



PHD CHAMBER  
OF COMMERCE AND INDUSTRY

# PHDCCI Centre of Excellence Green Hydrogen

## KEY KNOWLEDGE PARTNERS

**GREENSTAT**  
making green happen

 Western Norway  
University of  
Applied Sciences  
(HVL)



Shriram Institute for  
Industrial Research

Centre of Excellence  
PROCESS SAFETY & RISK  
MANAGEMENT  
IIT Delhi














**PHD CHAMBER**  
OF COMMERCE AND INDUSTRY

## About PHD Chamber of Commerce & Industry

PHD Chamber of Commerce and Industry (PHDCCI) has been working as a catalyst for the promotion of Indian industry, trade, and entrepreneurship for the past 118 years. It is a forward looking, proactive and dynamic PAN-India apex organization. As a partner in progress with industry and government, PHDCCI works at the grass roots level with strong national and international linkages for propelling progress, harmony, and integrated development of the Indian economy.

PHDCCI, acting as the "Voice of Industry & Trade" reaching out to more than 1,50,000 large, medium, and small industries, has forged ahead leveraging its legacy with the industry knowledge across multiple sectors to take Indian Economy to the next level.

At the global level, PHDCCI has been working with the Embassies and High Commissions in India and overseas to bring in the International Best Practices and Business Opportunities.

 <p>Diversified and Large Membership base with 1,50,000 companies as members</p>	 <p>Geographic Spread, The Chamber has its office in Delhi and Regional offices in all states except TN, Orissa &amp; WB</p>	 <p>Contribute on Topical issues through various Expert Committees. Views of the Chamber are formulated through deliberations in these committees.</p>
 <p>Certification Services Chamber is authorised by Govt of India to issue Certificate of Origin, Attestations of Documents for Exporters</p>	 <p>Capacity Building Chamber organises entrepreneurial training programs with Konrad Adenauer of Germany</p>	 <p>Advisory Services to Businesses – Chamber with in-house expertise provides advice on national and regional economic issues, finance, banking Corporate and taxation,</p>
 <p>Excellent Conferencing Facilities. Chamber provides modern facilities for corporate events, board meetings. Has large auditorium.</p>	 <p>Interface with Government, Advisory role in Policy formulations, Research and Policy Papers. Chamber represented in &gt;130 Central &amp; State Govt bodies.</p>	 <p>Taking Indian Industry Global &amp; providing excellent Networking Opportunities with government officials, diplomats, and business peers</p>

# PHD Chamber of Commerce & Industry

## Leadership



**Sanjeev Agrawal**  
**President PHDCCI**  
Chairman -MMG Group



Hon'ble Prime Minister Sh. Narendra Modi launched the National Hydrogen Mission on India's 75th Independence Day - 15th August 2021. The Mission aims to aid the government in meeting its climate targets and making India a green hydrogen hub that would help meet the target production of 5 million tonnes of green hydrogen by 2030 along with related development of renewable energy capacity.

To help achieve these targets for green hydrogen, we would need large capacity building of informed management, trained manpower, skill redevelopment to handle hydrogen, technology transfers and hydrogen specialists to transform future of energy. MSMEs shall play major role in developing any industry and in green hydrogen ecosystem, as it would be the main user of this green energy.

PHDCCI, as its key initiative, is the first chamber in the country to have launched 'Centre of Excellence -Green Hydrogen' to train and skill development of MSME sector and to provide comprehensive support for development of large green hydrogen eco-system within our country. With Norway' leading green energy group GREENSTAT and HVL University, as the key knowledge partners bring Norway's' century old legacy and knowledge of Hydrogen to the Centre of Excellence with immense benefits. 'Centre of Excellence -Green Hydrogen apart from offering training within the entire value chain shall also provide global Technology linkages , facilitating International Collaborations within entire value chain of Hydrogen. PHDCCI COE shall assist States through B2B contacts with International project developers and investors interested to set up projects in various states. It shall conduct and collaborate with universities in the country for setting up associated COEs at universities and with Chambers of neighbouring countries for hydrogen training programs and capacity building in respective countries.

