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Power Sector

Establishment of Green Credit Program to Encourage Environmental Conservation

The Ministry of Environment, Forest and Climate Change ("**MoEFCC**") vide notification dated October 12, 2023 to notify Green Credit Rules, 2023 ("**Green Credit Rules**"), introduced a green credit program which aimed at incentivizing environmental actions particularly promoting sustainable practices.

The green credit program, outlined in the Green Credit Rules, signifies a significant stride towards encouraging environmental conservation and fostering positive environmental outcomes. Through this initiative, MoEFCC seeks to create a framework that rewards and recognizes individuals, organizations, and communities for their efforts in mitigating environmental degradation and promoting conservation practices.

By offering incentives for environmentally friendly actions, the green credit program aims to mobilize widespread participation and engagement in environmental conservation efforts. It provides a mechanism for individuals and entities to contribute to the nation's environmental goals while also realizing tangible benefits for their efforts.

Furthermore, the green credit program aligns with broader national and international commitments towards sustainable development and climate action. It reflects India's commitment to addressing environmental challenges and transitioning towards a greener and more sustainable future.

Enhancing Environmental Conservation Through Tree Plantation Initiatives

Pursuant to the Green Credit Rules, MoEFCC has expanded the green credit program through a recent notification issued on February 22, 2024 ("**Notification**"). The Notification introduces a comprehensive methodology for calculating green credit, specifically tailored to tree plantation activities.



The Notification highlights crucial role of tree plantation in enhancing the country's green cover and mitigating environmental degradation. It mandates the Forest Department of every State and Union Territory to identify degraded land parcels, including open forests, scrub lands, wastelands, and catchment areas, under their jurisdiction for tree plantation initiatives. These identified land parcels, which must be free from encumbrances and have a size of five (5) hectares or more, will serve as key sites for tree plantation activities aimed at generating green credit under the Green Credit Rules.

Individuals and entities keen on contributing to environmental conservation through tree plantation are encouraged to apply to the administrator, who will allocate suitable land parcels and oversee the implementation of tree plantation projects. Upon submission of proposals, applicants will receive demand notes specifying the costs of tree plantation and any associated administrative expenses. Payments are to be made within a stipulated period through designated means determined by the administrator.

Upon receipt of payments, the Forest Department will proceed with tree plantation activities according to management plans or working plans. The completion of tree plantation projects within a two (2) year timeframe will prompt the Forest Department to submit reports to the administrator, who will then evaluate and verify the activities. Green Credit will be generated and issued to applicants based on the total number of trees planted and the successful completion of plantation activities as certified by the Forest Department.

Furthermore, the Notification also highlights the multifaceted utility of Green Credit, which can be exchanged for meeting the compliance of compensatory afforestation requirements or utilized for environmental, social, and governance leadership indicators and corporate social responsibility initiatives.

In essence, the Notification underscores the government's unwavering commitment to promoting environmental responsibility, fostering sustainable development practices, and advancing India's journey towards a greener and more resilient future, and provides and opportunity to companies to secure Green Credit while also meeting its obligations of corporate social responsibility.



Use of Green Hydrogen in Steel Sector: Promoting National Green Hydrogen Mission

Introduction

The National Green Hydrogen Mission (“**Mission**”), inaugurated on January 4, 2023 aims to position India as a global leader in green hydrogen production, usage, and exportation. It aligns with India's self-sufficiency objectives and serves as a model for global clean energy transitions with a budget of Rs. 19,744 Crore. This mission will significantly reduce carbon emissions, decrease reliance on fossil fuels, and establish India's leadership in green hydrogen technology. Pilot projects, including those focused on the steel sector, will replace fossil fuels with green hydrogen and its derivatives. With declining renewable energy costs, green hydrogen-based steel production is expected to become economically competitive, especially with the support of carbon credits and market barriers favoring low-carbon steel. These pilot projects will be administered by the Ministry of Steel (“**MoS**”) and Scheme Implementing Agencies (“**SIA**”).

The Government of India, through the Ministry of New & Renewable Energy (“**MNRE**”), has introduced comprehensive guidelines for conducting pilot projects that focus on integrating green hydrogen within the steel industry, known as the Scheme Guidelines for implementation of Pilot projects for use of Green Hydrogen in the Steel Sector (“**Scheme**”) under the Mission. MNRE, MoS and SIA will take the lead in driving forward these pilot projects, which aims to replace fossil fuels and their derivatives with green hydrogen in steel manufacturing processes.

