UNECE Hydrogen Task Force
Hydrogen at UNECE: Timeline

- **2017**: Introduction of hydrogen as an emerging topic
- **2020**: Diffusion of official UNECE recommendations on hydrogen
- **2022**: Commitment to creating an UNECE Hydrogen taxonomy
- **2023**: Publication of results on hydrogen production pathways in CIS countries

Launch of a Hydrogen Task Force
Hydrogen Task Force

- Classification
- Value chain development
- Synergies
• Key elements of proposed classification
• International efforts
• Next steps towards certification
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Figure 13
Hydrogen Product Climate Impact Triangle

Classification is NOT Certification, NOT Methodology

Classification
- Generic Grade or Label to reflect GHG footprint range.
- For stakeholder information only.

Certification
- Quantified GHG footprint per Methodology of H2 or carrier product issued by a Certification Body and verified by a Verification Body. Contains GO. Part of legal conditions of a supply contract. Compliance or disclosure scheme. Subject to mutual recognition.

Driven by Public Policies
Driven by Science & Technology
Methodology for GHG Footprint Quantification (ISO/TS 19870)

Source: Hydrogen Council.
Figure 2
Hydrogen deployment growing steadily: status as of January 2023

**H₂ production**
- 0.8 MT total clean H₂ production
  - of which 0.7 MT low-carbon H₂
- 700 MW (+30% YoY)
  - electrolysis capacity installed

**Manufacturing capacity**
- 8.8 GW (+150% YoY)
  - installed electrolysis mfg. capacity
- 12 GW (+10% YoY)
  - installed FC mfg. capacity

**H₂ end-use**
- 80,000
  - FCEVs on the road (+30% YoY)
- 130 (+60% YoY)
  - vehicle models launched by OEMs

**H₂ infrastructure**
- 1.070 (+55% YoY)
  - HRS installed globally
- 120 ammonia terminals available
  - 38 export and 88 import globally

*Source: Hydrogen Council, 2023.*
Figure 8
Examples of hydrogen supply chain considered in ISO/TS 19870

Source: Hydrogen Council.
Figure 3
Global snapshot: more than 1,040 hydrogen projects announced in 2023

1,046 projects\(^1\)
684 in May 2022

- 112 Giga-scale production
- 553 Large-scale industrial use
- 191 Mobility
- 94 Integrated H\(_2\) economy
- 96 Infrastructure projects
## Figure 7

**ISO/TC 197 Working Groups and Standards**

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<td>17268-1, -2 rev.</td>
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<td>Gaseous hydrogen land vehicle fuel system components</td>
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<td>Hydrogen generators using water electrolysis – Test protocols for performing electricity grid services</td>
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*Source: Hydrogen Council.*
Next steps (in collaboration with EGRM)

• Develop specifications for the application of the United Nations Framework Classification for Resources (UNFC) and the United Nations Resource Management System (UNRMS) to hydrogen projects and production technologies
• Establish a taxonomy on hydrogen based on a life cycle analysis (LCA) approach
• Work towards developing a Guarantee of Origin for Hydrogen (GOH)
• Develop pilot hydrogen production projects applying UNRMS principles
UNECE Hydrogen Task Force

Thank you!

THE VIEWS EXPRESSED ARE THOSE OF THE AUTHOR AND DO NOT NECESSARILY REFLECT THE VIEWS OF THE UNITED NATIONS.