expected to be affected on account of high inflation and a lack of charging points in the country. The SMMT has downgraded its forecast for battery-powered EVs, the market share of which may reduce this year relative to previous estimates.

Miscellaneous Updates

UPSRTC may launch electric buses on selected routes in Lucknow and Ghaziabad as part of a pilot project

The Uttar Pradesh State Road Transport Corporation (“UPSRTC”) may launch 100 electric buses over selected routes in Lucknow and Ghaziabad as part of a pilot project.

100 electric buses may soon run on old CTU routes

100 new electric buses are proposed to be added to the existing fleet of Chandigarh Transport Undertaking (“CTU”), replacing 100 diesel buses which are currently plying on local routes. Earlier, e-

buses were being used only on new routes. However, the UT administration may now operate e-buses on old and existing routes for the purpose of replacing diesel buses.

E-bus suppliers may get central support if states fail to pay up

The Central Government is examining measures to protect electric bus suppliers from payment default risks with respect to state transport undertakings, including in terms of providing financial support.

The Maharashtra State Government released INR 137 crore for procuring 250 e-buses for Nagpur

The Maharashtra government released INR 137 crore for procuring 250 electric buses for the city of Nagpur.

100 e-buses between Pune and Mumbai by June-end

The Maharashtra State Road Transport Corporation (“MSRTC”) plans to operate only electric buses between Pune and Mumbai by the end of June. On May 1, the MSRTC launched the first e-Shivneri bus between Pune and Thane. By the end of June, all 100 Shivneri buses running on diesel may be replaced by these e-buses.

Automobile manufacturers may invest USD 10 billion to build EV capacity by 2030

According to recent data, Indian automobile manufacturers may invest an amount of almost USD 10 billion towards building infrastructure for EV manufacturing by the end of this decade.

June 2023

RENEWABLE ENERGY

Central Government Updates

CERC ordered SECI to compensate developers following the BCD surge in solar cells

Pursuant to an order dated June 2, 2023, the CERC ordered SECI to make compensatory payments for the additional expenditure incurred by developers on account of the imposition of safeguard duty on the import of solar cells/modules and the increase in basic customs duty (“BCD”) on imports of solar inverters. Such imposition had led to an increase in the social welfare surcharge (“SWS”) payable on BCD and the integrated Goods and Services Tax leviable on BCD and SWS, respectively. The CERC regarded the increased tax and duty as a ‘change in law’ event which therefore required SECI to compensate developers pursuant to their underlying power purchase agreement (“PPA”).

MoP issued an order for the implementation of market coupling on exchanges

Pursuant to a notification dated June 2, 2023, the MoP directed the CERC to initiate a process of consultation and finalization with respect to a process for implementing market coupling with respect to various power exchanges in India.

MNRE extended the timeline for the development of solar and ultra-mega solar power project

Pursuant to an office memorandum dated June 16, 2023, the MNRE extended the timeline for a scheme with respect to developing solar parks and ultra mega solar power projects from FY 2023-24 up to FY 2025-26 without any additional financial implications.

MNRE issued an order for setting up a dispute resolution mechanism

Pursuant to an order dated June 7, 2023, the MNRE established a dispute resolution mechanism comprising a three-member independent dispute resolution committee. This dispute resolution mechanism is expected to consider and resolve such unforeseen disputes that may arise with

respect to implementing contractual agreements. Further, such mechanism is also expected to deal with issues which are beyond the scope of contractual agreements between renewable energy power developers or engineering, procurement and construction (“EPC”) contractors (on the one hand) and REIAs designated by the MNRE (on the other hand).

MoP and MNRE launched a scheme to leverage emerging technologies in the power sector

Pursuant to an office memorandum dated June 7, 2023, the MoP and the MNRE jointly launched a national mission called the ‘Mission on Advanced and High-Impact Research’ (“MAHIR”). For now, MAHIR has been launched for a period of five years starting from FY 2023-24 until FY 2027-28 for the purpose of identifying and facilitating the indigenous development of emerging technologies in the power sector – especially in areas such as nanotechnology for EV batteries, green hydrogen for mobility, carbon capture, etc.

CEA introduced a fast-track approval mechanism for pumped hydro storage projects

The PIB reported on June 8, 2023 that the CEA has fast-tracked the approval mechanism and corresponding commissioning with respect to PHSPs for the purpose of improving India’s renewable energy capacity.

MoP issued bidding guidelines for renewable energy projects with energy storage

Pursuant to a notification dated June 9, 2023, the MoP notified the Guidelines for Tariff Based Competitive Bidding Process for Procurement of Firm and Dispatchable Power from Grid Connected Renewable Energy Power Projects with ESS (“Guidelines for Competitive Bidding”). The Guidelines for Competitive Bidding are aimed to provide a transparent, fair and standardized procurement framework based on open competitive bidding with appropriate risk-sharing between various stakeholders. Further, this framework is intended to (i) enable the procurement of power at competitive prices, as well as (ii) de-risk the sector by ensuring reasonable returns to investors by providing clear guidelines for long-term inter-state and intra-state sales and purchases of power.

MoP issued revised procedure for obtaining prior approval under section 68 and section 164 of the Electricity Act, 2003

Pursuant to an order dated June 9, 2023, the MoP delegated the power of granting approvals under Section 68 and Section 164 of the Electricity Act, 2003, respectively, to the Joint Secretary (Transmission) of the MoP (previously, the Chairperson of the CEA had been vested with this power). Further, pursuant to this order, the MoP issued a revised Standard Operating Procedure for obtaining approvals under such provisions of the Electricity Act, 2003.

MoP issued an addendum for the waiver of ISTS charges on electricity generated from solar and wind sources

Pursuant to an order dated June 9, 2023, the MoP issued an addendum with respect to its earlier order dated May 29, 2023 (the “**May 29 Order**”) which had provided for a waiver on ISTS charges with respect to the transmission of electricity generated from solar and wind sources. The addendum extended the benefit of such waiver to those power plants which (i) were eligible for the waiver under the May 29 Order, and (ii) had their schedule date of commissioning on or before June 30, 2025. The extended waiver under the addendum was granted on account of *force majeure* reasons or delays on transmission.

CERC order on removal of difficulties on regulations related to the sharing of Inter-State Transmission Charges and Losses

Pursuant to an order dated June 12, 2023, in order to remove difficulties, the CERC extended the timeline provided under Regulation 13(1)(c) of the CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 with respect to the waiver of transmission charges for generations based on solar and wind power sources until October 10, 2023, or until the CERC (Sharing of Inter-State Transmission Charges and Losses) (First Amendment) Regulations, 2022 comes into effect.

CERC issued a draft amendment with respect to regulations related to the sharing of Inter-State Transmission Charges and Losses

Pursuant to a draft notification dated June 12, 2023, the CERC sought to introduce the CERC (Sharing of

Inter-State Transmission Charges and Losses) (Third Amendment) Regulations, 2023. The proposed amendment attempts to bring about changes in the computation of transmission charges and losses related to India’s inter-state power transmission.

MoP issued amended rules for rights of consumers

Pursuant to a gazette notification dated June 14, 2023, the MoP introduced the Electricity (Rights of Consumers) Amendment Rules, 2023, amending the Electricity (Rights of Consumers) Rules, 2020. Among other things, the amendment introduced new rules relating to smart meters. Further, the amendment seeks to apply time-of-day tariffs for commercial and industrial (“**C&I**”) consumers with a maximum demand of more than 10 kilowatt (“**kW**”) from a date no later than April 1, 2024. For other consumers (except agricultural consumers), time-of-day tariffs are required to be made effective not later than April 1, 2025.

CEA issued norms for filed efficiency tests for pumped storage projects

The CEA issued guidelines for conducting field efficiency tests in hydropower plants (including PSPs) with the objective to guide hydropower generating utilities with a standard procedure for conducting such tests, as well as to increase the acceptance of such tests and to minimize potential conflicts between the project authority and the supplier of the project’s units.

MoP issued an order on the modification of tender documents for ISTS-connected projects

Pursuant to a letter dated June 21, 2023, the transmission division of the MoP modified the standard bidding documents (“**SBDs**,” comprising a Request for Proposal (“**RfP**”) and the Transmission Service Agreement (“**TSA**”)) with respect to the procurement of ISTS through a tariff-based competitive bidding (“**TBCB**”) process. Further to such modification, the SBDs will now include provisions on technical requirements that provide for the Aggregate Capital Cost (“**ACC**”) with respect to the High Voltage Data current (“**HVDC**”) transmission system.

MoP amended the provision of scheme flexibility in the generation and scheduling of thermal/hydropower stations through bundling with RE and storage power

Pursuant to a letter dated June 21, 2023, the MoP (with MNRE approval) announced an amendment to the revised scheme for flexibility in generation and scheduling of thermal/hydropower stations through bundling with renewable energy and storage power (such revised scheme was notified by the MoP on April 12, 2022). Pursuant to the amended scheme, a central or state generating company may establish a renewable energy plant which is not co-located within the premises of its generating station, as long as it is established through a competitive EPC tendering mode. Further, a generating company may establish a renewable energy power plant which is co-located within the premises of its generating station through a joint venture company (“**JV**”), as long as: (i) such generating company has at least a 26% share in the JV; *and* (ii) the establishment occurs pursuant to competitive EPC tendering.