I am sure Centre of Excellence-Green Hydrogen at PHDCCI shall become a valuable resource to facilitate and assist create vibrant hydrogen eco-system in our country providing comprehensive contribution toward our country' mission to become global green hydrogen hub. ”



**Hemant Jain**  
Senior Vice President PHDCCI  
Managing Director, KLG Group of Industries



**Rajeev Juneja**  
Vice President – PHDCCI  
Managing Director – Mankind Pharma



**Saket Dalmia**  
Immediate Former President PHDCCI  
Managing Director – Marble City India Ltd.



# Why the need for a Centre of Excellence

Green Hydrogen has been accepted globally as the sustainable replacement of fossil fuel-based energy. A kilogram of hydrogen has about three times as much energy as a comparable amount of diesel or gasoline. If it can be made cleanly and cheaply, it could be the key to cleaning up an array of hard to abate sectors. Hydrogen made using electricity generated cheap renewables could make green hydrogen a practical replacement for fossil fuels and provide a clean and carbon-neutral source of energy. India under its Energy security needs is currently undertaking the world's largest energy transition and is running the largest clean energy programme, is committed to net-zero carbon emissions by 2070.

Hon'ble Prime Minister launched the National Hydrogen Mission on India's 75th Independence Day (i.e., 15th August 2021). The Mission aims to aid the government in meeting its climate targets and making India a green hydrogen hub. In line with the above announcements, a Green Hydrogen Policy have been framed by Government of India for compliance/implementation by all the concerned stakeholders.

Green Hydrogen thus becomes the most valuable commercial opportunity not only in India but globally and as such large corporates are already getting involved and lots of activities are underway. As the adoption of green hydrogen increases in the big corporates, it is also becoming essential to engage small and medium enterprises (SMEs) as part of the process.

Thus, potential large growth of the industry calls for creating large resources of manpower, experts, and technologies to handle the potential growth of the industry. While large corporates could procure these or create at their own, but MSME sector can't do these at their own and need support within the eco-system being created in the country.

This has prompted Environment & Green Hydrogen Committee of PHDCCI to take pioneering initiative to create a 'Centre of Excellence- Green Hydrogen' with in PHDCCI to help MSME sector to get requisite support to fill their knowledge gaps in technology and capacity building for skilled manpower. This Centre of Excellence is first of its kind, cross functional body to bring together specialists on a single platform to provide support from planning to implementation of Green Hydrogen projects in the entire value chain.

This Centre of Excellence -Green Hydrogen will thus be a knowledge management and knowledge risk mitigation platform as well as a forum of world class specialists helping create the requisite technical and manpower resources not only for India's MSME sector and Indian States but also for other developing countries of the world.



**Dr. J.P. Gupta**  
Mentor-in-Chief  
Centre of Excellence- Green Hydrogen  
Chair  
Environment & Green Hydrogen Committee  
PHD Chamber of Commerce and Industry



## PHDCCI Centre of Excellence Green Hydrogen For MSME Sector

PHD Chamber of Commerce & Industry, in association with Knowledge Partners **Greenstat**, Norway, **Western Norway University of Applied Sciences (HVL)** Norway, **CoE Process Safety & Risk Management at IIT Delhi**, **Shriram Institute for Industrial Research**, has created an exclusive **Centre of Excellence for Green Hydrogen** to create Hydrogen Specialists to transform future of energy through promotion of best practices and knowledge sharing with in Hydrogen ecosystem, specifically for MSME sectors.

Specific global aims to reduce CO<sub>2</sub> emissions, accelerate the energy transition and increase energy efficiency, wherein Hydrogen offers countless opportunities with potential to make a major contribution to industry, mobility, and the built environment.

PHDCCI CoE-GH as the specialist knowledge centre, will cater to top decision makers, higher management and at senior technical level specialists with curated learning curriculums & bespoke learning -models for companies ,

created in association with key knowledge partners and elite group of senior experts from leading global universities, research centres and industry professionals, to create industry transformational specialists to facilitate Hydrogen economy.

CoE-GH with these specialised curated courses shall impart education and knowledge within the entire hydrogen value chain to include comprehensive basic to advanced knowledge in Hydrogen Production, Storage, transportation, Applications, Process Safety, Risk Management and Best Practises within entire hydrogen value chain.

CoE-GH will set up numbers of knowledge centres at various Universities and in neighbouring countries' in association with their Industry Chambers. It will also link up with Indian states through their Industrial development agencies to provide knowledge sharing with the State MSMEs.

