OECD World Bank Side Event on "De-risking hydrogen investments in developing countries and emerging markets"

Monday, 13 May 2024, 11:15-12:30 CEST

SUMMARY

Opening remarks

Deger Saygin, Industry Programme Lead, Clean Energy Finance and Investment Mobilisation Programme (CEFIM), OECD

- OECD work on green hydrogen led to the conclusion that cost finance is key to determine the cost competitiveness of green hydrogen.
- Building on OECD's previous report on "Financing cost impacts on cost competitiveness of green hydrogen in emerging and developing economies", the most salient risk that impacts the bankability of clean hydrogen projects come from lack of sufficient credible offtakers.
- This year, OECD and World Bank have partnered to prepare a report on "Leveraging enhanced international co-ordination and de-risking instruments to catalyse investment in clean hydrogen", which will focus on identifying the potential financial solutions and de-risking instruments for clean hydrogen projects in emerging economies.
- The objectives of this side event are:
    - To discuss the risks that affect the cost of financing clean hydrogen projects;
    - To identify the strategies that can help to mitigate risks and reduce projects' costs;
    - To point out some of the characteristics of de-risking mechanisms that have proven effective for clean hydrogen projects;
    - To identify the role of International Financial Institutions/Multilateral Development Banks, Insurances, Export Credit Agencies and Governments to mitigate risks that influence financing costs.

Panel Discussion

Moderation - *Dolf Gielen, Senior Energy Economist and Hydrogen Lead, The World Bank*

Guiding questions:

- What is the WACC for clean hydrogen projects? How does it stake up against mature low-carbon projects in terms of financing cost?
- What project financing structure is preferred for large-scale clean hydrogen projects? How does it compare with conventional financing structure?
- What types of risks influence financing costs?
- What are the primary risks that don't directly impact financing costs but crucial for addressing project risk throughout all stages of the project lifecycle? (i.e., offtake risk, technology risk, etc.) In your observation of current market developments and transaction experience, what de-risking instruments or strategies for clean hydrogen have proven effective or are likely to be effective? To what extent have these instruments been deployed for clean hydrogen projects so far? What is known about the characteristics of these de-risking instruments such as their cost, effectiveness, ease of deployment(accessibility), and applicability to clean hydrogen projects?
- Who will be best positioned to provide these de-risking instruments? (i.e., IFI/MDBs, Insurance, ECA, Government etc.…)

First round: Presentations

Henry Rushton, Director of Energy Project Advisory, ING

- ING created an energy sector-devoted project on hydrogen in 2020, focussing on hydrogen across the value chain.
- An example of projects which ING is involved in and reached Final Investment Decision (FID) is H2 Green Steel and NEOM.
- During the last years, there has been an increasing amount of clean hydrogen projects emerging, especially in the sectors of ammonia, synthetic fuels and steelmaking.

James-Augustine Foley, Executive Director, Santander Corporate & Investment Banking

- Santander is the largest lender in renewables in Europe and Latin America.
- Since 2023, Santander has been involved in more than 50 projects providing project finance, as mandated lead arranger providing lending as a financial advisor.
- More particularly, in emerging markets such as Latin America, Santander has been involved in 55 projects in renewables.

Shan-Kai Thè, Senior Investment Officer, Private Equity Energy, FMO – Dutch entrepreneurial development bank

- FMO, along with shareholder Dutch Government, has a 50-year experience in investing in emerging markets in financial institutions, agriculture and energy (especially renewable energy), but since 2023 FMO started getting involved in the hydrogen sector.
- FMO is particularly focused on developing ESG guidelines and de-risking strategies for clean hydrogen projects.

Moongyung Lee, Policy Analyst, OECD

- OECD Clean Energy Finance and Investment Mobilisation (CEFIM) programme helps emerging markets and developing economies strengthen the enabling conditions to attract financing for clean technologies, including clean hydrogen.

- Specific hydrogen work of the OECD included a 2023 report on "Financing cost impacts on cost competitiveness of green hydrogen in emerging and developing economies", focussing on identifying the risks that impact the increasing cost of capital of clean hydrogen.
- Additionally, CEFIM also supports Egypt's low carbon hydrogen development by looking at the current market landscape, and the barriers as well as potential solutions.