MNRE issued allocation of physical targets for setting up small biogas plants under Biogas Program during FY 2023-24 (Phase II)

Pursuant to an office memorandum dated June 26, 2023, the MNRE allocated physical targets for program implementing agencies (“**PIAs**”) – as designated under the Biogas Program during FY 2023-24 - Phase II – for the purpose of setting up small biogas plants during the same financial year.

MoEFCC issued a draft notification for Green Credit Programme Implementation Rules, 2023

Pursuant to a gazette notification dated June 26, 2023, the MoEFCC proposed the Draft Green Credit Programme Implementation Rules, 2023 (“**Draft Green Credit Rules**”) inviting objections and suggestions from members of the public who are likely to be affected by such rules. The Draft Green Credit Rules seek to establish a domestic voluntary market mechanism called the ‘Green Credit’ program. This Green Credit program is expected to encourage private sector industries, companies and other stakeholders to fulfill their respective green credit obligations for the purpose of undertaking green credit generation and pursuing acquisition activities.

Several consultations have been undertaken with concerned stakeholders in connection with provisions of the Draft Green Credit Rules, and various suggestions/comments have been received. Inter-ministerial consultations have also been conducted in this regard. Pursuant to a [gazette notification](#) dated July 18, 2023, July 31, 2023 has now been fixed as the last date for seeking suggestions and/or comments (instead of the notice period of sixty days as mentioned in the draft notification) in order to give effect to the final notification for the purpose of promoting voluntary environmental actions.

MNRE issued guidelines for an incentive scheme with respect to Green Hydrogen Production

Pursuant to a letter dated June 28, 2023, the MNRE notified guidelines to implement Component II of the Strategic Intervention for Green Hydrogen Transition (“**SIGHT**”) program – relating to an incentive scheme for green hydrogen production (under Mode 1). The SIGHT program aims to encourage large scale utilization and production of green hydrogen and its derivatives in India.

MNRE issued guidelines for an incentive scheme with respect to the manufacturing of electrolyzers

Pursuant to a letter dated June 28, 2023, the MNRE notified guidelines to implement Component I of the SIGHT program relating to an incentive scheme manufacturing electrolyzers (“**Electrolyzer Scheme Guidelines**”). The electrolyzer manufacturing scheme under the SIGHT program aims to maximize indigenous production capacity. The MNRE has designated SECI as the implementation agency for the electrolyzer manufacturing scheme.

MoP (together with the CEA) issued guidelines for a Resource Adequacy Planning Framework with respect to the power sector

Pursuant to a letter dated June 28, 2023, and in consultation with the CEA, the MoP issued guidelines for a resource adequacy planning framework in India (“**Resource Adequacy Guidelines**”). The Resource Adequacy Guidelines were issued under Rule 16 of the Electricity (Amendment) Rules 2022 for the purpose of establishing an institutional framework to: (i) meet resource adequacy at each level in the power sector;

and (ii) ensure that adequate electricity is generated at the lowest possible cost.

MoP issued the Carbon Credit Trading Scheme, 2023

Pursuant to its powers under Section 14(w) of the Energy Conservation Act, 2001, as amended by the [Energy Conservation \(Amendment\) Act, 2022](#) (the “**2022 Amendment**”) which came into [force](#) on January 1 this year, the Central Government (in this case, the MoP – being the nodal ministry in this regard), in consultation with the BEE, specified the Carbon Credit Trading Scheme, 2023 (the “**Final CCTS**”) through a gazette notification dated June 28, 2023. The Final CCTS came into force on June 30, 2023, *i.e.*, the date of its publication in India’s official gazette.

MoP released a draft amendment to the Electricity Rules and subsequently notified such amended rules

Pursuant to a letter dated June 28, 2023 issued by the MoP, the draft Electricity (Amendment) Rules, 2023 were forwarded to select stakeholders for comments. Among other proposed changes to the Electricity Rules, 2005, the draft amendment prescribed that a transmission license would *not* be needed for dedicated transmission lines to connect large consumers (like green hydrogen producers) and ESS. It also proposed a methodology to be followed by states while computing and finalizing open access charges. Further, it mandated part payments in case of disputes before the ATE or higher courts to discourage frivolous litigation.

Subsequently, pursuant to a [notification dated June 30, 2023](#), the MoP notified the Electricity (Amendment) Rules, 2023 (“**Amendment Rules**”). The Amendment Rules became effective from the date of their publication in the official gazette, *i.e.*, July 1, 2023 (see Extra Ordinary Gazette, Part II Section 3 Sub-Section (i), Gazette ID: CG-DL-E-01072023-246925).

Among other changes, the Amendment Rules amended Rule 3(a)(i) of the Electricity Rules, 2005 – which specifies the requirements for a plant to qualify as a captive generating plant (“**CGP**”). Pursuant to the Amendment Rules, the amended rule now states that a power plant will be considered a CGP if not less than 26% of the ownership is held by the captive

‘user’ (as opposed to captive ‘users’). Nevertheless, if the CGP is set up by an affiliate company, not less than 51% of the ownership is required to be held by the captive user (as opposed to captive ‘users’) in that affiliate company. The change from captive ‘users’ (plural) to ‘user’ (singular) may suggest that *each* captive user is required to own 26% of a CGP.

The Amendment Rules also revised the definition of a ‘captive user’, as provided in the explanation to Rule 3(2), to mean an end user of the electricity generated in a CGP, while the term ‘captive use’ is required to be construed accordingly. Nevertheless, electricity consumption by the captive user may be either direct or through ESS. Moreover, the consumption by a subsidiary – as defined in Clause (87) of Section 2 of the Companies Act, 2013 – with respect to a company that is an existing captive user will also be admissible as captive consumption by the captive user.

State Government Updates

KERC issued an order for the determination of tariffs and norms in respect of solar power projects for FY 24

Pursuant to an order dated June 01, 2023, the KERC determined the tariffs that will be applicable to such new solar power projects in respect of which PPAs have been entered into on or after April 1, 2023. The updated generic tariffs as per the order will be as follows:

- For grid-connected megawatt-scale solar power projects, the approved benchmark tariff was INR 3.66/kWh;
- For grid connected solar rooftop photovoltaic projects of 1 kW to 2000 kW (excluding 1 kW to 10 kW), the approved tariff was INR 3.74/kWh; and
- For grid connected solar rooftop photovoltaic projects of 1 kW to 10 kW for domestic consumers, the approved tariff approved was INR 4.50/kWh (without capital subsidy) and INR 2.97/kWh (with capital subsidy), respectively.

PSERC issued the 2nd amendment of regulations related to the terms and conditions for the determination of generation, transmission, wheeling, and retail supply tariff

Pursuant to a gazette notification dated June 2, 2023, the Punjab State Electricity Regulatory Commission (“**PSERC**”) notified the PSERC (Terms and Conditions for Determination of Generation, Transmission, Wheeling and Retail Supply Tariff) (2nd Amendment) Regulations, 2023 (“**PSERC Regulation Amendment**”). The PSERC Regulation Amendment clarifies provisions with respect to the formula for determining any change in fuel cost, power purchase cost and transmission charges, and thereby, the corresponding billing in respect of the consumer.

PSERC issued the 10th amendment of regulations related to the terms and conditions for intra-state open access

A gazette notification dated June 2, 2023 issued by the PSERC notified the PSERC (Terms and Conditions for intra-State Open Access) (10th Amendment) Regulations, 2023 (“**PSERC OA Amendment**”). The PSERC introduced the PSERC OA Amendment to promote green energy adoption by consumers. The PSERC OA Amendment allows consumer with an aggregate sanctioned contract demand of 100 kVA and above to procure power through green energy open access and also modifies various provisions relating to cross-subsidy surcharges, standby charges, scheduling, and imbalance charges.

KERC increased the average electricity retail tariff by INR 0.70/kWh for FY23

Pursuant to a press note dated May 12, 2023, the KERC approved an average increment of INR 70 paise/kWh in retail tariff for FY 2023-24 in respect of all low tension and high tension categories of consumers. Out of the INR 70 paise increase, INR 57 paise is to be recovered through fixed charges, and the remaining INR 13 paise is to be recovered as energy charges.

APERC issued a draft first amendment of regulations related to RPO compliance by the purchase of RE power and/or RECs

Pursuant to a notification dated June 5, 2023, the Andhra Pradesh Electricity Regulatory Commission

(“**APERC**”) published the draft First Amendment to the APERC Renewable Power Purchase Obligation (Compliance by purchase of Renewable Energy/ Renewable Energy Certificates) Regulations, 2022 (“**Draft APERC Amendment**”). Among other things, the Draft APERC Amendment seeks to permit both obligated and non-obligated entities to procure renewable energy from distribution licensees against their respective RPOs. Further, the Draft APERC Amendment seeks to fix the green tariff for renewable energy procurement by both obligated and non-obligated entities without changing their existing categorization.

APERC issued draft regulations related to grid-interactive solar rooftop PV systems under gross/net metering

Pursuant to a notification dated June 6, 2023, the APERC issued the draft APERC (The Grid Interactive Solar Rooftop Photovoltaic System under Gross/Net Metering) Regulation, 2023 (“**Draft APERC Solar PV Regulations**”). The Draft APERC Solar PV Regulations proposed to introduce a comprehensive legal framework to deal with grid-interactive solar rooftop photovoltaic systems, including for the purpose of addressing various issues raised by consumers and distribution companies, as well as to promote distributed renewable energy generation in the state of Andhra Pradesh.

