13 May 2024
Summary Report
& Key Take-Aways

WORLD HYDROGEN 2024

FINANCE FORUM

Access to Finance for Hydrogen Initiatives in Emerging Markets and Developing Countries: Challenges and Solutions

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On Monday 13 May 2024, during the World Hydrogen 2024 Summit & Exhibition in Rotterdam (NL), the World Bank, Invest International and the Government of the Netherlands co-organized the Finance Forum. The aim of the Finance Forum was to address the challenges (panel 1) and solutions (panel 2) in the development and financing of Green Hydrogen projects in emerging markets and developing countries (EMDCs). Over 150 participants enjoyed the deep insights and lively exchanges among world leading experts on how to accelerate financing for Green Hydrogen projects in EMDCs. The World Bank presented the 10 GW Lighthouse Initiative, a programmatic solution of Development Financing Institutions (DFIs) and Multilateral Development Banks (MDBs) for enhanced financing of Green Hydrogen projects in EMDCs.

In his welcoming remarks, Michel Heijdra, Vice Minister for Climate and Energy of the Dutch Ministry of Economic Affairs and Climate Policy, emphasized the potential significance of Green Hydrogen projects for emerging and developing markets and the relevance to foster international partnerships to realize this potential. He welcomed and thanked the esteemed panelists from diverse and complementary organizations: project developers, future off-takers, investors as well as commercial and development banks. In his speech he highlighted the importance of Green Hydrogen projects for green growth in emerging markets as well as the importance of green molecules for the decarbonization of the European industry. He welcomed the growing active role of development banks in enabling Green Hydrogen projects and he stated that the Netherlands has expanded coverage of the Dutch export credit insurance facility: this now includes coverage of transactions related to national hydrogen imports, ensuring comprehensive backing.

Panel 1:
Filling the GH2 financing gap - Private sector challenges in developing and financing Green Hydrogen projects in emerging markets and developing countries.

- Opening remarks and moderation were done by Itske Lulof, Sector Head Energy and Climate, Invest International
- The panel consisted of:
    - Florian Merz, Associate Director of Business Development (Europe), Masdar
    - Marco Raffinetti, Chief Executive Officer, Hyphen Hydrogen Energy
    - Vibeke Rasmussen, SVP Product Management and Certification, Yara Clean Ammonia
    - Dr. Hans Hermes, Executive Vice President Hydrogen & Renewable Energies, SEFE (Securing Energy for Europe) GmbH
    - Letitea du Plessis, Senior Investment Manager, Climate Fund Managers
    - Ilona de Haas, NL Head Hydrocarbons & New Energies, ING Bank

The first panel addressed current *challenges* experienced by key market actors in the development and financing of Green Hydrogen project in EMDCs. In her opening presentation Ms. Itske Lulof stated that, research by Hydrogen Council and McKinsey of May 2023 reveals that 795 large-scale Green Hydrogen projects worth USD 320 bln have been announced to be developed by 2030. However, she stated, most of these projects are still of a conceptual nature. Less than 50% have entered the planning stage or have taken Financial Investment Decision (FID), and only a small fraction has reached Financial Close. Securing offtake and potentially government support and financing (to ensure project bankability) are key enabling factors for developers to reach FID. So far, the projects most advanced are located in developed countries. For projects under development in emerging markets and developing countries additional bottlenecks apply that may hamper seizing the benefits of excellent production circumstances.

In her moderation, she asked the panelists to provide their perspective regarding the main challenges and development needs for the sector. The project developers, Masdar and Hyphen Hydrogen Energy stressed the importance of shaping the nascent market. Projects cannot happen in isolation. Mitigating country risk and the strengthening of Government to Government (G2G) support are critical factors. Strategic alliances and partnerships of mutual benefit could

Opening remarks by Michel Heijdra, Vice Minister for Climate & Energy, Government of The Netherlands.

lead to enhance project bankability. An example is Masdar, whose project implementation centers on partnerships across the Power-to-X value chain. This includes explicitly also local partners to ensure the local added value and utilization of hydrogen. Creation of a common methodology for international certification mechanisms and standards should be strengthened further as this is crucial to ensure international trade of green hydrogen. In this context transparent tracking processes are needed.

The two midstream offtake companies, Yara Clean Ammonia and SEFE (Securing Energy for Europe) GmbH, emphasized the challenge on the demand-side offtake, especially offtake from production in EMDCs as the logistics aren't there yet (to move molecules in form of derivatives that can be shipped). Production side incentives should be complemented with regulatory targets/mandates and public support on the offtake side. In the beginning of the market, offtake guarantees are crucial. Offtake contracts should be of a sufficient duration, seven-year contracts were seen as too short. As the market still evolves, too detailed regulation can be detrimental. SEFE highlighted the importance of regulatory changes that come in waves and evolve as the industry develops.