Jeroen Weurding, Head of Benelux & Nordics, EMEA, Swiss Re

- Swiss Re is a large insurance group, focussing on stimulating the energy transition through the technical know-how and risk transfer capital, with the final aim to tackle some of the hydrogen risks across the value chain (i.e., production of renewable energy).
- Swiss Re also provides insurance products (including political risk insurances) for natural catastrophes world-widely, given the increasing intensity of these environmental disasters.

Second round: How to structure the financing for a successful project?

- **Long-term offtake contracts and appropriate risk share amongst stakeholders** are two of the key strategies that could help de-risking clean hydrogen projects and advancing to final investment decisions (i.e., NEOM and H2 Green Steel).
- While projects in industrialised countries benefit from reliable government policy and strong public finance support, in EMDCs, tackling country specific risk through the production of **competitive renewable powered electricity** is the key to accelerate project implementation.
- **Corporate financing is common financing structure of clean hydrogen combined with concessional finance and grants** to bring down cost of financing (e.g., Yara ammonia project in Australia benefits from 50% of public finance).
- Cooperation is essential, particularly Development Finance Institutions (i.e., FMO) play a key role by offering **concessional finance** throughout the value chain for the projects in EMDCs.
- **Strategic alliances and partnerships could lead to enhance project bankability.** Successful examples in similar LNG market exist where offtakers participated as equity investors to de-risk projects, where big trading houses take equity share of offtake of gas.
- **Insurers play a critical role** attracting capital to clean hydrogen projects by developing insurance products to insure the construction and operation of electrolysis plants or pipelines given the complex construction, industrial and energy risks of clean hydrogen projects.
- **Information and data collection on technology performance, and infrastructure and storage needs, can help understanding project risks.** (i.e., The insurance company curates historical data, including on natural catastrophes and exposure to supply risks, and makes it available to industry and banks through its data platform).

Third round: Which are the key risks that impact the financing of projects?

- The most salient risks that prevent projects from reaching FID are **limited offtake available, technology risks (i.e., electrolysers) and country risks,** including political risks, foreign currency risks, and political stability**.** These can be mitigated by **appropriate financing structure, insurance products** and **risk breakdown structure and re-sharing**.
- **The risks vary according to the scale of the projects.** Large-scale projects tend to present larger risks, specially coming from technology and power supply side, and standardisation and certification.

- Other factors such as **the cost of electricity (i.e., LCOE)** and **the environmental impacts on biodiversity and the social implications on local communities** can also increase the risks of project development.

Concluding remarks

- **Jeroen Weurding:** Insurances, like Swiss Re, play a key role in reducing project risks and increasing their resilience.
- **Moongyung Lee:** Following up on this discussion, the OECD will work on a report to map out and identify the de-risking solutions and potential strategies for EMDCs, and will continue collaborating on hydrogen discussions on this matter.
- **Shan-Kai Thè:** Further international collaboration on clean hydrogen is key to accelerate market development and international trade.
- **James-Augustine Foley:** The creation of a clean hydrogen industry has significant contributions on the development of the energy sector, positively impacting GDP, job opportunities and levels of competitiveness.
- **Henry Rushton:** There exist many financing tools to assess and mitigate project risks which, combined with a close engagement of banks and developers, can successfully accelerate the development and financing of clean hydrogen projects.

Wrap Up

- **A combination of risks impacts the financing of low-carbon hydrogen projects, including offtake risks, technology risks, political risks, and country risks**.
- **De-risking mechanisms are needed to attract appetite**. Examples of these are appropriate risk sharing and strong governmental support in the form of Public Private Partnership (PPP).
- It is key to **collect and disclose data on technology performance** and engage in conversations with project developers and technology experts at early stages with the aim to address potential challenges, mitigate risks and reduce costs.
- The creation of **robust standards and certification mechanisms**, as well as **a thorough understanding of environmental impacts of clean hydrogen projects** are crucial to ensure reliable and cost-efficient hydrogen production, thus further attracting sustainable finance.