RERC approved transmission tariffs for FY 23-24

Pursuant to an order dated June 8, 2023, the RERC approved the transmission tariffs for FY 2023-24 in respect of the following categories:

- Transmission tariff for distribution companies, long-term and medium-term open access: INR 176.35/kW/month;
- Transmission tariff for short-term open access: INR 5.80/kW/day; and
- Transmission tariff for use of the state transmission system in inter-state short-term open access with respect to bilateral and collective power exchange transactions: INR 37.10 paise/kWh.

KERC issued an order to clarify issues with respect to the implementation of open access regulations

Pursuant to an order dated June 8, 2023, the KERC issued clarifications with respect to various issues that arose in connection with implementing the KERC (Terms and Conditions for Green Energy Open Access) Regulations, 2022. Among other things, the order included clarifications relating to the implementation of time-of-day settlement for energy injected and drawn, bill settlement priority for different generation sources, transmission charges for intrastate wheeling of energy and charges applicable under the KERC Green Energy Open Access Regulation, 2022.

MPERC issued a draft amendment to regulations on the terms and conditions for Intra-State open access in Madhya Pradesh

Pursuant to a draft notification, the Madhya Pradesh Electricity Regulatory Commission (“**MPERC**”) proposed the MPERC (Terms and Conditions for Intra-State Open Access in Madhya Pradesh) Regulations, (Revision-I) 2021 (Third Amendment) to allow the use of renewable energy generators. Pursuant to the draft, users who have contracted demand or a sanctioned load of 100 kW or more will be allowed to access electricity through open access, and no additional surcharge will be levied in cases where the electricity is produced from those offshore wind projects which are commissioned up to December 2032, and when such electricity is subsequently supplied to green energy open access consumers.

RERC finalized its draft regulations on RPOs further to public comments, which are expected to take effect from April 2024

Pursuant to an order dated June 13, 2023, the RERC noted and discussed comments received to a previously-released draft, issued its own responses to such comments, and accordingly, finalized the RERC (Renewable Purchase Obligation) Regulations, 2023 which are expected to come into force from April 1, 2024 (“**RPO Regulations 2023**”). The RPO Regulations 2023 provide a financial year-wise trajectory for the minimum RPO to be met by obligated entities until FY 2029-30.

TNERC released draft RPO regulations

Pursuant to a notification dated June 13, 2023, the TNERC invited comments and suggestions from stakeholders to the draft TNERC (Renewable Energy Purchase Obligation) Regulations, 2023 (“**TNERC RPO Regulations**”) in compliance with the CERC (Terms and Conditions for Renewable Energy Certificates for Renewable Energy Generation) Regulations, 2022 and the RPO trajectory issued by the MoP on July 22, 2022. Among other modalities, the proposed TNERC RPO Regulations provide for certain categories of entities in respect of which RPOs will apply, as well as the trajectory for a minimum RPO percentage to be fulfilled by obligated entities until 2029-30.

WBERC issued draft regulations for the determination of ceiling tariffs in respect of power procurement

The West Bengal Electricity Regulatory Commission (“**WBERC**”) issued a public notice on June 15, 2023 inviting objections, suggestions and/or comments from stakeholders on the draft WBERC (Modalities of Tariff Determination) Regulations, 2023 (“**WB Tariff Regulations**”). The proposed WB Tariff Regulations contain provisions related to the determination of electricity tariffs in the state of West Bengal. Among other things, the WB Tariff Regulations seek to apply a ceiling on tariffs for the procurement of renewable energy from generators below the minimum capacity required for competitive bidding under Section 63 of the Electricity Act, 2003.

GERC issued a discussion paper on a proposed tariff framework involving wind-solar and hybrid power projects

Inviting objections and suggestions from stakeholders, the GERC issued a discussion paper on a proposed tariff framework for the procurement of power by distribution licensees and others from wind-solar and storage projects, as well as hybrid power projects, for the state of Gujarat (the “**Discussion Paper**”). Among other key proposals, the Discussion Paper suggested that tariffs for the procurement of power from wind/solar power projects and storage systems should be determined on the basis of the rate discovered through a competitive bidding route pursuant to Section 63 of the Electricity Act, 2003. The Discussion Paper also suggested that distribution companies should be

required to publish the applicable tariff on their respective websites, which, in turn, should be updated every six months.

CSERC issued a draft amendment in respect of intra-state open access regulations

Pursuant to a notification dated June 15, 2023, the Chhattisgarh State Electricity Regulatory Commission (“**CSERC**”) invited stakeholder comments and suggestions to the CSERC (Intra-State Open Access in Chhattisgarh) (Second Amendment) Regulations, 2023 (“**CSERC Second Amendment**”). The CSERC Second Amendment proposes to cap the open access surcharge at 20% of the adjusted average cost of supply.

Andhra Pradesh issued its Green Hydrogen and Green Ammonia Policy 2023

Pursuant to an order dated June 20, 2023, the State Government of Andhra Pradesh notified the Andhra Pradesh Green Hydrogen & Green Ammonia Policy – 2023 to encourage, develop, popularize and promote green hydrogen production and associated plants by investors in the state of Andhra Pradesh.

GERC issued draft green open access regulations

Pursuant to a notification dated June 23, 2023, the GERC issued a draft of the proposed GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2023 (“**GERC OA Regs**”). The GERC OA Regs propose rules with respect to the eligibility for open access, procedures for granting open access, banking and other open access charges applicable on open access consumers. Such open access consumers are categorized into long-term, medium-term and short-term green energy open access, respectively, based on the duration of use with respect to the intra-state transmission and/or distribution system for open access.

Miscellaneous Updates

ONGC signed a JV agreement for a 250 MW battery storage project in Assam

ONGC Tripura Power Company (“**OTPC**”) signed an agreement with Assam Power Distribution Company Limited (“**APDCL**”) to form a JV for the purpose of building, owning and operating a 250 MW/500 MWh

BESS in Assam. The project is aimed to be developed with an investment of INR 20 billion.

NHPC exploring pumped storage development in six states in India

NHPC is exploring possibilities to develop PSPs in the states of Andhra Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra and Odisha. In this regard, NHPC has already completed a few pre-feasibility reports.

IH2A submitted a USD 5 billion plan for a national green hydrogen hub

Indian hydrogen alliance (“**IH2A**”) has submitted an economic viability and development plan (the “**Plan**”) with respect to a national green hydrogen hub. The Plan may be able to create five national green hydrogen corporations worth USD 5 billion by 2030 through public-private partnerships (“**PPP**”) with plants in Gujarat, Maharashtra, Karnataka, Tamil Nadu and Andhra Pradesh.

NHPC has initiated the bidding process for a pilot project with respect to establishing a green hydrogen-based mobility station in Kargil, Ladakh

A proposed NHPC project requires the installation of two units of electrolyzer technology, with each unit having a threshold capacity, a set target for daily hydrogen production, and a minimum purity level. Interested bidders need to submit their proposals [by July 19, 2023](#).

SECI signed a PSA with GRIDCO for 600 MW of wind power

SECI signed a power sale agreement (“**PSA**”) with GRIDCO Limited (“**GRIDCO**,” an Odisha state utility) to supply 600 MW of wind power.

The Tata group is expected to establish a 20 GWh lithium-ion cell plant in Gujarat

The Tata group has signed an MoU with the State Government of Gujarat to set up a 20 gigawatt-hour (“**GWh**”) lithium-ion cell manufacturing factory in Gujarat.

Government plans incentives aggregating INR 3760 crore for batteries

The government will offer INR 3,760 crore in incentives to companies for the purpose of setting up battery storage projects aggregating 4,000 MWh under the PLI scheme. The government will provide viability gap funding (*i.e.*, incentives to cover the risk of critical infrastructure projects turning economically unviable) in the form of grants for three years. The government expects private investments worth INR 56 billion through this scheme.

ELECTRIC VEHICLES

India-related Updates

Tamil Nadu amended its EV policy to enable the registration of e-auto-rickshaws and e-taxis

The Tamil Nadu government issued an order stating that all passenger vehicles that are battery-operated (as defined in clause (u) of Rule 2 of the CMV Rules, such as e-auto-rickshaws, e-taxis, and private e-buses) or passenger vehicles that run on methanol or ethanol fuel will be issued permits without collecting a permit fee. Accordingly, the Tamil Nadu government has now started registering EVs that operate as passenger transportation. Methanol and ethanol-fueled passenger vehicles and battery-operated passenger vehicles were not eligible for permits earlier.

Punjab announced incentives worth INR 300 crore to promote the use of EVs

The Punjab State Government announced that it would provide incentives worth around INR 300 crore in the next three years to promote EV adoption and reduce pollution. These incentives will be provided on E2Ws, e-cycles, e-rickshaws, e-autos, and electric light commercial vehicles.

MoRTH revises third party premium rules

The Ministry of Road Transport and Highways (“**MoRTH**”) issued a draft notification dated June 14, 2023 [proposing](#) the ‘Motor Third Party Premium and Liability Rules for the Financial Year (FY) 2023-24’, in consultation with the Insurance Regulatory and Development Authority of India (“**IRDAI**”). Among other discounts proposed for other categories of

vehicles, discounts of 15% and 7.5% have been proposed for EVs and hybrid vehicles, respectively.

India’s Central Government may penalize certain e-scooter companies with respect to FAME-II

The Central Government may penalize certain electric scooter makers that have been found guilty of wrongfully claiming subsidies under the FAME-II scheme. The government already sent recovery notices to several companies for violating local sourcing norms, as required to be complied with for the purpose of claiming incentives under FAME-II. If a company is disqualified, it will not receive incentives on future sales of E2Ws under the scheme. Further, such disqualified company will also need to forego incentives accrued on vehicles sold in the last 15 months.