CoE-GH will utilise exponential technologies including IoT, AVR and virtual classrooms to impart and disseminate knowledge to professionals to manage energy transition, hydrogen assets and MSMEs to be able to evaluate opportunities and set up projects and businesses in the entire value chain of hydrogen.

It will also impart training to various categories of professionals at the strategic levels to understand and upgrade their financial and legal nuances within Hydrogen economy.

PHDCCI COE-GH shall facilitate industrial sectors of the country about the scope, benefits, and deployment of a Hydrogen economy. Identify technological gaps for broad market adoption of Hydrogen. Develop and deliver innovation programs to fill the identified technological gaps with international cooperation.





# Activities and Services

---

Learning programs within entire Hydrogen Value Chain, Process Safety and Techno-commercial courses for Decision Makers, Higher Management, and Technical Persons

Green Hydrogen Projects Development Advisory

International Innovation Hub for MSMEs and States

Associated COEs in Green Hydrogen with Chambers of neighboring countries of Sri Lanka, Nepal, Bhutan, Bangladesh

Government Sponsored Programme & Policy Advocacy for MSME in green hydrogen

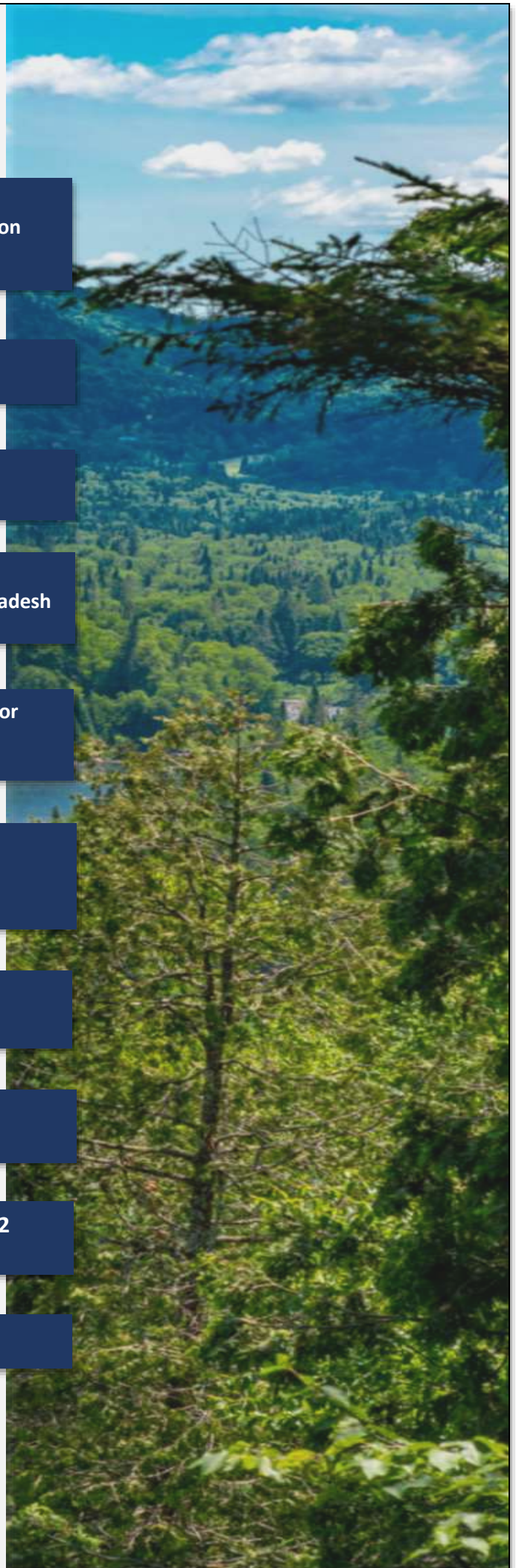
Carbon Management, Carbon Projects Development - Decarbonization / Net Zero Advisory, Carbon Assets evaluation

Environment, Social and Governance (ESG) Services

Facilitating Hydrogen based Start-ups.