Finally, Climate Fund Managers and ING provided the investor and financier perspectives. Flexible financing structures for clean hydrogen can help to accommodate specific project needs, while bringing down cost of financing. The most salient risks that prevent projects from reaching FID are lack of bankable offtake agreements, technology risks (i.e. in the case of electrolyzers) and country risks, including political risks, foreign currency risks, and finally political stability. These risks can be mitigated through appropriate financing structures, risk mitigation measures and proper risk sharing. Providing early-stage development capital, Climate Fund Managers Namibia mentioned the importance of blended financing and the key role of government participation. Namibia sees a lot of potential projects across the value chain and access to early-stage capital is critical to allow developers to enhance their projects. ING referred to legal and regulatory risks as a main challenge in the Global South. Certain recurring risks are related to the changing political environment and the relative strength of contracts. Export Credit Agencies can play a role to alleviate such risks (insurance for political and project risks). There is also an aspect of risk sharing (for example through syndication of loans) and sharing of technical and financial expertise among participating banks.

Speakers from first panel.

Panel 2:
Convening financing to deploy large Green Hydrogen projects in emerging markets and developing countries: 10 GW Lighthouse Initiative.

- Opening remarks were given by Dr. Dolf Gielen, Senior Energy Economist and Hydrogen Lead, World Bank
- The moderation was done by Mikaa Mered, Special Advisor, Hy24
- The panel consisted of:
  - Dr. Ruud Kempener, Acting Deputy Head Renewables and Energy System Integration Policy, Directorate-General Energy, European Commission
  - Ignacio de Calonje, Chief Investment Officer - Energy, Green Hydrogen, Metals & Mining, IFC
  - Christiaan Gischler, Lead Energy Specialist, Inter-American Development Bank
  - Susana Moreira, Executive Director, H2 Global Foundation
  - Michiel Slootweg, Director Private Sector, Invest International

The second panel discussed *solutions* to address bankability issues for Green Hydrogen projects in EMDCs and the mechanisms to de-risk financing. It showcased the 10 GW Lighthouse Initiative as a solution by MDBs to unlock financing for Green Hydrogen projects in EMDCs.

Dolf Gielen presented the 10 GW Lighthouse Initiative in his opening presentation. Referring to the Scaling Hydrogen Financing for Development Report he highlighted the annual investment need for EMDCs of 100 billion dollar per year until 2030 to move projects forwards at the needed speed. So far projects in EMDCs are not developing at the required rate and the funding need is too big for a single MDB. The 10 GW Lighthouse Initiative aims to streamline MDB financing and unite support. The World Bank emphasized the importance of international coordination and public-private partnerships around potential markets in the Global South. The rationale behind the 10 GW Lighthouse Initiative is to create an initial EMDC project base of 100 MW to 1 GW projects through which more than 10 GW total capacity can be realized (FID) in total in the coming years.

Speakers from second panel.

Mr. Mikaa Mered moderated the second panel. He asked the panelists which hydrogen financing and support they have provided, which de-risking instruments or strategies they deem effective and how they expect this to grow in the coming years. The European Commission mentioned that Member States are trying to find common projects and look at how to reduce the cost gap. Ruud Kempener highlighted the European Hydrogen Bank, a financing instrument to accelerate the establishment of a full hydrogen value chain in Europe. He also referred to financing opportunities as part of Global Gateway projects. On June 12 the European Commission will hold a stakeholder consultation event to discuss the draft Terms and Conditions (T&C's) for the Innovation Funds' upcoming 2024 renewable hydrogen auction.

Invest International highlighted the importance of diversification in EMDCs. Michiel Slootweg stated that government guarantees are key, as they can solve offtake issues and reduce costs. Invest International is teaming up with Climate Fund Managers and the Namibian Environmental Investment Fund in setting up a blended finance vehicle unlocking, through public funding, private capital for early-stage development and equity investments for GH2 projects in Namibia. Also, according to Ignacio de Calonje of IFC, of critical importance for the bankability is the de-risking of offtake. It's an uncertain world for project developers. IFC has expertise across the whole value chain and funding for feasibility studies (of different scale: 5GW to 400MW). The institution encouraged coordination among the public and private sector.