Government has started the process to select companies for cell-making PLI scheme

Companies which plan to make advanced battery cells in India may have another chance to qualify for the INR 18,100 crore PLI scheme for such sector. The government has initiated the process to select companies for the purpose of subsidizing up to 20 GWh of battery-cell making capacity as part of the PLI scheme for advanced chemistry cells (“**ACC**”).

SMEV petitions Niti Aayog to review FAME-II

The [society](#) which represents Indian EV manufacturers (“**SMEV**”) requested Niti Aayog to review the FAME-II scheme. SMEV’s concerns purportedly relate to actions taken by the MHI over the past 18 months, including the withholding of subsidies, demanding retrospective claw backs of subsidies given in 2019, delisting companies from the [portal](#) of the National Automotive Board (“**NAB**”), reducing subsidies, etc. According to the SMEV, such MHI actions are likely to impact EV sales and retard EV adoption/penetration in the country.

SMEV asked the government to levy an additional green tax on ICE two-wheelers to incentivize EV adoption

The SMEV called upon the government to levy an additional green tax on two-wheelers with internal combustion engines (“**ICE**”) to incentivize EV adoption and help reduce crude oil imports. It was suggested by the SMEV that such a green tax will rationalize the expected drop in EV sales on account

of reduced subsidies under FAME. According to the SMEV, an increase in taxes on traditionally polluting ICE 2-wheelers to the extent of 100 basis points will be necessary to fund subsidies for E2Ws under FAME.

Government to clear dues to EV makers under FAME scheme by month-end

The government may soon clear outstanding dues of FAME beneficiaries. The implementation of the FAME scheme was affected after various instances arose where original equipment manufacturers (“OEMs”) were found to be wrongfully availing of subsidies by selling vehicles with larger-than-permissible imported components. To curb such practice, the MHI had involved IFCI Limited (“IFCI,” a public sector NBFC) in the process. This involvement reduced the pace of subsidy disbursements on account of additional checks introduced by IFCI with respect to the FAME scheme.

SMEV seeks special fund to bail out EV OEMs hit by subsidy collapse

The SMEV proposed to the Union Finance Minister to create a rehabilitation fund worth INR 3000 crore for the purpose of reviving the operations of OEMs which had been affected by recent blocks in FAME subsidy disbursements. The total subsidies withheld from, and due to be paid to, various E2W OEMs amount to over INR 1,200 crore exclusive of interest.

Government may introduce a INR 15,000 crore PLI for batteries

The government is working on a PLI scheme worth INR 15,000 crore to encourage the setting up of grid-scale battery storage. A draft of such scheme is expected to be released soon. Pursuant to stakeholder feedback on the draft PLI scheme, the draft may be placed *first* before the DPIIT, and *second*, before an empowered group of secretaries – especially since the proposed PLI scheme will overlap with the work of various ministries. Accordingly, the process of getting approval from such empowered group, and then from the cabinet, may require about six months in the aggregate, the MoP expects a new PLI for battery storage to be notified around December 2023 or in the first quarter of 2024.

MeitY transferred a cost-effective lithium-ion battery recycling technology to 9 recycling companies and start-ups

The Ministry of Electronics and Information Technology (“MeitY”) transferred a cost-effective lithium-ion battery recycling technology to nine recycling companies and start-ups as part of [Mission LiFE](#) (under the auspices of the MoEFCC). Such indigenously developed technology is expected to process assorted types of discarded lithium-ion batteries, recovering more than 95% of lithium, cobalt, manganese and nickel contents in the form of their corresponding oxides/carbonates.

International Developments

Germany may allocate EUR 900 million in subsidies for EV charging systems

Germany may allocate up to EUR 900 million in subsidies to expand EV charging stations for households and companies. Further, Germany aims to have one million EV charging stations by 2030 as part of its overall target of reaching carbon neutrality by 2045. At present, Germany has around 1.2 million on-road EVs, while its goal is to reach 15 million by 2030.

Spain offers income tax rebate for electric car buyers

Spain announced that it would reimburse up to 15% of income tax to people who buy an EV before the end of the year. This initiative is part of an anti-inflation package worth EUR 8.9 billion.

The US aims to invest USD 2 billion in grants for the purpose of an EV transition

The US intends to invest USD 2 billion from the IRA to accelerate domestic EV manufacturing and revive struggling plants.

Hyundai may increase its EV investment to USD 28 billion

Hyundai Motor Company (“Hyundai”) proposed to increase its average annual investment in electrification by nearly two-thirds by spending USD 28 billion in the next decade. It also proposed to restructure its China business as part of an overall strategy to increase EV sales. To meet its targets, Hyundai planned to increase local EV production in

three key markets – the US, Europe and South Korea.

Japan may give Toyota support worth USD 841 million for domestic EV battery output

Japan announced that it would provide Toyota Motor Corporation (“**Toyota**”) with up to USD 841 million in subsidies for Toyota’s investment in the domestic production of EV batteries. The mass production of such batteries is expected to commence in stages, starting in October 2026.

Ford completed a USD 2 billion investment to build EVs at its German plant

Ford Motor Company (“**Ford**”) completed a USD 2 billion investment to convert its factory in Cologne (Germany) for the purpose of building EVs. This plant is expected to be the first in the company’s global production network to be carbon neutral.

Japan increased support for domestic EV battery output

Pursuant to a deal between the US and Japan on EV battery minerals, it is expected that Japanese automobile manufacturers may gain access to a new USD 7,500 EV tax credit in the US.

Saudi Arabia signed a USD 5.6 billion deal with a Chinese EV company

Saudi Arabia’s Ministry of Investment signed a USD 5.6 billion deal with a Chinese EV manufacturer for the purpose of collaborating on the development, manufacture and sale of vehicles.

Miscellaneous Updates

Tata Power and Ayodhya Development Authority

Tata Power collaborated with the Ayodhya Development Authority to set up EV charging points in public parking locations.

UPPCL

Uttar Pradesh Power Corporation Limited (“**UPPCL**”) announced that it sees to establish and operate 58 EV charging stations. These stations are intended to be strategically located across various districts in the state. In this regard, UPPCL [invited](#) e-bids.

Interested parties can submit their bids online until July 22, 2023.

Delhi Government

The Delhi government plans to install low-cost charging points and battery-swapping stations at 42 new locations to promote EV adoption. Individuals may be able to charge their vehicles in these locations at INR 3 per unit.

MESCOM

Mangalore Electricity Supply Company (“**MESCOM**”) planned to establish 1,000 EV charging stations within its jurisdictional limits in the next five years. In the first phase, MESCOM intends to set up about 200 charging stations under a PPP mode.

Battery Smart

Upgrid Solutions Private Limited (“**Battery Smart**”), an Indian battery-swapping service provider, announced plans to expand its swapping station network to 10 additional cities (over and above its existing network spanning 25 cities) by December 2023. While the [company](#) is primarily focused on battery-swapping technology, it is also exploring other areas, such as energy storage applications, the redeployment of used batteries for storage purposes, and collaborations with OEMs and financial partners.

India’s first lithium-ion cell manufacturing gigafactory in Gujarat may come up soon

The Tata group signed an agreement with the Gujarat State Government to establish a giga-factory for manufacturing lithium-ion cells, with an estimated initial investment of around INR 130 billion for a production capacity of 20 GWh.

Taiwan-based Gogoro plans to set up EV battery manufacturing units in Pune and Aurangabad

Taiwanese E2W manufacturer Gogoro Inc. (“**Gogoro**”) plans to set up EV and battery manufacturing facilities in Maharashtra. Gogoro aims invest up to INR 40,000 crore in projects sanctioned by the Maharashtra State Government. While Gogoro may set up battery swapping infrastructure and a manufacturing facility by the end of 2023, an additional 12,000 battery swapping

stations may be established across the state over the next few years.

IBC may invest INR 8,000 crore to set up lithium cell battery plant in Karnataka

International Battery Company (“**IBC**”) is working on establishing a proprietary lithium nickel manganese cobalt prismatic cell-manufacturing industry in Karnataka through an investment of INR 8,000 crore. Accordingly, IBC may invest in land, plants, machinery and buildings before setting up a non-captive giga-factory.

RACE Energy inaugurated its battery production facility in Hyderabad, which can manufacture 30,000 batteries per year

‘RACEnergy’ is a registered trademark of Reddy Automotive Private Limited (“**RACE Energy**”), a technologically advanced EV infrastructure company for battery swapping, inaugurated a battery production facility in Hyderabad. Equipped with a 50 MWh battery production plant, it can manufacture 30,000 batteries a year.

Ola began construction of a giga-factory for cell production in Tamil Nadu

Ola Electric Mobility Private Limited (“**Ola**”) announced the commencement of construction of India’s largest cell-manufacturing giga-factory. Spread across 115 acres in Krishnagiri, Tamil Nadu, the Ola giga-factory is expected to begin operations by early next year with an initial capacity of 5 GWh, which may be expanded in phases to 100 GWh (full capacity).

Foxconn may set up EV plant in India

Hon Hai Precision Industry Company Limited (“**Foxconn**”) may enter the EV manufacturing space in India. Foxconn aims to establish a production line to provide E2W manufacturing services for the Southeast Asia E2W market.