Objectives

The guidelines are structured with specific objectives in mind which includes the following:

- i) to advance technologies and expertise for the utilization of green hydrogen in the steel making process addressing any existing gap;
- ii) to support the deployment of green hydrogen and its derivatives on pilot basis;
- iii) to validate the technical feasibility and performance of green hydrogen and its derivatives in the iron and steel manufacturing in real world operational conditions;
- iv) to evaluate the economic viability of green hydrogen and its derivatives in the iron and steel sector; and
- v) to identify the areas for improvement and to demonstrate safe and secure operations of green hydrogen and its derivatives-based production of low-carbon iron & steel.



Features of the Scheme

- i) Utilization of green hydrogen in the direct reduced iron making process.
- ii) Application of green hydrogen in blast furnace operations.
- iii) Scheme suggest a gradual shift to green hydrogen due to its higher costs. New steel plants should be capable of using green hydrogen for global markets, with consideration for projects aiming for 100% green steel.
- iv) The gradual replacement of fossil fuels with green hydrogen.
- v) Supporting pilot projects to explore green hydrogen's potential in reducing carbon emissions in iron and steel production.

Pilot projects aim to address operational challenges and identify gaps for future scaling up of green hydrogen in the industry. Pilot projects will establish essential infrastructure for green hydrogen in the steel sector, facilitating its wider adoption as production costs decrease.

Implementation of the Scheme

Area Selection:

Projects may be implemented by MoS in collaboration with consortia. SIA will identify suitable pilot project locations in alignment with focus areas in coordination with MoS.

Call for Proposals:

SIAs will invite project proposals through a Call for Proposals. Proposals must be submitted to SIAs, with a designated lead agency for consortium-based projects.

Evaluation and Award:

The Project Appraisal Committee will assess proposals based on outlined criteria. Upon MNRE administrative approval, SIA will issue the Letter of Award to the executing agency.

Execution and Commissioning:

Projects will proceed according to approved scope of work.

Technical and Regulatory Approvals:

The executing agency will secure all necessary safety, environmental, and regulatory approvals.

Testing and Certification:

The executing agency will ensure compliance with required testing and certification standards.



Funding and Disbursement

The MoS decides how the budget is distributed among different pilot projects in the Scheme. Central Financial Assistance (“CFA”) is released in three stages: 20% upon issuing the Letter of Award, 70% at milestone disbursements, and the remaining 10% upon completion. MNRE disburses funds to the SIA based on Project Appraisal Committee recommendations, conveyed through the MoS. Additional terms and conditions may be set by the MoS for financial assistance to ensure financial prudence.

Timelines and Penalty Provisions

The allocated CFA must be used solely for the designated project and cannot be diverted for other purposes. If the executing agency fails to utilize the CFA as intended or complete the project according to the Detailed Project Report, they must refund the entire CFA amount along with interest as per the General Financial Rules to MNRE. The Call for Proposals should outline a timeline for project completion, with a one-year extension possible upon adequate justification approved by the Steering Committee. MNRE may retract sanction, cancel, or prematurely close projects in consultation with the Steering Committee if unreasonable delays occur or if the project fails to adhere to the Scheme's objectives.

Monitoring Framework

Steering Committee

A Steering Committee, co-chaired by the Secretaries of MoS and MNRE, will oversee and implement the Scheme. It will suggest adjustments and corrective actions as needed. The MNRE's decision will be final in cases of interpretation uncertainty, and the Committee will recommend solutions for challenges.

Project Appraisal Committee

A Project Appraisal Committee, led by the Secretary or Additional Secretary of MoS and including the Mission Director and other appointed members, will evaluate and recommend project proposals for funding allocation. They will also monitor sanctioned projects quarterly and advise MNRE through MoS on fund release. SIAs will establish a monitoring system to track pilot project progress, sharing updates with both ministries. MNRE will oversee fund expenditure, and SIAs will provide Utilization Certificates following General Financial Rules.

Project Completion

SIA must submit the Project Completion Report to the Project Appraisal Committee within a month of project completion, covering technical details, technical challenges faced, summary of project outcomes, and recommendations for future projects.



Guidelines for safeguard of Intellectual property

The MoS will provide the requisite guidelines to safeguard any intellectual property rights, including publications, patents, registered designs, or trademarks, generated through projects funded under this Scheme. These guidelines may also be included as part of the Call for Proposals issued by the SIA.

Power to Amend Scheme Guideline

MNRE has the authority to amend the Scheme as and when required.

