Introducing the Hydrogen TCP

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In a nutshell

**Members**
- 23 Member Countries
- 9 Sponsors
- European Commission + UNIDO

**Tasks**
- 5 Ongoing
- 39 Finished
- 8 in definition

**Experts involved**
In collaborative research on hydrogen and hydrogen technologies
Task portfolio status

February 2023

Preliminary Idea → Project Definition Phase → Kick-off → Active → Closing Steps → End

- Task 37 – H₂ Safety
- Task 38 – PtH & HtX
- Task 39 – H₂ in the Maritime
- Task 40 – Energy Storage and Conversion
- Task 41 – Analysis and Modelling of H₂ Technologies
- Task 42 – Underground H₂ Storage
- Task 43 – Safety and RCS of Large-Scale H₂ Energy Applications
- Task 44 - HYNE

- International H₂ Supply Chains
- H₂ LCA, societal and environmental impact
- H₂ for Marine Applications + Ports
- H₂ in Islands
- H₂ in the Mining, Mineral Processing, and Resource Sectors
- Renewable H₂
- H₂ Certification
- H₂ in Industry
- Natural H₂
- Off-shore H₂ Production
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- Renewable H₂
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- H₂ in the Mining, Mineral Processing, and Resource Sectors
Collaboration within the IEA Network

Collaboration with other organizations
Joining the Hydrogen TCP

Why?
- Access 40+ years of research on hydrogen technologies
- Join 20+ countries that are prioritizing hydrogen R&D in their national strategies
- Once a country joins the TCP every expert in that country (from research centers, universities, private companies...) can participate in any Hydrogen TCP activity (prior approval of the corresponding Task Manager)
- Country experts will have the opportunity to share experiences and learn from 250+ experts around the globe
- Participate in strategic reports and workshops
- Be part of the IEA family, interact with experts from other TCPs and learn about other technologies

- Annual Contribution to Common Funds 11.350,00€
- Countries with GDP<300 billion USD and GDP per capita <20kUSD can request a 50% waiver
- Send an email to marina.holgado@ieahydrogen.org and request more information on how to join

What?
- Any number of experts to participate at Task level (multiple meetings per year, visits to facilities...)

How?
- 2 representatives at country level to participate in ExCo Meetings (2-3/year, hybrid, around the globe)
Why Hydrogen for Africa?

- Abundance of resources
- Supportive governments and achieving national targets
- Existing technology
- Energy security
- Development and investment opportunities

Electricity will underpin Africa’s economic future, with solar leading the way

Population without access to modern energy services in Africa

In 2021, 43% of the population of Africa, around 600 million people, still lacked access to electricity

Africa can become a leading player in hydrogen made from renewables

Map of hydrogen cost production potential in Africa in 2030 within 200 km of a serviceable coast

Power generation capacity additions in Africa in Sustainable Africa Scenario, 2011-2023
Natural Hydrogen and its potential in Africa

Large accumulation of natural hydrogen in Bourakebougou (Mali)

The Malian wells highlight the non-fossil source of hydrogen gas and exhibit characteristics of sustainable energy.
Hydrogen technology can unlock the large amount of untapped renewable energy in Africa. Large scale storage and flexible transmission of renewable energy would achieve green electrification of sub-Saharan Africa. Using hydrogen as an energy carrier, large scale renewable energy farms as well as mini-grid solutions could become commercially viable.

The first hydrogen economies will begin with construction of large scale P2G renewable energy facilities or hubs along important trans-African highways. They’ll also be built in ports, where hydrogen stations will provide fuel for long haul heavy goods vehicles (HGVs), buses and trains powered by hydrogen fuel cells.
African Hydrogen Developments

National Hydrogen Initiatives

Morocco

The H2ATLAS-AFRICA project is focused on assessing the potential of generating hydrogen in sub-Saharan Africa (West and Southern Africa) from the renewable energy resources in the region.

South Africa

Nigeria

“The Nigeria Renewable Energy Master Plan (REMP) seeks to increase the supply of renewable electricity from 13% of total electricity generation in 2015 to 23% in 2025 and 36% by 2030. Renewable electricity would then account for 10% of Nigerian total energy consumption by 2025.”

Other initiatives

Uganda

Belgium
African Hydrogen Developments

Natural gas exports from Africa and potential for additional export to the European Union in the SAS (Sustainable Africa Scenario)

Europe’s efforts to reduce imports from Russia could increase the call for African gas by 30 bcm in 2030, but the potential diminishes in the longer term.