The Himachal Pradesh government seeks to make Shimla a ‘Green City’

The Himachal Pradesh government seeks to create adequate charging infrastructure in and around Shimla to facilitate the plying of e-buses in the city for the purpose of making it a ‘green city’. The Himachal Road Transport Corporation (“**HRTC**”) has

started the process of setting up five new charging stations for 70 e-buses running in Shimla, and about INR 3.63 crore has been deposited by the HRTC to the state electricity board for the installation of transformers for these charging stations. HRTC has also floated tenders for purchasing 75 new e-buses. HRTC’s existing fleet of over 1,500 buses is sought to be replaced with e-buses in a phased manner, for which adequate charging and related infrastructure will be necessary.

Chandigarh UT administration stops registering diesel buses until September 30

Under the Chandigarh UT administration’s EV policy, diesel and electric buses have to be registered in a 50:50 ratio every six months. However, no e-bus has been recorded in FY 2023-24 so far. Accordingly, the transport authority decided not to register diesel-run tourist, school/college, and company buses until September 30, 2023.

Central Government aims to float a tender for 3,500 electric buses in nine big cities

The Central Government is planning to float an e-bus tender for the purpose of procuring around 3,500 new e-buses for nine cities (Mumbai, Delhi, Bengaluru, Hyderabad, Ahmedabad, Chennai, Kolkata, Surat and Pune) with a population of over 4 million each. This plan appears to stem from the MHI’s recent decision to increase funding support for e-buses (to INR 4,307 crore from previous budget of INR 3,545 crore). On the other hand, in May, the MHI reduced FAME-II subsidies for three- and four-wheeler EVs, as well as for EV charging infrastructure. However, the new procurement may be done through diverted (and other) funds. Apart from INR 762 crore diverted towards the e-buses category, INR 536 crore was saved by the government due to competitive bidding in certain state tenders. Moreover, certain orders for e-buses were later cancelled by state transport undertakings (“**STUs**”), the funds in respect of which remain unused.

Chandigarh plans to stop registering non-EV two-wheelers from July, cars from December

The Chandigarh UT administration plans to stop the registrations of ICE two-wheelers by July, and the registration of fuel-based cars by December this

year. Accordingly, the UT administration aims to discourage the use of non-EVs under its existing EV policy.

Mufin Green and SIDBI

SIDBI provided an INR 10 crore term loan to Mufin Green Finance Limited (“**Mufin Green**”), a listed NBFC, for the purpose of promoting EV uptake in India by extending financing solutions. Accordingly, Mufin Green may provide EV financing to various stakeholders, including fleet operators, aggregators and MSMEs.

Pure EV and SIDBI

PuR Energy Private Limited (“**PURE**”), an E2W company, aims to deploy 20,000 E2Ws across the country, with financial support from SIDBI. Further, SIDBI announced the launch of a new mission called “**EVOLVE**” (Electric Vehicle Operations and Lending for Vibrant Ecosystem) in conjunction with NITI Aayog, the World Bank, the Korean-World Bank, and the Korean Economic Development Cooperation Fund (“**EDCF**”) in order to provide financial support to MSMEs in the EV space, including for the purpose of financing 50,000 EVs. Earlier, a pilot phase of ‘Mission 50K-EV4ECO’ aimed to strengthen the EV ecosystem, including through the uptake of two-, three- and four-wheeler EVs via direct and indirect lending. Under direct lending, SIDBI aimed to directly provide loans to eligible MSMEs (including aggregators, fleet operators and EV leasing companies) for the purchase of EVs and the development of charging infrastructure, including battery swapping. The indirect scheme, on the other hand, was targeted at NBFCs actively engaged in EV financing. This pilot scheme was a precursor to EVOLVE, which involves the scaling up of support to the EV ecosystem through multilateral support.

Authored by [Sudip Mahapatra](#) (Partner), [Deborshi Barat](#) (Counsel), [Ameesha Tripathi](#) (Associate), [Navaneeth Krishnan](#) (Associate) and [Pradhuma Mohan Dixit](#) (Associate).

Overview and Analysis

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India's New Low-Carbon Diet: Conserving Energy, Trading Credits

BACKGROUND

On March 27, 2023, India's [Power Ministry](#) ("MoP") released a [copy](#) of a draft carbon credit trading scheme ("CCTS," and such draft CCTS, the "Draft CCTS") among relevant stakeholders (comprising a few key industry bodies).

This exercise was undertaken pursuant to the MoP's authority to do so under the Energy Conservation Act, 2001 (the "EC Act"), as recently amended by the [Energy Conservation \(Amendment\) Act, 2022](#) (the "2022 Amendment").

Further to the 2022 Amendment, which came into [force](#) on January 1 this year, the EC Act now empowers the central government ("CG") to specify the CCTS through notification, in consultation with the Bureau of Energy Efficiency ("BEE"). In the present instance, the MoP represents the CG, being the nodal ministry with respect to the matter.

The Draft CCTS

While the deadline for feedback and comments to the Draft CCTS lapsed on [April 14, 2023](#), additional consultations involving other stakeholders [continued](#) for a few weeks after its release, including those conducted with accredited energy auditors, carbon and/or energy verifiers, and sectoral experts. Further to such consultations and based on comments received, a more [detailed](#) version of the Draft CCTS was expected to be released [soon](#).

Simultaneously and thereafter, the BEE worked on developing a revised version of the Draft CCTS under the MoP's supervision, along with the Ministry of Environment, Forest and Climate Change ("MoEFCC"). The ultimate objective of this exercise was to decarbonize the Indian economy by pricing 'greenhouse gas' ("GHG") emissions through the trading of carbon credit certificates ("CCCs").

The Final CCTS

More recently, pursuant to a [gazette notification](#) dated June 28, 2023, the MoP, in consultation with the BEE, issued the 'Carbon Credit Trading Scheme, 2023' (the "Final CCTS"). The Final CCTS came into force on June 30, 2023, *i.e.*, the date of its publication in India's [official gazette](#).

The 2022 Amendment

In general, Section 14 of the EC Act authorizes the CG to enforce efficiency with respect to the use and conservation of energy. Late last year, among other changes, sub-section (w) was inserted under Section 14 of the EC Act via Section 6(viii) of the 2022 Amendment. As such, the 2022 Amendment marks only the second instance when the EC Act has been amended.

Among other things, certain newly added provisions expressly authorize the CG (*i.e.*, the MoP) to issue CCCs to such registered entities that comply with the requirements of the Final CCTS.

This note discusses India's CCTS, including through the prism of its legislative and regulatory history, along with the administrative apparatus connected with the scheme. In the next note, we will place these developments in context, within the wider framework of integrated energy markets.

REGULATORY HISTORY

The EC Act was [first amended in 2010](#) (the "2010 Amendment") to expand upon the scope of the original legislation, including through the establishment of a trade-based regulatory framework – known as 'Perform, Achieve and Trade' ("PAT") – for the purpose of reducing energy consumption in energy-intensive industries. The framework under PAT involves certifications related to excess energy savings (such energy saving certificates, "ESCCerts"). Further to the 2010 Amendment and certain allied rules on PAT (the "PAT Rules"), ESCCerts have been issued to designated consumers ("DCs") under qualifying conditions. Meanwhile, PAT involves ESCCert trading between over-performing and under-performing DCs, as explained below.

The 2010 Amendment

The 2010 Amendment expanded upon Section 14(e) of the EC Act, which in its original form authorized the CG – in consultation with the BEE – to specify any one or class of energy users as a DC for the purpose of the EC Act. However, the 2010 Amendment clarified that such DC specifications were required to be made from only among those energy-intensive industries and establishments which were separately specified in an amended schedule to the EC Act.

Further, the 2010 Amendment added Sections 14A and 14B to the EC Act. Sub-section (1) of the newly-inserted Section 14A empowered the CG to issue ESCerts to those DCs whose energy consumption remained *less* than the norms and standards prescribed through appropriate procedure (the “**Specified Standards**”). Alternatively, pursuant to sub-section (2), if a DC’s energy consumption was *more* than the Specified Standards, it was entitled to purchase ESCerts for the purpose of securing compliance.

Moreover, the new Section 14B authorized the CG – in consultation with the BEE – to prescribe the value of energy consumed for the purpose of the EC Act in terms of per metric ton of oil equivalent (“**MTOE**”). Thus, after the 2010 Amendment took effect, bespoke rules were framed under the EC Act – such as the “**PAT Rules**” – which were issued two years later, and continue to be amended periodically. The last time that the PAT Rules were amended was in 2022.

PAT

Introduced for the purpose of improving energy efficiency among DCs within key sectors, PAT seeks to establish a specific methodology to determine norms related to specific energy consumption (“**SEC**”) – *i.e.*, the energy used per unit of production – for each DC in a baseline year, as well as in subsequent target years, with the ultimate aim of reducing the SEC in large, energy-intensive industries. Such targets were originally based on the annual SEC for each DC in the baseline year (2010), as adjusted to account for factors such as product mix, capacity utilization, change in fuel quality, import/export of power, and other factors.

Pursuant to an energy audit performed under PAT to verify the baseline data (*i.e.*, current levels of efficiency) and corresponding energy targets, ESCerts may be issued to those plants that achieve energy savings in excess of their targets. Entities which are *unable* to meet such targets either through their own actions or via the purchase of ESCerts may incur financial penalties under the EC Act. After ESCerts are issued to them, and further to registering with relevant power exchanges – *viz.*, Indian Energy Exchange Limited (IEX) and Power Exchange India Limited (PXIL), DCs may trade in such ESCerts on electronic platforms maintained with those power exchanges.