Organizing Events on Renewable Energy focusing H<sub>2</sub>

COE & Universities Collaboration Program



## Curated Courses within entire Hydrogen Value Chain & Process Safety

- Curated Hydrogen courses for Decision makers, Higher Management, and technical persons
- Capacity building courses for Industries within entire Hydrogen value chain



Hydrogen (H) is the most abundant element in the universe. Naturally occurring as two bonded H atoms (H<sub>2</sub>), hydrogen is the lightest of all molecules. It is a colourless, odourless, and tasteless gas under standard conditions. On Earth, hydrogen is primarily bound within molecules of water or hydrocarbons. Hydrogen is becoming foundational to international climate efforts as it can be used as a fuel and energy source with highest energy density compared to all fossil fuels.

Governmental support for green or low-carbon hydrogen around the globe including India has accelerated substantially over the last couple of years with National Hydrogen Mission and global strategies that include a wide range of hydrogen market drivers, including production and procurement targets, legislative and regulatory measures, research and development initiatives, sectoral priorities, and other economic and financial mechanisms.

PHDCCI COE-GH is working with a missionary zeal to supporting development of hydrogen economy in the country through large capacity building at the level of business decision makers, higher management, and technical personnel through Industry focussed curated curriculums with techno-commercial and business development aspects.

### Curated Courses

#### Hydrogen for decision makers

Physical format of 4 X 45 Minutes and covers.

- Hydrogen role in Green Transition
- Hydrogen Production, Storage & Transportation
- Applications of Hydrogen Technology
- Regulatory environment for Hydrogen in India, and
- Commercial aspects and business Opportunities

#### Hydrogen for Management and Administration

The course is intended for business administrators and managers wherein they will learn how hydrogen and hydrogen carriers can facilitate the green shift and the transition to a zero-emission society. The course will give the knowledge and tools needed to make decisions for your company's hydrogen projects. Hydrogen and Production Techniques, Hydrogen Storage and Transportation

- Hydrogen's role in the green transition
- Hydrogen production and storage
- Applications of hydrogen technology
- Important security aspects of hydrogen
- Hydrogen regulations and laws in India
- Developing Hydrogen Energy Projects & Techno-economics
- Carbon Finance

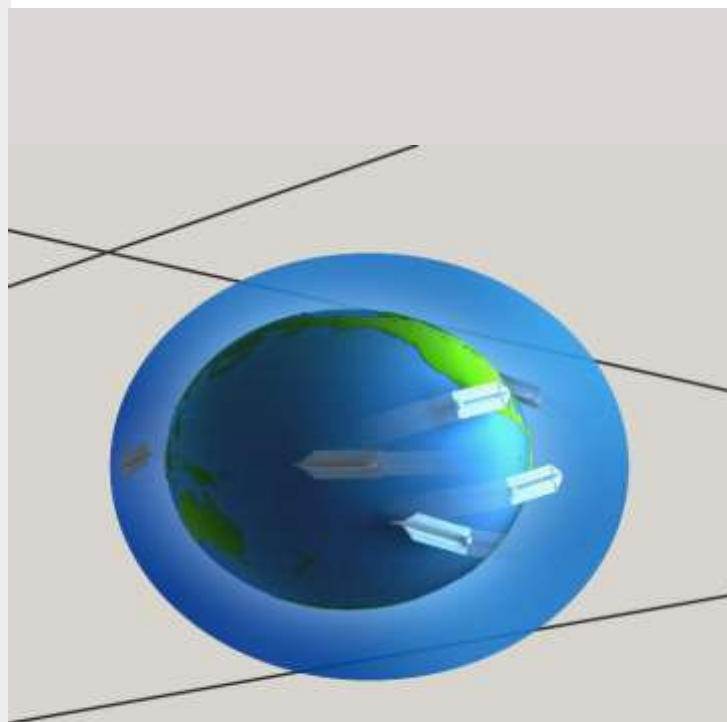
#### Hydrogen For Technical Personnel

Course is intended for technical personnel; focus will be on understanding hydrogen technology and to gain knowledge and tools to be able to advise your business in technical aspects of hydrogen technology.

- Hydrogen's role in the green transition
- Hydrogen production and storage
- Applications of hydrogen technology
- Important security aspects of hydrogen
- Hydrogen regulations and laws in India

## Hydrogen Projects Development Advisory

- Corporate Strategic planning for energy transition to low carbon Hydrogen and project Identification
- Project Preparation and Development assistance
- Preparation and advice on project feasibility, including guidance on project planning, pre-feasibility, market studies, Techno-Economic Feasibility studies, DPR including legal, social, and environmental aspects.
- Facilitate preparation and review of project applications before submission for funding/financing.
- Advice on project structuring, including review of business plans, eligibility criteria, project-financing structure.
- Evaluation and optimization of investment projects.
- Advice and support on structuring projects for improving their access to finance, including advice on the business model, funding sources and financing structure, capital structure, debt, and risk allocation.