Conclusion

India's move from coal to green hydrogen in steel manufacturing marks a pivotal moment in its industrial landscape. As one of the world's largest steel producers, India shoulders the responsibility of promoting sustainable manufacturing practices. This transition not only supports global efforts to reduce carbon emissions but also positions India as a leader in green hydrogen production. With these advancements, the prospect of industries adopting cleaner energy sources like green hydrogen instead of fossil fuels becomes increasingly viable.



"Evolution of India's Green Energy Open Access Regulations: Recent Amendments and Implications"

Introduction

Ministry of Power ("MoP") vide notification dated May 23, 2023 issued Electricity (Promoting Renewable Energy Through Green Energy Open Access) (Second Amendment) Rules, 2023 ("**Green Energy Open Access Regulations**"). In a recent development, MoP issued a directive to all States and Union Territories ("UT") emphasizing the need for alignment with the **Green Energy Open Access Regulations**. This directive highlights the government's dedication for promoting renewable energy by facilitating access to green energy sources. The alignment with the Green Energy Open Access Regulations is expected to simplify the process and encourage the adoption of renewable energy solutions nationwide.

The MoP has taken a proactive measure to foster a sustainable and eco-friendly energy ecosystem, ensuring regulatory adherence and effective policy implementation at the state level. It signifies another milestone in India's pursuit of its renewable energy goals and efforts to combat climate change.

In order to facilitate renewable energy access for small consumers, the MoP has implemented substantial amendments to the Green Energy Open Access Regulations. These rules, first introduced in June 2022, have undergone revisions in January 2023 and May 2023. The latest amendment i.e., Green Energy Open Access Regulations introduces significant modifications aimed at promoting the uptake of green energy.

Previously, the notification issued in June 2022 stated that consumers with a load of 100 kW were eligible for open access without specifying whether this applied to single consumers or those with multiple connections. Additionally, reduction in the minimum energy requirement for purchasing green energy through open access was reduced from one 1 MW to 100 kW, aiming to enable smaller commercial and industrial entities with lower energy needs to opt for renewable power. The latest amendment has anticipated to positively impact smaller consumers such as micro, small, and medium enterprises, commercial consumers, and large households, enabling them to transition to greener energy alternatives.



However, despite these positive changes, some challenges persist. Additional charges were introduced vide notification in 2022, such as banking, transmission, wheeling, and standby charges, have the potential to escalate the cost of accessing green power, possibly rendering the open access policy unfeasible for certain consumers, especially those receiving electricity through low-voltage transmission lines in residential areas.

Furthermore, the implementation of the amended rules may encounter obstacles at the state level. While the central open-access rules serve as guidelines, it is at the discretion of the States to implement them effectively. Some state distribution companies may be hesitant to promote open access to large commercial consumers, as the revenue generated from these consumers often subsidizes electricity tariffs for low-income and agricultural consumers.

Nevertheless, despite these challenges, commercial and industrial consumers are increasingly interested in procuring electricity directly from renewable energy generators through open access, driven by financial benefits, competitive or lower tariffs, and their commitment to decarbonization goals as outlined in their Environmental, Social, and Governance frameworks.

Amendments introduced -

- **Amendment in Rule 2 -Definition -1(b)**

Previously, the definition of "entity" only included consumers with a contracted demand or sanctioned load of 100kW or more, with an exception for captive consumers without load limitations. However, the revised definition now includes the aggregation of 100kW or more demand through either a single connection or multiple connections within the same electricity division of a distribution licensee.

- **Amendment in Rule 5 (first proviso)**

Rule 5, First Proviso has also been revised which states that any entity, either through single connection or through multiple connections aggregating 100 kW or more located in same electricity division of a distribution licensee, will be eligible to take power through Green Energy Open Access and there will be no limit of supply of power for the captive consumers taking power under the same Green Energy Open Access.



- **Amendment in Rule 9**

Rule 9 has also been revised wherein, the surcharge which is not applicable when the electricity is produced from offshore wind projects, if the project is commissioned upto December 2032. Earlier, the projects which were covered by this provision were commissioned upto December 2025.

Conclusion

The recent amendment i.e., Green Energy Open Access Regulations includes measures to support offshore wind energy, such as extending surcharge waivers for electricity from offshore wind farms commissioned between 2025 and 2032. Overall, these amendments are expected to boost the adoption of renewable energy, especially among smaller consumers, and facilitate India's transition to a greener and more sustainable energy future. In summary, the recent updates to the Green Energy Open Access Regulations are expected to strengthen the adoption of renewable energy sources, especially among smaller consumers, and advance India's journey towards a more environmentally friendly and sustainable energy landscape.

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Warm Regards,

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