

2023

Getting the right blend

Innovative development finance for the large-scale renewable and green hydrogen economy

Hundreds of \$ billions in public lending and guarantees will be required to crowd in private capital for renewable energy and green hydrogen solutions to tackle climate change.

“Public development banks and their government shareholders need to unlock private capital and de-risk green hydrogen projects in developing and emerging economies. I hope the ideas presented in this new report lead to a step change in how these banks collaborate and provide finance to developing and emerging economies. Only through bold action from the World Bank and other development banks will we improve energy access and economic prospects for citizens in these countries and at the same time address climate change globally. It is time for development finance institutions to step up on green hydrogen.”

Malcolm Turnbull
Chair, Green Hydrogen Organisation

Foreword

When we began working on this report, we went looking for numbers. We knew that trillions of dollars needed to be mobilised to make the large-scale renewable energy and green hydrogen economy take off in developing countries and emerging economies. We knew that development finance institutions (DFIs) needed to play a key role in de-risking and crowding in private capital. We knew that each project was large, some likely to cost upwards of ten billion of dollars.

We didn't find many numbers. This is because the green hydrogen economy is not being scaled up. It has barely existed until now. It has to grow from almost nothing now to a trillion dollar economy in less than a decade if we are to stand a chance to fight climate change.

There are few projects that have reached final investment decision (FID), and until now each of them have unique characteristics. Even if all involve renewable energy and electrolyzers turning green electricity into green molecules, some involve steelmaking, others will produce fertilisers, while others are set to decarbonise different parts of heavy industry.

We talked to many DFIs, institutional investors, governments and developers. Many spoke about the importance of bankable offtake agreements. Others spoke of financial incentives and equipping projects to compete with fossil-fuel based hydrogen.

A successful investor who has raised billions involving DFIs, said “Sure, it's great if you can sign a bankable offtake that results in sufficient de-risking, but this is not a silver bullet. What you have to do instead is to de-risk through other measures: through long-term partnerships, where offtakers and customers may also have to enter as owners of a project; where institutional investors invest long-term alongside public finance institutions, each through instruments suitable for their risk appetite.” Political and commercial de-risking must be achieved alongside each other.

Instead of finding hard numbers, we learnt many important lessons on the kinds of deep and long-term partnerships that are necessary to make the energy transition a reality in developing countries and emerging economies. These new partnerships are precisely what innovative financial solutions are about.

We are grateful to all of you who shared generously with us. We must learn fast from each other. We hope we are passing on some lessons through this report and the meeting we are hosting today together with the Government of Mauritania.

Nouakchott, Mauritania 13 April 2023



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Introduction

The energy transition, and the accelerated deployment of renewable energy and green hydrogen to replace fossil fuels, will not succeed unless public institutions crowd in private capital. We need US\$1 trillion per year in external climate finance by 2030 for emerging markets and developing countries other than China.¹ Annual flows from public and DFIs will need to triple in the next five years.

Ground-breaking public policy measures to incentivise domestic renewable energy and green hydrogen industries, like the US Inflation Reduction Act, are undoubtedly laudable. However, they do bring some unintended consequences. One is that investors and first mover developers are directing their attention and resources toward, in particular, the United States. Developing countries with large-scale project announcements will need to compete with such financial incentives.

This report is focused on how we raise hundreds of \$ billions for large-scale renewable energy and green hydrogen projects in developing countries and emerging economies, and the role of DFIs. There are significant and welcome efforts by the international community to lift citizens in developing countries out of energy poverty. The Global Energy Alliance for People and Planet is a good example. It is equally important that a just energy transition extends to developing countries and emerging economies and that these countries benefit from large-scale investments. The renewable energy and green hydrogen economy presents once-in-a-generation opportunities for emerging economies and developing countries with high renewable energy potential. Through the energy transition, the world is likely to see industrial activities and infrastructure move from where it has suited the coal, oil, and gas industries, to where it works for the renewable economy. Bunkering of ships is likely to move toward places like Egypt, with abundant renewable energy and close to international trade routes. Steel making will move to where there is abundant renewable energy and iron ore, which can be used to make green hydrogen and steel.

