

Webinar Summary: Scaling-up Low-Carbon Hydrogen to Decarbonise the Energy Sector in Oman, 23 May 2022

The objective of this IEA and OMAN co-hosted webinar was to explore the opportunities and challenges associated with demand creation for low carbon hydrogen for: (1) domestic consumption, growth, and decarbonisation drivers, and (2) cross boarder partnerships and trade. The virtual webinar hosted a number of prominent speakers from governments, industry, financial sector, inter-governmental organisations, and experts from the IEA.

The event was attended by:

- Keynote speakers: Salim Al Aufi (Undersecretary, Ministry of Energy and Minerals) and Mary Warlick (Deputy Executive Director, IEA)
- Special guest: Dr. Muna Al Baiti (Deputy Head of Mission, Embassy of Sultanate of Oman)
- Hy-Fly PMO: Khalil Hanashi, Sulaiman Tobi.
- Distinguished panellists:
 - Session 1: Najla Jamali (Alternative Energy CEO, OQ), Muhammad Abdul Qyyum (Sustainable Energy Research Center, Sultan Qaboos University), Jose Bermudez Menendez (Energy Analysts, IEA), Susana Moreira (Senior Gas Specialist, World Bank);
 - Session 2: Hamed Nummany (CEO, OMAN), An Stroobandt (Deputy Head of Cabinet, Ministry of Energy, Belgium), Isabelle Capaldi-Lureau (Global Lead Originator, TotalEnergies), Noé van Hulst, Chair (International Partnership for Hydrogen and Fuel Cells in the Economy).
- Final remarks by Paolo Frankl, Head of Renewable Energy Division, International Energy Agency and Dr. Salim Huthaili, Solar Wadi.
- Moderated by Dr. Abdullah Al-Abri and Per-Anders Widell, International Energy Agency.
- More than 100 policy makers, executives, technical experts, and financial advisors from Oman (with representatives from all Hy-Fly organisations) and globally (predominantly Europe).

The following captures the key messages from the keynote speeches:

1. Oman takes transition to low-carbon and green energy as an underlining priority:
 - a. starting from a good baseline in the electricity sector (no diesel, no coal – predominantly efficient gas based with increasing share of renewables).
 - b. building focus is now on easier to decarbonise industries (methanol, ammonia, etc).
 - c. then move to the difficult to abate industries (steel, Aluminium, and other hard to abate industries)
2. Oman is working on developing renewables concessions to allocate locations for additional renewables for power, and for hydrogen (hydrogen will be for local market as well as for export).
3. Oman continues to engage with relevant stakeholders on standard and certification schemes setting.
4. IEA continues to work with governments to share data, best practices and expertise on the role of hydrogen in energy transition, transition technologies – and wider aspects related to transition roadmaps and national strategies
5. IEA sees that the advancement of clean energy technologies is essential – and we probably have the technologies to reach the set decarbonisation goals by 2030, but the world and governments in particular have to work harder to mature and develop other solutions to reach the 2050 targets.

6. IEA and Oman would like to keep the dialogue on the transition agenda.

The following captures the key takeaways from the two plenary sessions:

1. Oman is well placed for the production of low-carbon hydrogen capitalizing upon: (1) existing oil and gas expertise, infrastructure and trade partnerships, (2) successful international investment models, (3) existence of industrial ports, (4) existence of the national hydrogen alliance (Hy-Fly), (5) existing experiences on the production of grey hydrogen in the region, (5) geographical and meteorological benefits to produce low carbon hydrogen – all of this can:
 - a. stimulate and provide benefits for first movers (announced projects);
 - b. stimulate the domestic transition to low-carbon industries that use hydrogen in their feedstocks and/or in the creation of products (steel, Aluminium, and other hard to abate industries);
 - c. facilitate the establishment of low-carbon clusters. Clustering helps in establishing shared vision and shared P&L from an industry and investment perspective. Clustering will require evaluation of the possible integration and applications for using the CO₂ in existing and/or new industries;
 - d. attract investments and opportunities to establish local manufacturing and services.
2. Given the aspiration and the announcement of sizeable projects for low-carbon hydrogen in Oman (more than 30 GW of renewables for Hydrogen announced), it is important to:
 - a. Tailor-make support to those flagship projects;
 - b. Since low-carbon hydrogen projects are new to the whole world, it is important to:
 - i. Exchange the experiences with others who are developing similar projects around the world on how to manage supply chains and operations;
 - ii. Involve multilateral development banks and concessional financing into the journey;
 - iii. Important to look into the supply chain aspects to realise the announced projects and also to look into the transferability aspects from traditional hydrocarbon-based supply chains to ones that cover renewables and hydrogen.
3. It is important to strengthen Oman's position on the global roadmap and boost stakeholder confidence through:
 - a. Announcement of National Hydrogen Strategy - with targets and roadmaps;
 - b. Establishment of relevant policies and frameworks (National Energy Policy, National Decarbonisation Policy, Legal Frameworks,). These policies shall include critical items like carbon tax and incentives, carbon market, infrastructure and retrofitting, additional investments.
4. The importance of having long-term offtake partnerships with the global community. This shall make the overall economics more appealing. These partnerships shall be stimulated through working closely with the identified markets to align on the technicalities, commercialities, and other aspects.
5. The importance of continuing to work with other national and multinational organisations on emissions calculation structures, standards, and certification schemes.
 - a. Take learnings and experiences from the certification of ACME project (by TÜV Rhineland) in Oman.
6. The importance of looking into the size of renewables that will be connected to the system and how can the overall energy system (natural gas, renewables for power, renewables for hydrogen, storage) be optimised.