

1.5. Applicability: The Green Hydrogen Certificate shall be mandatory for Green Hydrogen facility/producers in following cases; where

- a. Green Hydrogen Production Facility/Green Hydrogen Producer is receiving any incentive/subsidy from Central Government (including awardees under the "Strategic Interventions for Green Hydrogen Transition" scheme) or State Government for production of Green Hydrogen.
- b. Green Hydrogen Production Facility/Green Hydrogen Producer intends to sell/use Green Hydrogen in India.
- c. Green Hydrogen Production Facility/Green Hydrogen Producer is receiving any type of exemption/concession from Central/State government.
- d. Green Hydrogen Production Facility/Green Hydrogen Producer has a consumer in India for partial quantity and the balance quantity is used for export purpose.

Notwithstanding anything mentioned in this scheme, Green Hydrogen production facilities with an annual production capacity of 10 tons or less shall not be required to seek Green Hydrogen Certificate. Though such facilities can apply for the certificate on a voluntary basis.

Green Hydrogen producer with 100% export capacity who do not avail any incentives or concessions from the central or state government is not required to apply for the final certificate as per the GHCI. However, they must report the quantity and emissions of the hydrogen produced in accordance with the standards of the Green Hydrogen importing country.

2. Definitions

- 2.1. **"Accredited Carbon Verification (ACV) Agency"** means an agency accredited by the Bureau of Energy Efficiency (BEE) to carry out validation and verification activities under the carbon credit trading scheme (offset ACV Agency).
- 2.2. **'Conversion of Biomass'** includes gasification, pyrolysis, dark fermentation, and photobiological hydrogen production.
- 2.3. **'Combustion GHG Emissions'** means emissions of greenhouse gases (GHG) resulting from the chemical reaction of solid, liquid, or gaseous fuel with oxygen, typically involving the release of carbon dioxide (CO₂) and other greenhouse gases.
- 2.4. **'Data control'** activities involve implementing policies and procedures to effectively manage and govern processes, ensuring they meet objectives, mitigate risks, and provide safeguards for maintaining data integrity.

- 2.5. **'Evaluation cycle'** is a time period of one financial year to be considered for hydrogen production for which the quantified figure for the GHG emissions is representative. For the first year of operation, the period shall be from the date of commencement of operations to the end of that financial year.
- 2.6. **'Electrolysis'** is a process that uses direct current to split chemical compounds, producing hydrogen as output. It also includes other methods such as photocatalytic and photoelectrochemical processes.
- 2.7. **'Functional unit'** is defined as the quantified performance of a product system for use as a reference unit and in case of hydrogen is one kilogram of hydrogen.
- 2.8. **'Force Majeure Events'**
- a. Act of God, including, but not limited to lightning, drought, fire and explosion (to the extent originating from a source external to the site), earthquake, volcanic eruption, landslide, flood, cyclone, typhoon or tornado if and only if it is declared / notified by the competent state / central authority / agency (as applicable).
 - b. Any act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action if and only if it is declared / notified by the competent state / central authority / agency (as applicable).
 - c. Radioactive contamination or ionizing radiation originating from a source in India or resulting from another Force Majeure Event mentioned above excluding circumstances where the source or cause of contamination or radiation is brought or has been brought into or near the Green Hydrogen plant by the affected party or those employed or engaged by the affected Party.
- 2.9. **'Greenhouse Gas (GHG)'** refers to gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, atmosphere, and clouds. GHG currently includes Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O). Other GHGs shall not be included.
- 2.10. **'Green Hydrogen'** as defined by MNRE vide OM no. 353/35/2022-NT dated 18th August 2023 and its subsequent amendments, if any.
- 2.11. **'Indirect GHG emissions'** means GHG emissions that are a consequence of the activities of the Green Hydrogen producer but occurred at sources outside the Green Hydrogen project includes emissions from electricity and heat imported for hydrogen production.
- 2.12. **'Monitoring plan'** is a comprehensive document outlining the details of Green Hydrogen project's boundary, activity data, and other relevant information necessary for the transparent monitoring and calculation of GHG emissions

relating to hydrogen production.

- 2.13. **'System boundary'** means processes for Green Hydrogen production which are covered in the GHG emission intensity calculation.
- 2.14. **'Verification'** activity is an independent process conducted by an ACV agency appointed by respective hydrogen producers for assessment of greenhouse gas emission intensity during the evaluation cycle.
- 2.15. **'Water Treatment'** is defined as a process of purifying and conditioning water to meet the specific quality standards required for electrolysis.

3. Objectives of Certification Scheme

- 3.1. The objectives of certification scheme are as follows:
 - 3.1.1. To outline the governance structure of the certification mechanism and further define roles and responsibilities for various stakeholders involved in the certification process.
 - 3.1.2. To provide details of the scope and system boundaries for Green Hydrogen certification procedure.
 - 3.1.3. To provide clear and transparent guidelines for calculating GHG emission intensity during Green Hydrogen production.
 - 3.1.4. Define the monitoring requirements for Green Hydrogen production and its emissions, ensuring continuous assessment and improvement, and further specifying parameters and methodologies for ongoing monitoring to maintain transparency and compliance with Green Hydrogen standards.
 - 3.1.5. Establish a robust verification approach for Green Hydrogen projects and designate nodal authority for issuing certification for Green Hydrogen as per the standard notified by the Government.
 - 3.1.6. Develop a mechanism for reporting Green Hydrogen production and implement a system for continuous tracking of data (chain of custody) to ensure transparency and accountability in Green Hydrogen production and end use.
 - 3.1.7. To establish the Green Hydrogen Certification procedure as a **Guarantee of Origin (GO)**, ensuring transparency and authenticity in the origin and production process of Green Hydrogen.
- 3.2. By addressing the above objectives, the GHCI aims to provide a holistic framework for the measurement, monitoring, and certification of Green Hydrogen production in India. It emphasizes transparency, accountability, aligning with national energy transition and climate goals, thereby contributing to the overall success of the National Green Hydrogen Mission.