Europe, which uses a lot of energy and has limited opportunities to massively expand its renewable energy production, will benefit hugely from the possibility of importing renewable energy from Africa, with hydrogen and ammonia as possible vectors. Thus, the interests of African and European economies are aligned, provided that such export plans are not made at the expense of sustainable development opportunities for African citizens. For this to happen and work out successfully and to everyone's benefit, the DFIs will need to crowd in large flows of private capital. They will need to massively scale up blended financing for projects along the value chain, increase co-financing for large-scale projects, and scale up the volume of tailored guarantee instruments. The build-out also has to happen responsibly, making sure that domestic markets are served and high environmental, social, and governance standards are respected.

At COP27, the Green Hydrogen Organisation launched the report Development finance for the green hydrogen economy², which contains contributions from nine DFIs outlining their efforts to support development of the sector. This report, published five months later, is our attempt to return to this agenda and look more deeply at the role of DFIs in providing finance for developing large scale green hydrogen projects in emerging and developing economies.

We hope that this report serves as a sector-specific contribution to the wider development and climate finance reform agenda, within the Bridgetown Initiative³. This critical and timely effort championed by the Government of Barbados and its Prime Minister Mia Mottley is pushing for development finance reforms and emphasising the role of developed countries in helping poorer countries adapt to climate change. Helping developing countries realize their high renewable energy potential is a way to address climate change, sustainable development, and energy poverty in one go.

"We could make some of these deals happen tomorrow, if we could get the money on the table to de-risk the deal. We need to have blended finance [...] We've got to get the MDBs to do what the MDBs can do, and they're not today. And we can free more finance by unleashing what is a permissible way of enlarging the capacity of the bank to actually leverage itself and put more money into circulation."

John Kerry
United States Special Presidential Envoy for Climate

1. Key recommendations

Investments of \$ trillions will be required for the green hydrogen economy to meet global demand by 2050. Here we set out how DFIs are pivotal to unlocking these unprecedented capital flows and de-risking investments in developing and emerging economies. The recommendations draw on the experiences of a wide group of representatives from DFIs, project developers, commercial banks, and investors.

It is difficult to avoid the much-used term 'scale up', but that is quite simply what is needed for DFIs to play a key role in the green hydrogen economy and to grow their capacity and involvement in a wide range of ways. It is not just about increased lending or using their balance sheets, but about scaling up across all their activities: from the technical assistance they provide to governments, to concessionary and non-concessionary blending, guarantees, private sector lending, and acquiring equity. Recognizing that there are limits to the lending capacity of DFIs, we will need to 'select and scale' the most effective financing instruments. In light of this, we recommend that DFIs pursue efforts in the following areas on green hydrogen:

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1. Massively scale up blended financing.

 2. Scale up support for projects along the value chain.

 3. Develop a global investment platform for the green hydrogen economy.

 4. Develop a joint model for a bankable large-scale project in an emerging or developing country.

 5. Increase co-financing for large-scale projects.

 6. Scale up the volume of tailored guarantee instruments.

 7. Support the development of bond markets for green hydrogen projects.

 8. Develop a flagship green hydrogen project with one leading institution and several other co-financers.

2. Green hydrogen: the scale of investments needed

By 2050, global demand for hydrogen could increase by almost seven times.⁴ The European Union (EU) alone is set to agree legally binding demand targets for green hydrogen within the coming decade — 42 percent of hydrogen used in industry should be produced with renewable energy by 2030, rising further to 60 percent by 2035. This green hydrogen, produced either domestically in the EU or imported, will be used in key sectors such as steelmaking that currently uses heavily polluting fossil fuels in its furnaces. It will also need to replace much of the fossil fuel-derived grey hydrogen currently used in Europe's fertilizer and chemical sectors. Demand targets are also being set for the shipping industry. Such firm targets send a strong signal to investors and producers that there will be a solid market for green hydrogen in Europe.

To meet this drastic increase in demand, a significant number of projects will need to become operational in developing countries and emerging economies where conditions for production are favourable. Egypt has already entered into 16 different memorandums of understanding (MoUs), with a first phase of these projects of 47 GW of renewable energy, 24 GW of electrolyzers, at a total cost of US\$85 bn. It is also likely that several countries with smaller economies and excellent renewable energy potential will be seeking to implement very large-scale projects, where commercial and political risks will be particularly difficult to disentangle. Examples of such countries include Mauritania, with an estimated GDP of less than US\$10 bn in 2021⁵, that is planning to implement at least three large-scale projects, currently totaling 50 GW. For such substantive projects to take off, financing sources must be diversified to share risks amongst actors and crowd in international private capital.

