



International Partnership
for Hydrogen and Fuel Cells
in the Economy

The International Partnership for Hydrogen and Fuel Cells in the Economy (IPHE)

IPHE Secretariat

September 2024

IPHE: a Global Government-to-Government Partnership to Accelerate Hydrogen and Fuel Cell Deployments



Formed
in
2003



Chair



Vice-Chairs

23 Countries &
European Commission



September 2024

www.iphe.net





Annual questionnaire



United States Update

40th IPHE Steering Committee Meeting
4 – 6 October 2023
Washington DC

IPHE
International Partnership
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IPHE Practical Actions: Enable



Enable and foster **international collaboration** and a **landscape coordination** process



IPHE Practical Actions

Provide accurate factual and unbiased **information to policy-makers**

Working Groups

- ❖ Regulations, Codes, Standards & Safety
 - Task Forces: Maritime & Bulk Storage
- ❖ Education & Outreach
 - Early Career Network
 - Diversity, Equity, Inclusion, Accessibility

Task Forces

- ❖ **H₂ Environmental Impact Assessment**
- ❖ H₂ Certification Mechanisms
- ❖ H₂ Trade Rules
- ❖ H₂ Skills

IPHE Practical Actions: Provide



Task Force on **Hydrogen Certification Mechanisms**

DoI on mutual
recognition of
H2 certificates
at COP28

Scope

To provide a deeper understanding of certification mechanisms [schemes], as well as a sound basis to support reaching consensus on implementing interoperable certification mechanisms across regions/countries for clean hydrogen

Approach

1. Review the existing clean hydrogen certification initiatives across the world and the criteria they are using, such as GHG footprint, sustainability and just transition; [Hydrogen Certification 101](#) (July 2023)
2. Proposal for a minimum information embedded in a clean hydrogen certificate across the entire chain value.

*COP 28
H2 Ministerial
Meeting*



IPHE Practical Actions: Provide



Task Force on Hydrogen Environmental Impact Assessment

Issue: Facilitate a Global Market in Hydrogen

- Trade of Hydrogen needs *common internationally agreed* Standards to quantify the Environmental Impacts for: **Production Methods; Conditioning & Carriers; and, Transportation**

Scope (*IPHE is not a Standardization Body*)

- Develop a **mutually agreed methodology framework** for determining the **GHG emissions associated with a unit of H₂ production.**
- Assess the impact of **atmospheric H₂** on climate change

Output: 'Quantification Methodology' Working Paper Version 3

- Published Methodology for Determining the GHG Emissions Associated with the Production of Hydrogen Working Paper Version 3 July 2023

Methodology for Determining
the Greenhouse Gas
Emissions Associated With
the Production of Hydrogen

A Working Paper Prepared by the
IPHE Hydrogen Production Analysis Task Force



VERSION 3 - JULY 2023

ISO TS 18970
Launched at
COP28

IPHE Practical Actions: Provide



Task Force on Hydrogen Environmental Impact Assessment

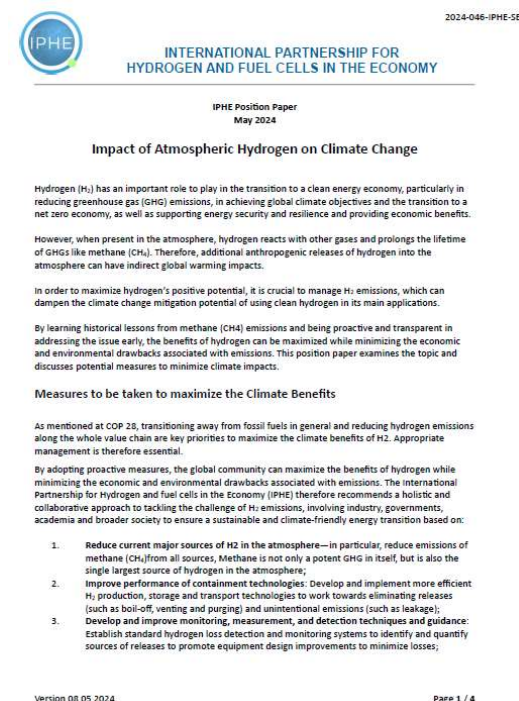
Objective: a Sustainable Global Market in Hydrogen

- The HEIA TF aims to provide a deeper understanding of hydrogen in the atmosphere and its impact on climate change. It further aims to provide a sound basis for understanding the impact of increased use of hydrogen in the economy on climate change.