Importance of the 2022 Amendment

Along with sub-section (w), the 2022 Amendment also added sub-section (x) to Section 14 of the EC Act, pursuant to which the CG, in consultation with the BEE, is now authorized to specify a minimum share of consumption with respect to non-fossil sources by DCs as energy or feedstock. Further, a different share of consumption may be specified for different types of non-fossil sources for different DCs.

The 2022 Amendment also inserted a new Section 14AA (*‘Issuance of carbon credit certificate’*) to the EC Act. With effect from January 2023, and pursuant to Section 14AA(1) of the amended EC Act, any agency authorized by the CG (other than the CG itself) may issue CCCs to such registered entities that comply with the requirements of the CCTS specified by the CG. Accordingly, under Section 14AA(2), such registered entities will be entitled to buy or sell CCCs pursuant to the CG-specified CCTS under Section 14(w) of the amended EC Act.

In addition, Section 14A of the EC Act (dealing with the issuance of ESCerts) was further modified by the 2022 Amendment. Pursuant to such modification, Section 14A now allows any agency authorized by the CG – and not just the CG itself – to issue ESCerts to those DCs whose energy consumption remains less than the Specified Standards. Importantly, the 2022 Amendment also added a proviso to sub-section (2) of such Section 14A – thereby permitting ‘any other person’ (*i.e.*, any entity/person other than DCs) to voluntarily purchase either ESCerts or CCCs.

Previously under the EC Act – even after the 2010 Amendment – (i) only the CG could issue ESCerts as part of the PAT framework (and no other entity could – not even an agency authorized by the CG itself); and (ii) only DCs (and no other entity or person) could purchase ESCerts, even if a non-DC entity *wanted* to buy such certificates on a voluntary basis.

The changes introduced by the 2022 Amendment are especially significant in light of the [surplus supply of ESCerts](#) under PAT, which aspect will be discussed separately in our next note.

THE CCTS

Earlier, the Draft CCTS had essentially outlined a scheme for the reduction or removal of GHG emissions, consistent with the definition of GHGs by the United Nations Framework Convention on Climate Change (“**UNFCCC**”). Subsequently, Section 2(h) of the Final CCTS specified that GHGs represent those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation. Accordingly, GHGs include, but are not limited to, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

The Draft CCTS had contemplated both a compliance and a voluntary regime, while the Final CCTS does not refer to the latter – except to the extent that non-obligated entities can purchase CCCs on a voluntary basis. However, under the Draft CCTS, non-obligated entities had been permitted to voluntarily register their respective projects for reducing or removing GHG emissions for the purpose of getting CCCs issued in their favor.

On the other hand, under the compliance regime – the framework for which has remained the same – obligated entities will need to adhere to prescribed GHG emission norms, as notified by the CG.

OBLIGATED AND NON-OBLIGATED ENTITIES

‘Obligated entities’ are those which are required to register for the Final CCTS, as notified under the latter’s compliance mechanism, including DCs. On

the other hand, ‘non-obligated entities’ – while nevertheless requiring registration under the CCTS – are those which can purchase CCCs on a voluntary basis. Nevertheless, as mentioned above, unlike the Draft CCTS, the Final CCTS makes no mention of whether such non-obligated entities can register their projects for CCC issuances.

CCCS

The Final CCTS defines a ‘carbon credit’ to mean a value assigned to a reduction or removal or avoidance of GHG emissions, which is equivalent to one ton of carbon dioxide equivalent (such measure, “**tCO_{2e}**”). CCCs may be issued by the CG (or any agency authorized by it) to registered entities under Section 14AA of the EC Act. Under the Draft CCTS, such issuances could be made under either of the compliance or voluntary mechanisms, respectively, as long as the issuances were within the overall scheme of the CCTS. Nevertheless, the Final CCTS states that a detailed procedure – which may be later developed for the purpose of operationalizing the Indian carbon market in accordance with the finalized scheme – will contain, among other things, the criteria for CCC issuances.

CCCs can only be issued pursuant to evaluative exercises conducted by a BEE-accredited agency (“**Accredited Carbon Verifier**,” or “**ACV**”). Earlier, within the operational and evaluative scope of an ACV, the Draft CCTS had included acts such as project validations (for the voluntary mechanism) and/or verification of activities undertaken by a registered entity (for either of the compliance or voluntary mechanisms). However, the Final CCTS merely specifies that an ACV will be required to perform functions for the purpose of the finalized scheme as determined by the BEE from time to time.

Further, the BEE will determine, with prior CG approval, the exact procedure (including in respect of eligibility criteria) for agency accreditations with respect to functioning as an ACV, further based on the recommendation of a national steering committee for the Indian carbon market (“**ICM**,” and such committee, the “**NSC**”). The Final CCTS has replaced the governing board of the ICM (such erstwhile board, the “**ICMGB**”) – as previously contemplated under the Draft CCTS – with the NSC.

THE BEE'S ROLE

Consistent with its general role and statutory duties under the EC Act, the BEE is involved with the issuance of ESCerts and their trading under PAT. Pursuant to the 2022 Amendment and the Final CCTS, the BEE – as the ICM administrator – will now be responsible for several functions with respect to CCCs as well (*i.e.*, over and above its responsibilities related to ESCerts under PAT).

Such additional functions include those in connection with identifying (i) sectors, and (ii) the potential for reducing GHG emissions in such sectors, for the purpose of recommending those sectors to the MoP for inclusion in the ICM. Further, the BEE will develop the trajectory and targets for entities under the compliance mechanism.

Further, the BEE will be responsible for CCC issuances pursuant to NSC recommendation and subsequent CG approval. In addition, the BEE's other tasks relate to: (a) developing a market stability mechanism for carbon credits; (b) developing the procedure for accreditation, as well as the functions of ACVs; (c) accrediting agencies pursuant to the approved procedure for ACVs; and (d) developing processes and conditions for the crediting period, renewals, and expiry in respect of CCCs. These apart, the BEE will develop data submission formats, undertake capacity-building activities, maintain the ICM's information technology ("IT") infrastructure, along with a secure database comprising CG-approved security protocols, etc.

Earlier, under the Draft CCTS, the BEE was also responsible for (1) developing standards, processes, and methodologies with respect to project registrations under the ICM's voluntary mechanism; and (2) issuing CCCs to both obligated and non-obligated entities, as recommended by the ICMGB. However, now that the Final CCTS has chosen to remain silent on the voluntary mechanism (as earlier proposed), such additional BEE functions have been removed from the scope of the scheme. Nevertheless, the BEE will constitute technical committees for different areas, as required under the compliance mechanism of the scheme.

THE ICM

The ICM framework, as contemplated in the Final CCTS, involves a national framework established with an objective to reduce or remove or avoid GHG emissions from the Indian economy by pricing such emission through the trading of CCCs. In this regard, the Central Electricity Regulatory Commission ("**CERC**") – as referred to in Section 76(1) of the Electricity Act, 2003, as amended – will regulate all trading activities under the ICM.

Accordingly, the CERC will not only regulate matters relating to CCC trading, but will also safeguard the interest of both sellers and buyers, regulate the frequency of CCC trading, as well as provide market oversight and take necessary preventive/corrective actions to address fraud or mistrust.

Thus, from time to time, the CERC will approve the participation of electronic trading platforms – as defined under Regulation 2(1)(a) of the CERC (Power Market) Regulations, 2021, as amended (such electronic trading platforms, "**Power Exchanges**") – for the purpose of ICM trading. Accordingly, Power Exchanges need to seek the CERC's approval for their respective bylaws and rules for CCC trading on their platforms.

OTHER BODIES UNDER THE ICM

The Final CCTS authorizes the MoP to constitute the NSC. The NSC will remain responsible for ICM governance and directly oversee market functioning. It will comprise representatives from various ministries as its *ex officio* members, such as joint secretaries from those related to finance, steel, coal, new and renewable energy, as well as Niti Aayog, petroleum and natural gas, chemicals and fertilizers, agriculture and farmers' welfare, etc. – including, in particular, Secretaries from the MoP and the MoEFCC as *ex-officio* chairperson and co-chairperson, respectively; as well as the Director General of BEE as its member secretary. The NSC will also include two expert members with knowledge in emissions, carbon trading, climate change, environment and energy, the chairperson of the CEA, along with the chairman and managing director of Grid Controller of India Limited ("**GCIL**").

In turn, the GCIL will act as the registry for the ICM. Among other things, GCIL is expected to discharge functions as determined by the MoP from time to time, including in respect of: (i) complying with the BEE's directions; (ii) undertaking registrations for both obligated and non-obligated entities; (iii) maintaining a secure database (with security protocols) and transaction records; (iv) sharing such records with the BEE and Power Exchanges; (v) assisting with the development of an IT platform for maintaining a CCC database; (vi) functioning as meta-registry for India, as well as establishing links with other national or international registries as approved by the CG.

As such, the role of the NSC within the ICM's power hierarchy is largely recommendatory – sitting somewhere between the BEE and the CG in terms of authority. For instance, the NSC is responsible for recommending procedures to the BEE for the purpose of further institutionalizing the ICM. In addition, the NSC has powers to recommend rules, regulations, GHG emission targets, guidelines about CCC trading and issuances, etc.

Earlier, under the Draft CCTS, the ICMGB – the erstwhile equivalent of the NSC – had the power to recommend methodologies to the CG, especially under the voluntary mechanism. Importantly, the ICMGB was also mandated to approve projects under the voluntary mechanism of the Draft CCTS, and could further recommend guidelines (for the CG's final consideration) with respect to CCC sales to entities/countries outside India.