Investment needs for this shift to production and use of renewable green hydrogen will reach unprecedented levels. To date, only a small part of the US\$1.2 trillion investment in hydrogen supply and use that is needed between now and 2030 has been committed by public and private institutions.⁶ According to a study undertaken by McKinsey for the Africa Green Hydrogen Alliance (AGHA), meeting the green hydrogen ambitions of six leading African countries alone would require up to US\$55 billion in investment by 2030 and US\$900 billion by 2050.⁷

More than 30 countries around the world have already developed national hydrogen strategies or are in the process of doing so.⁸ Soon, the rapid speed at which large-scale projects need to be implemented may overtake the smaller pilots and proof of concept efforts we have seen to date. At the same time, the green hydrogen industry is still in its infancy, and there are no pre-tested plug-and-play models available to free up large-scale institutional capital.

DFIs are making a start

DFIs are beginning to address the needs of their client countries, and announcements worth highlighting include:

- The European Bank for Reconstruction and Development (EBRD) will provide a US\$80 m loan to Egypt Green to develop the country's first green hydrogen facility. EBRD has also supported the Egyptian government in developing a low carbon hydrogen strategy.
- KfW launched the world's first promotional platform for financing green hydrogen, the Power-to-X⁹ (PtX) Development Fund and the PtX Growth Fund. Germany will make €550 m available to help establish green hydrogen projects in developing countries, and the Ministry of Economy will additionally create a €300 m fund for German and other European companies that seek to be project partners.
- For Namibia, the SDG Namibia One Fund, an innovative blended finance platform was launched to facilitate and accelerate the development of a green hydrogen sector and economy in Namibia. The fund has been created through a partnership between the Environmental Investment Fund of Namibia (owned by the Namibian Government), Climate Fund Managers, and the Dutch Invest International. The European Investment Bank (EIB) also signed a joint declaration with the Namibian government on a potential loan of up to €500 m financing renewable hydrogen and renewable energy investments.
- The World Bank has launched the Hydrogen for Development (H4D) Partnership to boost the deployment of low-carbon hydrogen in developing countries. The partnership will raise and allocate blended finance for low-carbon hydrogen production and distribution projects and foster capacity building and regulatory solutions, business models, and technologies toward the roll out of low-carbon hydrogen in developing countries. The Green Hydrogen Organisation will work to ensure green hydrogen is prioritised within this new program.

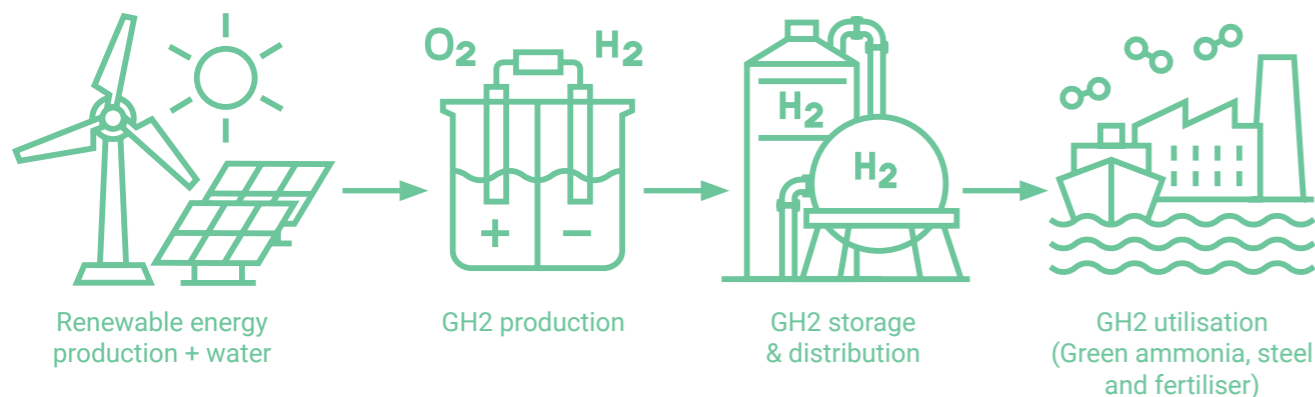
"Africa can't afford to be left behind in the energy transition and green hydrogen economy. We may have all the optimal resources in the world, but if there isn't a subsidisation scheme, African green hydrogen will be uncompetitive."