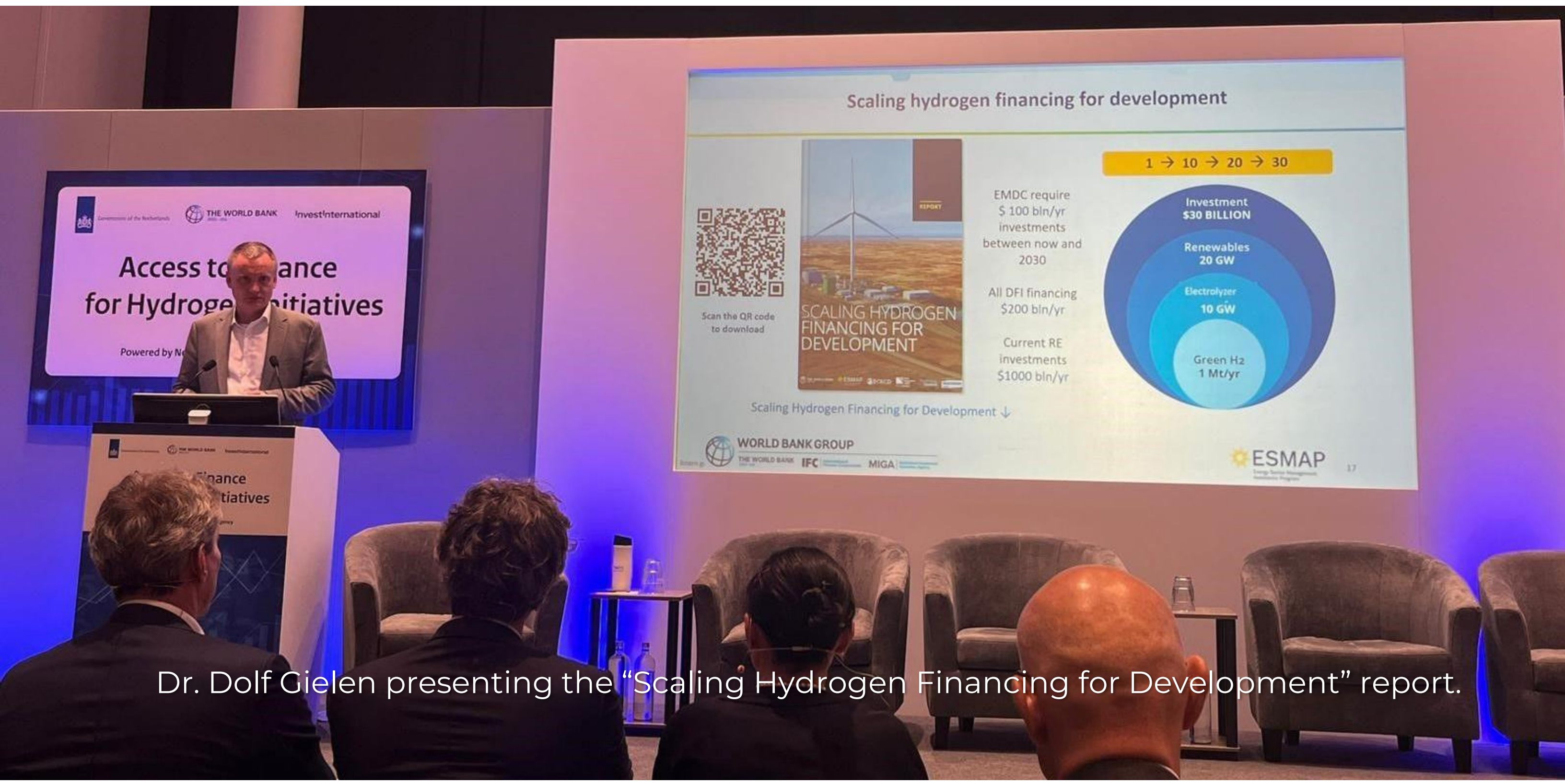
Christiaan Gischler of the IADB explained that the MDB is working on different types of projects in Latin America. In particular, the IADB highlighted the work on Chile, where the role of MDBs has been instrumental in the creation of a 1-billion-dollar Green Hydrogen fund. Chile tops up green hydrogen fund to $1bn and pledges to protect producers against certain 'financial risks' | Hydrogen Insight. The IADB stated that example could serve as a best practice model for the region, e.g. Brazil, Mexico and Colombia. For several countries in Latin America the IADB is providing grants for the development of roadmaps. The IADB commented that export projects should also provide national socioeconomic benefits in the producing countries.

Finally, Susana Moreira of H2Global referred to their 900-million-euro auction, a German funding instrument which is being implemented in three lots by Hintco. The goal of H2Global is to accelerate the international market ramp-up for sustainable hydrogen products through an innovative and efficient funding mechanism. The production of the hydrogen derivatives must take place outside the EU and EFTA states. H2Global emphasized the lack of clarity concerning EU regulation and tries to foster more international understanding. The government-run scheme can offer learnings in terms of how to mitigate risks needed for making Global South projects in order to make projects bankable. The telling conclusion of the last panel discussion – who should be first movers in large scale Global South Financing – seemed mixed:

1. MDBs – including World Bank,
2. Governments – by creating schemes to compensate first movers, and
3. Not a single entity but rather coalitions / partnerships.

In sum, the panel welcomed the 10 GW Lighthouse Initiative and shared the following:

- There is a need for better coordination and collaboration among the various financing institutions (address fragmentation and document best practices in the coming years as experience with Power-to-X project grows).
- There are so far few initiatives to support financing of hydrogen projects in EMDC (example Chile, H2Global, Climate Investor 3 blended finance fund for Namibia), and the existing ones take time as projects are not ready.
- Various approaches towards EMDC project financing support are being tested (e.g. auctions). It's still not clear which approach is best suited and this needs to be assessed further;
- There is a key role for MDBs and DFIs in enabling first projects jointly (as in the case of Chile).



Dr. Dolf Gielen presenting the "Scaling Hydrogen Financing for Development" report.