DETAILED PROCEDURES

The NSC and other authorities will develop a detailed procedure for operationalizing the ICM pursuant to the Final CCTS.

Such detailed procedure will likely include: (i) the criteria for CCC issuances; (ii) the validity, along with floor and forbearance price, with respect to CCCs; (iii) the requirements, format, and timelines associated with submissions; (iv) monitoring, reporting, and verification; etc.

CONCLUSION

Given the [short interval](#) between the notifications of the Draft and Final CCTS, respectively, some

[reports](#) suggest that India's scheme may have been expedited on account of the EU's Carbon Border Adjustment Mechanism ("**CBAM**"). [CBAM](#) is a mechanism through which the EU will impose a price (starting October this year) on the carbon emitted during the production of carbon-intensive goods that enter the EU from outside. The gradual introduction of the CBAM is aligned with the phase-out of the allocation of free allowances under the EU's Emissions Trading System ("**ETS**") to support the decarbonization of European industry. Since CBAM imposes unilateral carbon taxes on the EU's exporting partners, and given India's [known concerns](#) about CBAM, India's Final CCTS may have been rolled out as an equivalent of the EU's ETS for the purpose of allowing Indian importers to seek exemptions from additional carbon levies with respect to European exports.

Authored by [Deborshi Barat](#) (Counsel) and [Harshdeep Singh Bedi](#) (Associate).

Contextualizing Carbon Credit Trading in India

The previous note discussed the administrative apparatus related to India's Carbon Credit Trading Scheme, 2023 (the "CCTS," and the final version, the "Final CCTS"), as notified on June 28 by India's [Power Ministry](#) ("MoP") in consultation with the Bureau of Energy Efficiency ("BEE"), collectively representing the central government ("CG") in this regard. Given the wider ecosystem of integrated energy markets, in this note, we analyze the scheme as a whole – and especially in the context of global decarbonization initiatives, including in connection with past and present templates related to energy savings and trading mechanisms, both Indian and international.

THE CCTS: BACKGROUND

While the Energy Conservation Act, 2001 (the "EC Act") was [first amended in 2010](#) (the "2010 Amendment") for the purpose of expanding upon the scope of the original legislation, a market-based regulatory framework – known as 'Perform, Achieve and Trade' ("PAT") – was [established](#) soon thereafter with the aim of reducing the specific energy consumption ("SEC") in energy-intensive industries.

As briefly described in the previous note, PAT involves the trading of certifications related to excess energy savings (such energy saving certificates, "ESCCerts"). Thus, when a 'designated consumer' ("DC") overachieves its SEC targets in a given compliance year (such overachieving DC, a "DC 1"), ESCCerts are issued to it for free, reflecting the difference between the CG-notified target and the actual SEC achieved by the DC 1. On the other hand, a DC that fails to reduce its SEC to the extent notified (such underachieving DC, a "DC 2") is required to purchase ESCCerts from a DC 1 equivalent to the quantum of shortfall, failing which the DC 2 may face penalties under the EC Act.

The Final CCTS is somewhat similar to PAT in design. This is unsurprising since – as discussed later in the note – the BEE's recent proposals about structuring an Indian carbon credit trading framework have stemmed from its own past

experience under PAT and the EC Act – especially after the 2010 Amendment. Further, given the lessons stemming from, and perceived shortcomings with respect to, PAT, the CCTS may eventually subsume excess ESCCerts (along with other instruments) by converting them into carbon credit certificates ("CCCs," and such converted CCCs, "C-CCCs").

Meanwhile, PAT's design resembles a 'cap-and-trade' mechanism ("CAT"), somewhat like the [EU's](#) emissions trading scheme ("ETS") – the world's [first](#). However, an ETS may also be designed as a 'baseline-and-credit' system ("BAC").

CAT AND BAC

A CAT framework requires a fixed upper limit (*i.e.*, a 'cap') on the volume of greenhouse gas ("GHG") emissions in one or more economic sectors. Tradable permits – where each allowance represents the right to emit a certain volume of emissions – are either auctioned or freely distributed. While PAT deals with trading in ESCCerts, the state government of Gujarat [signed](#) a memorandum of understanding last year to implement a subnational CAT carbon market – India's first.

Meanwhile, under a BAC system, there is no fixed limit on emissions, but polluters can earn 'credits' by reducing their emissions beyond a 'baseline'. Such earned credits can then be sold to those that need or want them – whether in order to comply with applicable regulations, or to meet stakeholder demand in terms of managing/reducing their carbon footprint.

However, PAT differs from traditional CAT systems because it sets *intensity*-based energy targets. Among major emerging economies like India, the policy emphasis is on intensity (*i.e.*, the volume of emissions per unit of gross domestic product ("GDP")) – rather than on an absolute cap. This altered stance stems from a concern that hard quantitative limits are likely to inhibit economic growth. While an absolute quantity-linked cap has the advantage of predictability with respect to emission levels, an intensity-based target allows such emissions to fluctuate with flux in economic development.

INTENSITY AND EE

PAT differs from regular ETS models since it involves a framework based on energy-intensity (“**EE**”) rather than on emissions itself. Thus, PAT is more of an EE trading system, rather than a plain vanilla ETS. For instance, ESCerts are not denominated in terms of GHG reductions – even while the latter remains the *de facto* trading unit of most carbon markets around the world.

CARBON PRICING

In general, carbon pricing aims to curb GHG emissions by placing a fee on emissions and/or by offering incentives for emitting less. The price signal thus created is expected to shift consumption and investment patterns. While government-mandated carbon taxes or a traditional ETS are obvious manifestations of putting a price on carbon, PAT is an example of *implicit* pricing.

Such implicit carbon pricing strategies involve targets or obligations which must be met by surrendering a tradeable commodity at the end of a stipulated period, or by participants undertaking compliance measures within such period. Accordingly, these instruments can complement an ETS, or may prepare an evolving market for an eventual ETS rollout.

Indeed, other countries too have sought to integrate carbon pricing instruments with pre-existing trading systems based on targets and/or obligations related to EE (e.g., PAT) or the use of renewable energy (“**RE**”). In India, for example, the Electricity Act, 2003, as amended, requires certain categories of obligated entities (such as state-owned electricity distribution companies (“**discoms**”)) to purchase a minimum percentage of their electricity from RE sources. This requirement is known as renewable purchase obligations (“**RPO**”). More specifically, when such obligated entities face procurement-related issues due to intermittent RE supply across states or on account of variations in quality, RE certificates (“**RECs**”) may be used to meet RPOs. Thus, RECs are market-based tradeable instruments that represent the environmental attributes of RE.

CCMS AND VCMS

The other way to distinguish between energy markets is through the prism of compliance. For instance, compliance carbon markets (“**CCMs**”) consist of sovereign authorization and mandatory implementation. On the other hand, voluntary carbon markets (“**VCMs**”) are driven by demand from those that aim to offset their GHG emissions – including on account of corporate ‘net zero’ commitments. Thus, for example, BAC schemes are often voluntary, allowing for the purchase and sale of carbon credits among corporate entities. Since VCMs function independently of CCMs, the credits issued in the former cannot be used to meet the legal and/or regulatory obligations imposed by the latter.

As described later in the note, it appears that, over the past couple of years, the BEE has intended to focus on developing VCMs first, before integrating India’s compliance regime with global CCMs.

COMPLIANCE AND VOLUNTARY MECHANISMS UNDER THE CCTS

As discussed in the previous note, the [draft CCTS](#) (the “**Draft CCTS**”) released on March 27, 2023 had contemplated both a compliance and a voluntary regime. However, the Final CCTS mentions only a compliance mechanism.

Compliance Regime

Since specific targets and timelines need to be provided for separate industries under the compliance regime, it is expected that eventual CCC trading in this regard will take [some time](#).

Voluntary Regime

Although the Final CCTS makes no mention of a voluntary regime, pursuant to a [gazette notification](#) dated June 26, 2023, the Ministry of Environment, Forests and Climate Change (“**MoEFCC**”) proposed the Draft Green Credit Programme Implementation Rules, 2023 (“**Draft Green Credit Rules**”) – which seek to establish a domestic voluntary market mechanism called the ‘Green Credit’ program.

This Green Credit program is expected to encourage private sector industries, companies and other stakeholders to fulfill their respective obligations with the aim of generating green credits and pursuing acquisition activities.

The Green Credit Program

According to the Draft Green Credit Rules, green credits may arise from a range of sectors and entities. In essence, such green credits will be tradable outcomes and are intended to act as incentives. Further, green credits are proposed to be made available for trading on a domestic market platform.

An environmental activity that generates green credits may have climate co-benefits, such as reduction or removal of carbon emissions. An activity that generating green credits under the Green Credit program may also get carbon credits from the same activity under the carbon market.

BEE's Past Proposals

In March 2021, the BEE had issued a [request for proposal](#) in respect of developing a blueprint to design a voluntary EE market in India (the "RFP"). A year later, in a [draft blueprint for stakeholder consultation](#) ("Proposal 1"), the BEE proposed three phases towards the eventual adoption of a CAT system for India's proposed ICM.

Subsequently, in October 2022, the BEE conducted a stakeholder consultation to get inputs on a revised proposal ("Proposal 2") where the proposed three-phase transition in Proposal 1 was reduced to two phases.