## International Innovation Hub for MSMEs and States

International Technology access and foreign Collaborations are integral to development of hydrogen economy at a faster pace in our country.

PHDCCI COE-GH through its Norwegian knowledge partner GREENSTAT has access to Norway and Nordic countries' hubs of Hydrogen companies, R&D centers, low carbon / Green Hydrogen technologies development companies, production and application companies, is very well placed to provide:

- Identify sources of technologies for hydrogen projects and facilitating technology transfers.
- Facilitating International collaborations and Joint Ventures in Hydrogen projects as well as various project development activities within Hydrogen value chain.
- **B2B facilitation between International Companies, Project developers & Investors with Indian States.**
- Assistance in overseas investments for Indian projects
- International linkages for trading and business within Hydrogen economy
- Sharing information and knowledge regarding international trade and Hydrogen policies.





**India'**  
**Neighboring countries**

## Associated COEs in Green Hydrogen with Industries Chambers of neighboring countries of Sri Lanka, Nepal, Bhutan, Bangladesh

- Collaborations with Chambers of Commerce of neighboring countries particularly Sri Lanka, Nepal, Bhutan, and Bangladesh to set up associated COE-GH in respective countries.
- To provide full support to these COEs for all types of activities including Hydrogen learning courses for local capacity building, project development assistance, exchange of Hydrogen events, government programs and policy advocacy support or any other assistance required by Chambers for development of Hydrogen eco-system in these countries.



## Government Programs and Policy Advocacy for MSMEs in Green Hydrogen

- PHDCCI COE-GH intends to work closely with relevant government agencies in promoting the growth and development of a strong and vibrant Green Hydrogen eco-system in the country through the promotion of National Green Hydrogen Mission and government policies.
- While COE will conduct and promote government programs , it would also provide policy inputs to the government for skill development, capacity building , development of technology and growth of this strategic Hydrogen industry & eco-system.
- It intends to conduct regular interactions with the relevant departments like MSME. MNRE, DIPP, Indian States and others and work in association for achieving National Hydrogen Mission objectives.

## Carbon Projects Development – Carbon Credits / Offsets Decarbonization / Net Zero Advisory, Carbon Assets evaluation

---

Carbon Credits play very important role in climate change mitigation becoming almost consequential in Climate Action as it supports decarbonization beyond their own carbon footprints as well as helps finance projects for abatement and removal of carbon from the atmosphere. Companies are under pressure to accelerate decarbonization and soon there could be regulatory aspects for companies to undertake decarbonization / net zero strategy.

PHDCCI COE-GH shall assist companies in Carbon Management Strategies and Carbon reduction projects that may generate Carbon Offsets, based on science-based targets, GRI and other acceptable standards and shall provide following support and services to its members and other companies.:

- Climate Change Adaptation Strategies aligned with Climate risk assessment for businesses.
- Companies' Decarbonization Strategies and Net Zero plans
- Carbon projects development and appropriate Technology support for Net Zero projects.
- Carbon Offsets development through Hydrogen projects.
- Carbon foot printing – at unit and enterprise level
- Carbon Emissions management and reduction through technological tools,
- Digital process transformation adapting Industry 5.0
- Verification and Certification of Carbon Projects
- Measure, Set Target, reduce, communicate, and lead Carbon emission reductions.
- **Assisting and advising Indian Exporters through Europe's CBAM - Carbon Border Adjustment Mechanism**

## Environment, Social and Governance (ESG) Services

---

### ESG Centre

Environment, social and governance (ESG) is becoming an important reporting tool for businesses to show its sustainability, emissions footprints status and emission reduction pathways. With regulatory environment around ESG increasing globally, companies are opting for good ESG practices for better revenue and company's increased market credibility. Almost every investor today wants to know ESG status for investments in the projects and businesses.

PHDCCI COE-GH with its own team and credible Industry partners are fully equipped to provide complete range of services in ESG evaluation and reporting.

