Low-and zero-carbon technologies interplay for increasing the RE uptake

*Synergies between Hydrogen and RE*

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UN HLCs and CCT

Campaigns

Race To Zero
2030 Breakthroughs
Race To Resilience
Sharm-El-Sheikh Adaptation Agenda

Working together to achieve the Breakthroughs

Accelerating Sector Transitions Through Stronger International Collaboration
Renewable and low-carbon hydrogen remains below 1% of global hydrogen production, compared to the 50% that is needed by 2030.
Pilot projects

Status of renewable hydrogen pilot projects by electrolyser type and region (as in late 2022)

Capacity

Number of projects
Financial commitments by DFI and MDBs for hydrogen projects in developing countries (as of June 2023)

By agency

- IBRD, 37%
- EIB, 40%
- KfW, 9%
- EBRD, 2%
- DB, 9%
- World Bank, 3%

~ USD 4.5 billion

By country

- Namibia, 13%
- Multiple, 53%
- India, 25%
- Chile, 8%
- Egypt, 2%

~ USD 4.5 billion
## Progress summary

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<thead>
<tr>
<th>Theme</th>
<th>What progress has been made?</th>
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<tr>
<td>Standards and certification</td>
<td>• IPHE leading major efforts on methodologies, in partnership with ISO</td>
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<td>• IEA Hydrogen TCP has set a task on certification harmonisation</td>
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<td>• Work from the European Clean Hydrogen Alliance, Hydrogen Council, UNECE</td>
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<td>Demand creation</td>
<td>• Initiatives to assess the potential demand that could result from pledges</td>
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<td>• Notable individual efforts from individual countries including near-term commitments and policies</td>
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<td>Research and innovation</td>
<td>• MI CHM to identify 100 leading projects by COP 28</td>
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<td>• Hydrogen Valley Platform had identified 83 projects from 33 countries (as of July 2023)</td>
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<tr>
<td>Finance and investment</td>
<td>• UNIDO, World Bank and IRENA mapping currently available assistance and financing best practices</td>
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<td>• Hydrogen for Development Partnership (WB) to catalyse improved in-country project funding support</td>
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## Recommendations

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<th>Actions</th>
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| **Standards and Certification** | Development & implement portfolio of standards  
                                | Adopt common methodology to calculate the carbon footprint of the hydrogen value chain  
                                | Facilitate mutual recognition and interoperability of certification systems  
                                | Build technical capacity to verify compliance with international hydrogen standards |
| **Demand creation**           | Increase commitments for using low carbon and renewable hydrogen in fertilisers and refining  
                                | Specific policies and purchase agreements, to mobilise investment  
                                | Share learning to accelerate early deployment while ensuring level playing field for trade |
| **Research & Innovation**     | Increase the number and geographical distribution of hydrogen demonstration projects  
                                | Agree on minimum reporting principles to share lessons learned from demonstration projects |
| **Finance and investment**    | Identify projects that are being delayed by high costs of capital and help unlock their progress  
                                | Support to technical assistance programmes, policy design, scale-up of projects |
• Making the Hydrogen Economy Possible: Accelerating Clean Hydrogen in an Electrified Economy (ETC, 2021)
• Global Hydrogen Review 2022 (IEA, 2022)
• Geopolitics of the Energy Transformation: The Hydrogen Factor (IRENA, 2022)
• Global Hydrogen Trade to Meet the 1.5°C Climate Goal: Green Hydrogen Cost and Potential (IRENA, 2022)
• International Trade Rules for Hydrogen and its Carriers: Information and Issues for Consideration (IPHE, 2022)
• Roadmap on hydrogen standardisation (European Clean Hydrogen Alliance, 2023)
• Creating a global hydrogen market: Certification to enable trade (IRENA, 2023)
• Towards hydrogen definitions based on their emissions intensity (IEA, 2023)