Activities

- Develop a common understanding of terminology
- Current atmospheric budget of hydrogen
- Estimate of future atmospheric hydrogen levels due to increased use of hydrogen and Assessment of the impact of increased hydrogen use in the economy on climate change
- Current policies, regulations, standards and large-scale funding opportunities requiring monitoring, measurement and reporting of hydrogen emissions
- Current methodologies and technologies for detection, quantification, and mitigation of hydrogen emissions

September 2024



<https://www.iphe.net/>

Concluding Remarks: Crucial to Take Action Now

Business-as-Usual is not sufficient given energy, climate and societal drivers

Crucial for governments to facilitate efficient and effective international hydrogen markets

- **Standards, Codes, Mechanisms for Mutual Recognition of GHG Measurement approaches;**
- **Mitigate financial risks and technical risks** through innovative mechanisms;
- **Analyze and understand full supply chain** and, as appropriate, address challenges using mechanisms reflecting national, regional and international circumstances.

Crucial for gov'ts to facilitate efficient and effective international collaborations and coordination beyond IPHE members.

Thank you

IPHE Secretariat
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IPHE Practical Actions: Share

Share Information, Policies, Developments at Bi-Annual Steering Committee Meetings



September 2024



IPHE Practical Actions: Provide



Working Group on Education & Outreach

- **Early Career Network**

Membership

Membership is open to undergraduate and graduate students, post-docs, and early-career professionals from all IPHE member countries and beyond.

Objectives

- Opportunities for leadership and career development for members
- Connecting with other young professionals interested in hydrogen
- Becoming a part of a network of members and professionals in the field
- **+500 members from 40 countries**, increased nearly 100% since 2022
- Establishing a social community of young professionals to meet regularly

- **Diversity, Equity, Inclusion, Accessibility**



Creating a hydrogen and fuel cell economy that reflects the diversity of our global society and ensures equal opportunities for all.



IPHE Practical Actions: Provide

Task Force on Trade Rules

Issue: Facilitate Global Trade in Hydrogen

Scope of the H2TR TF

- Published the *International Trade Rules for Hydrogen and its Carriers: Information and Issues for Consideration* Discussion Paper February 2022
- How can trade policies facilitate international trade?
- Provide inputs for the International Hydrogen trade Forum ministerial meeting

Work on (in collaboration with WTO Secretariat):

- Gathering information for deciding on the scope of the system to be included in our overview (the so-called system boundaries).
- Mapping exercise, asking the IPHE member to provide information on their 1) tariff or tax preferential policies and 2) government support and procurement policies to stimulate the production, importation and/or exportation of (low-emission) hydrogen, ammonia and methanol.

International Trade Rules for
Hydrogen and its Carriers:
Information and Issues for Consideration

A Discussion Paper for the
IPHE Hydrogen Trade Rules Task Force



FEBRUARY 2022 (Rev 1)

IPHE Practical Actions: Provide

Task Force on **Hydrogen Skills**

Scope

To enable countries to streamline hydrogen skills development efforts through knowledge sharing to develop a database of hydrogen value chain skills and training, and to propose recommendations, in particular for new adopters, for building the foundation of a sustainable hydrogen workforce.

Approach

1. Data collection and collation of existing completed skills needs studies by member countries ;
2. Presentation of database and initial analysis to government, industry and training institution stakeholders.



How to become an IPHE member

Applying countries need to demonstrate:

1. A substantial, long-term resource commitment to hydrogen and fuel cell technology research and development activities;
2. A well-defined vision and national strategy to advance technology deployment and infrastructure development; and
3. A commitment reflected in policies and strategies that effectively advance private sector development of hydrogen and fuel cells in the economy.

Members also commit to actively participate in the Steering Committee meetings and in at least one or more of the Working Groups or Task Forces. Please see the IPHE Terms of Reference at [About the IPHE](#).

To trigger the process, the Ministry responsible for the hydrogen and fuel cells should contact the IPHE Secretariat at: secretariat@iphe.net