- Engineered ESG assessment through subject experts.
- Strategic Action Plan / ESG strategy
- Comprehensive Digital tools for emissions and ESG reporting
- ESG Audit & Due Diligence for pre and post investment stages
- ESG Risk assessment and solutions for companies and investors
- BSRS and SABS Reporting
- On going ESG Advisory
- ESG certifications and ESG ratings
- ESG certification and orientation training programs







## Facilitating Hydrogen Start-ups

PHDCCI COE-GH shall help Hydrogen Start-ups from seed stage onwards through every stage of their growth to become market competitive and more successful.

- Mentoring through Sector specific experts
- Corporate Connection with Chamber's large membership.
- Linking with Start-up 20 platform where PHDCCI is Programme Directorate
- Investment Support through Angel network of Chamber' member companies
- Capital facilitation through network investors.
- Global Market development assistance
- GTM advisory and support.
- Proof of concept and prototype assistance
- Protect, promote and advice on IPRs of Startups to encourage innovation.

## Organizing Events on Renewable Energy with focus on Hydrogen

PHDCCI COE-GH shall proactively conduct events for knowledge sharing and creating interactive environment through short- and longer-term events including:

- Webinars, Seminars, Conclaves
- Climate Change and Hydrogen Summits
- Interactive sessions with subject experts from Universities, Technical Institutes, and Industry
- Industry visits
- Participation and conducting national and international exhibitions.
- Dedicated Hydrogen Portal





## PHDCCI COE-GH & Universities Collaboration Program for setting up - On-campus Associated CoE-GH at the Universities



Centres of Excellence have become an important part of policy mix for universities for realising higher education and research all over the world.

PHDCCI CoE-GH thus offers need based bespoke curated Programs for LOW CARBON HYDROGEN to State Technical and other Universities under its :

### PHDCCI Universities Collaboration Program

Under this Program, CoE-GH will set up an associated CoE at the candidate University and provide holistic support in Green Hydrogen Education Programs of the University at Graduate, PG and Research Levels providing some of the exclusive support as below:

- Curated Hydrogen Semester for final year Bachelor and Master classes with Technical Universities.
- Foreign faculty/researchers' support
- Foreign Universities & research Centres Linkages including outsourcing of research activities.
- Prototype development for foreign research labs & development centres
- Linking Foreign technical and financial institutions for University Start-up incubation & accelerator Centres in low carbon hydrogen
- Exchange programs for Indian University students with Nordic Universities
- Assistance for access to foreign universities classroom participation.
- Dedicated Hydrogen Portal support

### COE's Think Tank Club

#### Global Scenario and Techno-economic Development of Hydrogen Economy including Hydrogen Market in India

Rapid growth of the global hydrogen economy can bring significant geoeconomic and geopolitical shifts giving rise to a wave of new interdependencies, according to new analysis by the International Renewable Energy Agency (IRENA).

Hydrogen would be changing the geography of energy trade and regionalising energy relations, likely emergence of new centres of geopolitical influence built on the production and use of hydrogen, as traditional oil, and gas trade declines.

Hydrogen could prove to be a missing link to a climate-safe energy future", IRENA said. "Hydrogen is clearly riding on the renewable energy revolution with green hydrogen emerging as a game changer for achieving climate neutrality without compromising industrial growth and social development.

Deeper and strategic understanding of Hydrogen economy in relation to the global aspects will thus be necessary for promoters and management of hydrogen business. As such CoE proposes to create a 'Think Tank Club' of highly experienced scientists and techno-commercial strategists to dwell in depth about the nuances of Hydrogen economy, hydrogen trade, financial and commercial aspects as well as international landscape. This elite group of eminent scientists and Industry leaders would interact periodically and share their views with wider audience for global scenarios, development of ecosystem and overall industry & policy development.



## Meet our Key Knowledge Partners.



Greenstat Hydrogen India is a part of GREENSTAT Group -Norway. Greenstat Group is a Norwegian Green Energy and Technology Company with specific focus on green hydrogen, solar, wind and zero emission maritime solutions. Greenstat India has established two CoEs at IIT Delhi and Sriram Institute of Industrial Research.

Greenstat Hydrogen, a green energy company facilitate energy transition throughout the value chain of green hydrogen- from analysis to execution. To help create green economy and green jobs. Greenstat India shall own and operate green hydrogen facilities, at its own or in collaboration with others, and aim to accelerate progress towards green economy.