THE RFP

Although the RFP stated that the BEE was exploring the possibility of tapping into additional demand for ESCerts by linking PAT with international carbon market programs (with the hope that such linkages would support ESCert trading prices), it did admit that the actual surplus in ESCert supply would require the enhancement of corresponding demand under PAT itself. However, the BEE also acknowledged that in its current form, PAT left out nearly 50% of energy savings potential

from industry (especially among micro, small, and medium enterprises (MSMEs)) and did not include residential households or other large energy users either (e.g., urban local bodies). Thus, in the RFP itself, the BEE expressed its intent of extending PAT to a VCM framework for the purpose of tapping into initiatives of non-state and sub-national actors (including companies, investors, financial institutions, municipal authorities, and [states](#)) under the auspices of the existing EC Act – albeit with modifications, such as those eventually witnessed in the 2022 Amendment.

In this regard, the RFP also referred to the untapped potential of carbon pricing, anticipating that a BEE-driven market could generate the necessary confidence necessary to overcome entry barriers – such as the lack of consistent and clearly defined price-setting benchmarks – for the purpose of encouraging new entrants to join a widened Indian VCM.

PROPOSAL 1

The BEE's Proposal 1 comprised three distinct phases.

Phase 1

The proposed first phase under Proposal 1 sought to increase VCM demand by opening it up to buyers other than DCs. Further, this phase was intended to include fungibility in the sense that ESCerts and RECs would be allowed to trade as carbon offsets alongside CCCs.

The BEE's reasons for championing fungibility at this stage by attracting voluntary buyers (and sellers, according to future requirement) appears to be based on past learning from PAT. While PAT did reduce emissions significantly in its first few cycles, a continued surplus in ESCerts supply has nevertheless plagued such market. Coupled with muted demand, this has led to sustained low prices. However, PAT is premised on the assumption that the price of ESCerts will incentivize DCs to focus on EE. Accordingly, current circumstances may eventually deter DCs from investing in technologies based on EE – unless the underlying demand-supply mismatch is addressed. Thus, given that several non-DC entities already have stated GHG reduction commitments, and for the purpose of generating

extra demand for the surplus ESCerts issued under PAT, the first phase of Proposal 1 sought to provide non-DC entities and/or voluntary buyers/sellers with an opportunity to trade in ESCerts by tapping into the readily-available interest among private sector entities.

Further, voluntary commitments with respect to companies (including in India) are typically denominated and/or expressed in terms of reducing CO₂ emissions – and *not* on improving EE. Thus, variation in the unit of trading may itself lead to compatibility issues. In that respect, the proposed fungibility associated with ESCerts was intended to lead to international participation, in conjunction with increased adoption of the underlying instrument.

Further, the BEE expected demand to stem from five principle sources: (i) voluntary buyers, (ii) existing DCs which are part of PAT, (iii) designated state agencies which may be permitted to participate in India's VCM, (iv) discoms with RPO obligations, and (v) the aviation sector as a whole – given global concerns about growing emissions from the airlines industry, as witnessed through schemes such as the Carbon Offsetting and Reduction Scheme for Aviation (CORSA) developed by the International Civil Aviation Organization (ICAO), which requires airlines and other aircraft operators to offset growth in CO₂ emissions.

Phase 2

The second phase under Proposal 1 aimed to increase the supply of carbon credits in the voluntary market by opening it up to sellers other than DCs. This may involve the registration and validation of emission reduction projects – which can subsequently issue emission reduction units or carbon credits.

Phase 3

In the third phase, the voluntary market was expected to evolve into a mandatory CAT system, in which DCs would be required to restrict their emissions within a pre-fixed cap.

PROPOSAL 2

In Proposal 2, the first two phases suggested in Proposal 1 were merged into one.

In effect, the Indian carbon market (“**ICM**”) would comprise CCCs as a tradeable commodity, with each CCC equal to one tCO₂e. Further, CCCs could be further be divided into C-CCCs, mandatory CCCs (“**M-CCCs**”) and offset CCCs (“**O-CCCs**”). ESCerts, RECs, and surplus Clean Development Mechanism (“**CDM**”) credits will be converted to carbon credits or offsets as C-CCCs.

Historically, the CDM has allowed emission-reduction projects in developing countries to earn certified emission reduction (“**CER**”) credits. These CERs can be traded and sold, and in turn, may be used by industrialized countries to a meet a part of their emission reduction targets under the Kyoto Protocol.

Meanwhile, obligated entities under the ETS mechanism would generate and trade M-CCCs, and the O-CCCs would be generated as part of the offset scheme under the ICM.

Phase 1

The first transition phase (2023-25) under Proposal 2 was proposed to focus on the fungibility of ESCerts and RECs into offsets. Entities with surplus ESCerts and RECs may choose to convert them into C-CCCs. Based on criteria such as fuel mix and additionality, an entity-specific conversion factor was proposed to be stipulated for the purpose of converting surplus ESCerts into offsets.

Meanwhile, PAT was intended to remain in force in the first phase of Proposal 2. This phase would include the development of the offset market; guidelines related to monitoring, reporting, and verification (MRV); setting up a registry; and a comprehensive governance structure for both offset and compliance markets, in consultation with relevant stakeholders.

Phase 2

In the second phase of Proposal 2 (2026 onwards), a fully functional national ETS was proposed to be

launched involving sectors and entities that were already part of PAT. Obligated entities would be provided with a GHG emission intensity target, and M-CCCs would be allocated accordingly. Based on performance in respect of EE, these entities could choose to abate or trade in emissions.

CONCLUSION

Given that detailed procedures with respect to the Final CCTS may be outlined over time, it is possible that such scheme details will subsequently capture BEE's earlier proposals – including in connection with a phased transition.

Authored by [Deborshi Barat](#) (Counsel) and [Harshdeep Singh Bedi](#) (Associate).

Certification is the Missing Link in India's Green Hydrogen Ambitions

The Union Cabinet approved the National Green Hydrogen Mission (“**NGHM**”) in January, aiming to make India a global hub for the production, use, and export of green hydrogen (“**GH**”). Yet, despite the lofty ambition, India does not have a framework for GH certification. To boost global procurement, the tracking system should guarantee the origin of GH.

A certification framework could be introduced for GH as well, to facilitate trading of hydrogen as a commodity on national and international markets. Further, the large-scale deployment and uptake envisaged under NGHM, as well as the coordination between national, regional, and international markets, will depend on the global acceptance of credible instruments to certify the origin of GH. While national certification must align with international markets, robust tracking systems are needed to trace attributes across the value chain, create transparency, bolster demand, and sustain markets.

GH molecules are identical to those of grey hydrogen (produced from methane). Accordingly, once hydrogen has been produced, a certification system allows end-users and governments to ascertain the origin and quality of such hydrogen. Further, the price of hydrogen produced from fossil fuels is different from that of green hydrogen (produced through electrolysis of water using renewable energy). However, it is impossible to determine the precise extent of embedded emissions from the final hydrogenated product. Accordingly, the system must address the information asymmetries between GH buyers and sellers by creating a transparent hydrogen market. This, in turn, requires a certifying mechanism. Further, the strength of a certification framework can determine the likelihood of investments in RE for producing additional clean hydrogen.

India could learn from the use of tracking certificates for energy products such as European biofuels. For example, such certification considers how, and how

far the biofuels and feed stocks are transported. Similarly, GH certification could factor in mode of transport and distance travelled, since hydrogen delivered in diesel trucks may have a greater carbon footprint than when distributed through a pipeline. Another example is the CertifHy project, which ensures that GH certificates are compatible with EU legislation, including the recast Renewable Energy Directive (RED II).

There are two main ways to classify hydrogen. One is color-coded (for example, the Green Hydrogen Policy (GHP) announced by the Power Ministry last year had defined ‘green’ hydrogen as that produced via water electrolysis using RE or from biomass).

However, this approach does not provide information regarding greenhouse gas (“**GHG**”) content. For instance, GHG emissions may be related to the distribution of electricity for GH production. Tracking certificates should mention the GHG content in each produced unit of GH along the value chain, namely from production to transport. Thus, the second way to classify GH is quantitative, based on GHG emissions. Hydrogen produced with a certain percentage of carbon footprint may be certified under a specific label (such as low- or high-carbon).

The hydrogen value chain includes production, transportation, storage, and end-use. Each stage involves underlying processes, requiring energy leading to emissions. Thus, defining the boundaries of a value chain in the accounting and certification process will have a major impact on creating a robust GH market.

In a report published in June last year, NITI Aayog had recommended a GH labelling program, including harmonized frameworks based on government-to-government and industrial partnerships for hydrogen-embedded products, such as green steel. NITI Aayog also suggested a digital tracing mechanism to ascertain the green credentials of GH.

According to the International Renewable Energy Agency (IRENA), four key regulatory foundations are necessary for GH policymaking. While three of these have been covered under NGHM, the fourth involves guarantees of origin. At the very least, India could

explore the advisability of integrating RECs with GH certificates over the short term.

Authored by [Deborshi Barat](#) (Counsel), first published by [The Hindu Businessline](#) on April 8, 2023.

S&R
ASSOCIATES

ADVOCATES

NEW DELHI

64 Okhla Industrial Estate
Phase III
New Delhi 110 020
India

T: +91 11 4069 8000

F: +91 11 4069 8001

MUMBAI

One World Center, 1403 Tower 2 B
841 Senapati Bapat Marg
Lower Parel
Mumbai 400 013
India

T: +91 22 4302 8000

F: +91 22 4302 8001

www.snrlaw.in

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