



Information and Networking Event EU-India TTC Call




Coordinated Call with India on Waste to Renewable Hydrogen HORIZON-CL5-2025-04-D2-13


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Coordinated Call with India on Waste to Renewable Hydrogen

HORIZON-CL5-2025-04-D2-13

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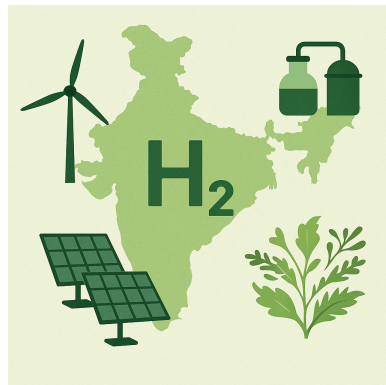
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India's Hydrogen Valley Drive

Hydrogen Valleys as focal point

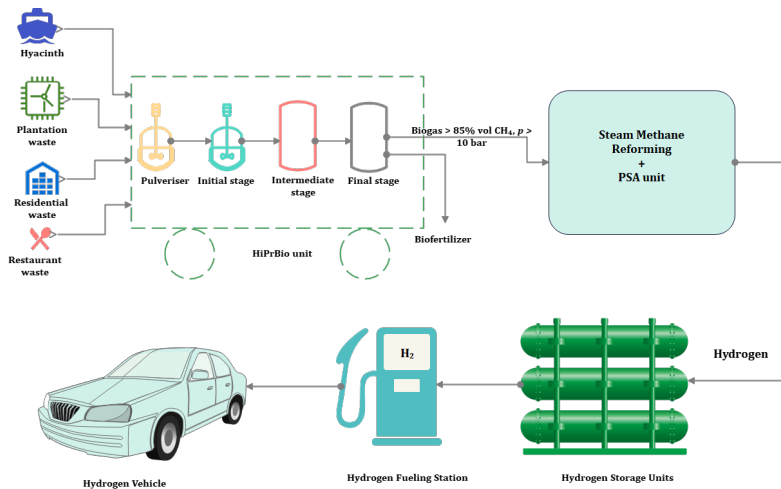
- Central & State
- MNRE, ANERT, DST
- India: Largest agricultural nation
- Biogenic H_2 : **Cheapest**, easiest path



Key questions

- How do we utilize biogenic hydrogen?
- What is the system-level impact of biogenic hydrogen?

Biogenic H₂ Utilization



- Utilize invasive species like water hyacinth clogging waterways

HiPrBio- Pilot Plant



(a) HiPrBio pilot plant at CET



(b) Pressure increase



(c) Gas quality

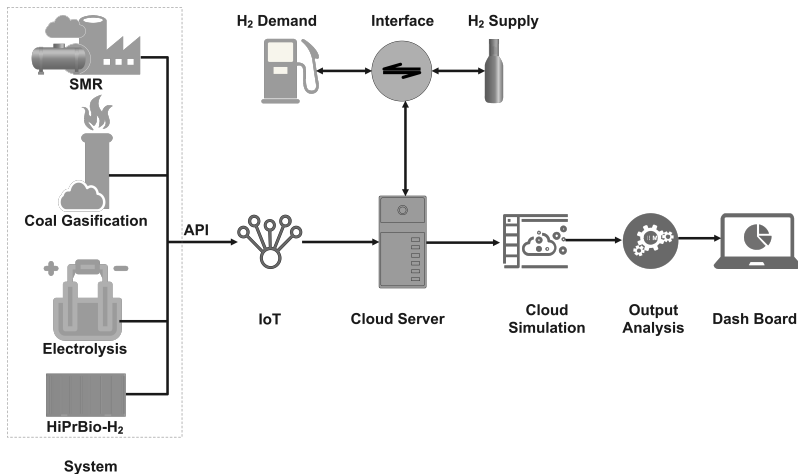
■ HiPrBio Pilot Plant with reactors

Feedstock



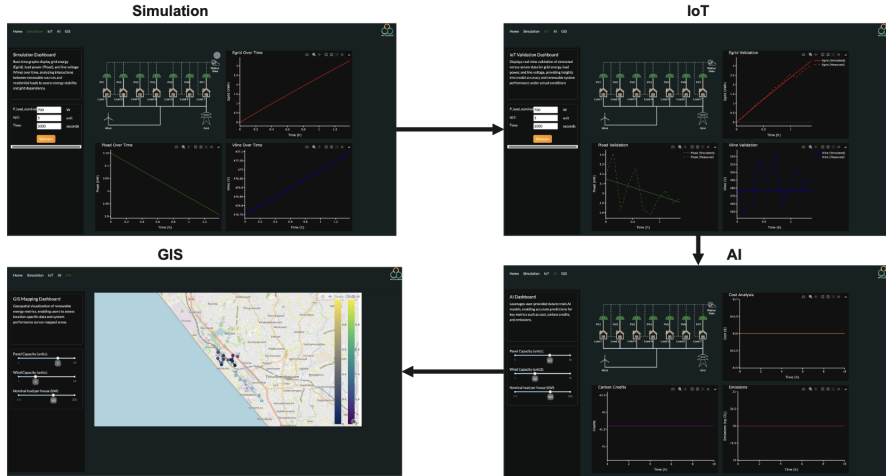
Pre-treatment stages are different for various feed stock

System Level Impact



- Grid impact studies via Digital Twins
- Use UPI-based demand-supply via EsysCloudSim

Scaling Up: System Integration



- RED II compliance and certification requires such assessments
- If UPI is used, local ecosystem can be built

Hyacinth-H₂: Proposal submitted to MNRE via ANERT

- Research Collaboration: Partners from EU for reactor modeling, biogenic H₂ pathways & digital twins
- Pilot-Scale Validation: EU-based pilot deployment using regional feedstock and compliance scenarios
- Certification & RED II Compliance: Joint development of frameworks for EU recognition
- EsyCloudSim: Integration of UPI-based demand-supply matching for real-time H₂ balancing
- Market Access & Joint Funding: Co-funding mechanisms and access to EU partners and markets

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Thank you for your attention. Have a
beautiful day