**Western Norway University of Applied Sciences (HVL)** is a Norwegian public institution of higher education that provides professional education within engineering, economic and administrative science, health and social sciences, and music and teaching. With about 17,000 students, 4 faculties, and 5 campuses covering the western part of Norway, HVL is one of the largest higher education institutions in Norway. HVL develops new knowledge that contributes to solving challenges in society in a sustainable perspective. HVL offers interdisciplinary studies on clean energy technologies and environmental sciences at the bachelor, Master, and PhD level in addition to continuous studies. Research in energy and environmental technologies focus on energy systems, clean energy production (solar, Hydrogen, wind etc) and storage technologies (batteries, Hydrogen), environmental- and energy politics, energy economics and investment, sustainable development, climate change, glacial-dynamics, and hydrology, risk- and vulnerability assessment and climate adaptation and land-use planning etc. HVL is a partner of two national Centres for Environment-friendly Energy Research (FME), namely HyValue and NTRANS, FME centres funded by the Research Council of Norway. HVL has several collaborative projects in higher education and research with Indian universities.

**Centre of Excellence**  
**PROCESS SAFETY & RISK**  
**MANAGEMENT**  
**IIT Delhi**



A unique Centre of Excellence in Process Safety & Risk Management for a Hydrogen Economy at IITD, under a MoU between FITT, the industry interface at IITD (the Academic partner), Nayara (industry partner) and Gexcon, Norway to develop human capital and to carry out training, research, consultancy and advisory in domain areas of Process Safety, Risk management, Hydrogen Safety and Green Hydrogen, as also providing consultancy and advisory to industries, Govt. and Public Sector units of GoI.

This was the outcome of a series of meetings and discussions with GoI Ministries like MoEF, premium academic institutes like IIT Delhi, IIT Mumbai, IIT Dehradun, IIT Mumbai, and research Institutes like CSIR NEERI Nagpur, ONGC Safety Institute Goa, and leading process industries. Process industries in various sectors- Chemicals, petrochemicals, and energy like Oil & Natural Gas Corporation Limited recognize Process Safety & Risk Management as an area with an enormous potential.



**Sriram Institute for**  
**Industrial Research**

Sriram Institute for Industrial Research (SRI) is India's leading, independent, self-sustaining, not-for-profit multidisciplinary contract research institute conducting research and development in the areas of special significance to industry, government agencies and other organizations. SRI is committed to develop, innovate, analyse, and apply technology for products and processes.

SRI also brings its innovations to the marketplace by licensing its technologies and helps in establishing production units for the interested clients. SRI founded in 1947 by an illustrious founder Sir Shriram, started functioning in 1950 SRI's thrust areas are Materials Science, Analytical Science, Life Science, Irradiation of Medical and Surgical products, and Quality Assurance.

## Meet our Mentors, Leadership, and Core Team.

### Mentors & Guides

**Dr. V. K. Saraswat**

Member- NITI Aayog

**Patron-in-chief**

PHDCCI Centre of Excellence-Green Hydrogen

**Dr. J. P. Gupta**  
**Mentor-in-Chief**

PHDCCI Centre of Excellence-Green Hydrogen

**Padmashri Prof. G.D. Yadav**  
**Board of Eminent Scientists**

PHDCCI Centre of Excellence-Green Hydrogen

### Leadership and Management

**Umesh Sahdev**  
**Chief Convenor**

PHDCCI Centre of Excellence-Green Hydrogen

**Dr. Ranjeet Mehta**  
**Executive Director**

PHDCCI Chamber of Commerce & Industry

**Dr. J. S. Sharma** - Advisor

**Mahendra Rustagi**, – Advisor - ESG Centre

**Kanchan Zutshi** - Director

**Dr. Sibimol Luke** -Jt. Secretary

PHDCCI Chamber of Commerce & Industry

### Advisory Board

**Dr. Chitra Rajagopal**

Director General

Centre of Excellence -PSRM IIT Delhi

**Sturle Harald Pederson**

Chairman,

Greenstat Hydrogen India Pvt. Ltd

**Dr Karen Landmark**

Chair of the Board of Directors,

Greenstat Asia at GREENSTAT ASA

**Dr. Mukul Das**

Director

Shriram Institute of Industrial Research

**Knut Linnerud**

Advisor – Innovation Hub

PHDCCI Centre of Excellence -Green Hydrogen

### Faculty – PHDCCI Centre of Excellence GH

#### Western Norway University of Applied Sciences, (HVL) Norway

**Prof Dr. Dhayalan Velauthapillai,**

Head, Advanced Nanomaterials for Clean Energy and Health Applications (ANCEHA), HVL, Norway

