



# **GLOBAL CONFERENCE ON HYDROGEN AND RENEWABLE ENERGY for**

SUSTAINABLE TRANSPORTATION AND INDUSTRIAL APPLICATIONS

6th - 7th March, 2026



































Organized by



**Department of Mechanical Engineering Department of Automobile Engineering PSG College of Technology** 

in collaboration with























# **About the Conference**

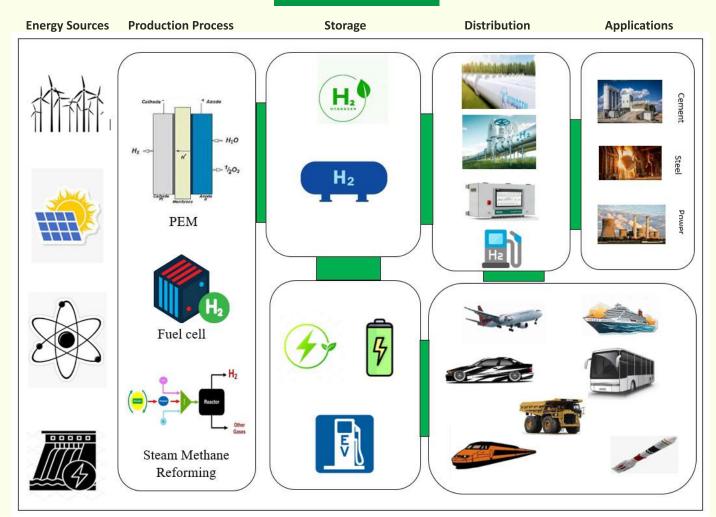
India, the world's fourth largest economy and the third largest carbon emitter with annual emissions of approximately 2.9 Giga tonnes of  $CO_2$  equivalent, maintains a low per capita emission of just 1.8 tons, significantly below the global average. Despite this, India has demonstrated strong environmental leadership by committing to achieve Net Zero emissions by 2070. The Government of India has launched several proactive initiatives targeting emission-intensive sectors like transportation, industries, and power which collectively contribute over 70% of total emissions.

This conference is timely and aligns with the national mission to promote green hydrogen as a clean and sustainable alternative fuel for hard-to-abate sectors such as transport, steel, cement, foundry, and power generation. Recognizing the strategic importance of hydrogen, the Government has allocated ₹19,744 crores under the National Green Hydrogen Mission for the development of hydrogen production, storage, and distribution infrastructure.

India's renewable energy potential of 1164 GW in wind and 748 GW in solar, offers a robust foundation for green hydrogen production, further advancing the nation's energy independence and sustainability goals. The conference will also explore the role of battery electric vehicles in reducing emissions, with a focus on challenges such as battery materials, lifecycle, fast-charging infrastructure, and end-of-life recycling.

By addressing these critical technological, infrastructural, and policy challenges, this conference aims to foster collaboration and innovation that will accelerate India's transition to a low-carbon future and support the nation in achieving its Net Zero vision.

# Thrust Areas



































# Call for Papers

The Organizing Committee invites original, unpublished research papers from academia, R&D organizations, and industry professionals. Contributions should address innovative solutions, research outcomes, and case studies in, but not limited to, the following thematic areas:

### 1. Energy & Decarbonisation Goals and Key Challenges

- India's current energy consumption status and future demand forecasts
- Government vision, policies, and targets for decarbonisation
- Cost of CO<sub>2</sub> abatement and techno-economic challenges
- Incentives, carbon tax, emissions trading systems, and regulatory frameworks
- Affordability, customer adoption barriers, and market readiness
- Education and awareness on energy efficiency and CO<sub>2</sub> reduction
- Cost-effective generation technologies for the Indian subcontinent

#### 2. Green Transportation and Propulsion Technologies

- Electric vehicles and strategies for improving efficiency
- Hybrid and plug-in electric vehicles
- Long-haul and heavy-duty applications
- Public transport and mass mobility systems
- Hydrogen-powered water transport systems

#### 3. Energy Storage Systems and Technologies

- Fast charging technologies for electric transport
- Battery energy storage systems (BESS)
- Lithium-ion, sodium-salt, metal-air, and graphene-aluminium hybrid batteries
- Flow batteries: design and fabrication
- Battery recycling, recovery, and circular economy models
- Supply chain and value chain challenges for storage systems
- Large-scale renewable energy storage solutions

#### 4. Hydrogen Production Technologies

- Blue and green hydrogen pathways
- Renewable-powered hydrogen generation
- Biomass as a hydrogen resource
- Techno-economic assessment of green ammonia and hydrogen distribution from wind and solar
- Environmental and enabling factors for hydrogen adoption

#### 5. Hydrogen Storage Systems

- Modelling, design, and analysis
- Materials synthesis and characterization
- Liquid and solid hydrogen carriers
- Hydrogen safety and handling
- Fundamental physics and chemistry of hydrogen

#### 6. Wind Energy Systems

- Wind resource assessment and augmentation
- Repowering of existing wind farms
- Grid stability, connectivity, and evacuation
- Al-based predictive maintenance for onshore/offshore wind turbines
- Wind-to-hydrogen conversion technologies
- Advanced composite materials for turbine blades
- Wind farm layout optimization and wake-effect studies

#### 7. Solar Energy Systems

- Perovskite-silicon tandem cells for high efficiency
- PV module degradation and reliability challenges
- Dust, soiling, and overheating impacts
- PV recycling and lifecycle management
- Al-enabled predictive maintenance for solar farms
- Floating and offshore solar installations

#### 8. Infrastructure and Distribution

- Smart grids and decentralized power systems
- Hydrogen refuelling stations and infrastructure
- Hydrogen transport and distribution networks

### 9. Innovation in Hydrogen Combustion

- Advanced hydrogen combustion systems for power generation
- Life cycle assessment of hydrogen technologies
- Hydrogen-fuelled heavy-duty trucks and transport

#### 10. Industrial and Other Applications

- Hydrogen for high-temperature industrial processes (steel, cement, etc.)
- Green hydrogen integration in smart cities and power
- System sizing and grid integration of hydrogen power systems
- Hydrogen for aerospace and space applications
- Fuel cell advancements and deployment strategies



































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# **Important Dates**

Registrations starts on	Dec 1, 2025
Last date for submission of extended abstract	Dec 15, 2025
Last date for submission of full manuscript	Jan 05, 2026
Notification for paper acceptance	Jan 25, 2026
Camera ready manuscript submission	Feb 13, 2026
Conference	Mar 06 - 07, 2026

# **Registration Fee**

Category	On or Before Jan 30, 2026	After Jan 30, 2026	
	Add GST @ 18%		
Industrial Personnels	Rs 8,000	Rs 10,000	
Academic Professionals	Rs 6,500	Rs 7,500	
IWPA / ISSE Members	Rs 5,000	Rs 6,000	
Students / Research Scholars for two days	Rs 4,000	Rs 5,000	
Students / Research Scholars for one day on March 7, 2026	Rs 2,500	Rs 3,500	
Foreign Delegates	\$150	\$170	

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# HYDROGEN AND RENEWABLE ENERGY for sustainable transportation and industrial applications

6th and 7th March, 2026

**PSG College of Technology, Coimbatore** 

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