**Dr. Jens Kristian Fosse**

Dean of Engineering and Natural Sciences, HVL Univ. Norway

**Dr. Jonathan Økland Torstensen**

Lead Associate Prof - COE, HVL Univ Norway

**Dr. Ms. Yulia Arinicheva Skåtun**

Associated Professor COE- HVL Univ, Norway

**Ms. Elin Kvaale**

Associate Professor at HVL, Norway

Deputy Director, Research, Internationalization, and Innovation

**Professor Dr. Maneesh Singh**

Faculty of Engineering & Natural Sciences HVL University , Norway

### International Innovation Hub Team

**Dr Karen Landmark, Norway – Co-Lead**

**Umesh Sahdev – Co-Lead**

**Knut Linnerud, Norway**

**Dr. Velaug Myrseth Oltedal, Norway**

**Dr. Sibimol Luke**



## PHDCCI COE-GH Membership and Sponsorships

**PHDCCI CoE-GH** membership is open to Lead Sponsors, Industrial Houses, Industrial Groups, Corporates, MSMEs, Research Scholars and Individuals interested in sharing and acquiring Green Hydrogen knowledge.

Below are the Membership benefits under each category.

Sponsored Membership can be acquired by submitting onetime fee + annual fees as per categories benefits as below:

### **Lead Sponsor/s of PHDCCI CoE-GH**

- All brochures and media content to contain lead Sponsors' Logo and Group name
- Full plan and benefits can be discussed between Lead sponsor and CoE-GH

### **Industrial Groups / Business Houses (Annual Turnover > Rs 100 Crores)**

- All members of BOD, CEO/MD, CFO, Head of Sustainability/Renewable Energy of the Group would be esteemed guests at all special events of CoE-GH.
- CoE-GH will invite one speaker from the Group in the relevant major events
- 35% discount on Diamond & 25% discount on Platinum ,Gold & Silver sponsorships rake rates in all major events
- Free to 2 Members for any 2 courses of PHDCCI CoE-GH in a year
- 35% across the board discount on the standard Fees, to any direct employee of the Group for any CoE-GH course.

### **Corporates Members (Annual Turnover > Rs10 up to <100 Crores)**

- BOD Chairman, MD, and CEO or any other two senior management persons as duly authorised representatives of Corporation would be esteemed guests on all PHDCCI CoE-GH events,
- 20% discount on rake rates for sponsorships at any event of CoE-GH
- 25% Discount on Training Course Fees to any direct employee of the Company

### **MSME Members-**

(Annual Turnover for immediate prev financial year up to Rs 10.00 Crore)

- Max of 2 Owners/ Partners/Directors shall be invited as esteemed guests at all events
- 50% discount on Training Courses fees for max of up to 4 direct employees of member firm/Co.

### **Individual Members (including Students and Research Fellows)**

- Complementary participation in most of the short-term events, 25% discount on participation fees at paid events of CoE-GH
- 50% discount on the Course Fees on any course for member.

**All membership categories are entitled to special discounted rates for any Advisory and other Services provided by COE-GH**

**For sponsorship fees and any further information about COE, please contact:**

**Ms. Kanchan Zutshi,**  
Director, PHDCCI  
[kanchanzutshi@phdcci.in](mailto:kanchanzutshi@phdcci.in)  
Mob. +91 98 187 78399

**Dr. Sibimol Luke**  
Jt. Secretary, PHDCCI  
[Sibimol.luke@phdcci.in](mailto:Sibimol.luke@phdcci.in)  
Mob.: +91 63 630 11818



## PHD Chamber of Commerce & Industry

PHD House, 4/2, SIRI Institutional Area, August Kranti Marg

New Delhi – 110 016, India

Phone: +91 11 26863801-04, +91 11 49545454

Email: [phdcci@phdcci.in](mailto:phdcci@phdcci.in)