Junaid Belo-Osagie

Executive Director, Investment Banking Europe, Middle East, and Africa Mizuho International

Development finance: seizing the opportunities

Figure. Green Hydrogen Value Chain



Despite these initial efforts, additional and substantive investments are needed. The moment is now for first movers in the public, private, and development finance sectors to join forces, drive the shift to a net zero economy, and achieve sustainable development with green hydrogen.

The DFIs—and in particular the large multilateral development banks (MDBs) including their private sector engagement—are well positioned to help realise the economic and climate potential of the green hydrogen industry in emerging and developing economies. In addition to commitments made by several of the institutions to align their operations with the goals of the Paris Agreement as well as implement reforms in response to the Bridgetown Initiative, the DFIs are uniquely placed to increase the flow and reduce the cost of capital by limiting, managing, and sharing risk to help mobilise investments. This will be critical for some emerging and developing economies to benefit from the projected green hydrogen investments and project developments. Furthermore, the DFIs have significant experience with successfully scaling up investments in renewable energy development. This experience will be critical in ensuring that effective climate financing strategies and instruments are deployed in the green hydrogen industry.

The assumption is that considerably larger magnitudes of financing will be required to realize these investments. To ensure emerging and developing economies are not left behind in the green hydrogen economy, the need to make unprecedented amounts of blended financing available, as well as reforming the structure of blended financing models, is essential. In doing so, it will be important to draw on lessons learned from financing models with promising results in other relevant sectors.

Central role of the MDBs and development finance institutions

To facilitate a major revamp and reorientation of the MDB and DFI systems, the Independent High-Level Expert Group on Climate Finance presented seven recommendations in its November 2022 report (pages 9-11) which we quote in full below with our emphasis given in bold:

- “Working as a system, the MDBs should engage with countries and the private sector to play a purposive and proactive role in helping countries define, identify, enable and foster the investments and programmes necessary for the implementation of the Paris Agreement, reinforced by the Glasgow Pact. This should include strong support for country and regional platforms.
- A large scale-up in the collaboration between MDBs and the private sector is warranted, given the major role of the private sector in the necessary investments and their finance.
- The MDBs must significantly increase their work with the public sector and authorities to enable the large necessary public investments that are core to the overall necessary investment programmes.
- The MDBs and their shareholders must explicitly recognise that these tasks require a **multiplying of their flows of finance by a factor of three in the next five years**. This would also make the cost of capital manageable. Collaboration with the DFI system can be a powerful element here.
- This scaling up of financial flows from the MDBs can **be built in part on more effective utilisation of the capital already available**, including by applying the ideas of the valuable recent report on capital adequacy commissioned by the G20.
- **Shareholders must recognise that capital increases for the MDBs over the coming five years will be required** to achieve the necessary three-fold increase in flows, and that the ideas from the Capital Adequacy Frameworks (CAF) (including the greater use of guarantees) and the capital increases required are very low cost to the budgets of country-shareholders in relation to the flows of resources released. In the language of finance ministries, they are extraordinary ‘value for money’.
- Beyond the MDBs, there is great potential to harness the entire public development bank system. **Bilateral DFIs can greatly step up their support for green investments**, and local development banks are best placed to provide a powerful impetus to local lending, longer horizons, public domestic resources, and local capital markets. **Creating a new architecture of cooperation among development banks**, as the Finance in Common initiative is trying to do, can be a powerful means to accelerate climate investments.”

Source: Finance for climate action - Scaling up investment for climate and development. <https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2022/11/IHLEG-Finance-for-Climate-Action-1.pdf>

The Expert Group sees five promising and innovative options to mobilise low-cost finance:

- “Augment the use of special drawing rights (SDRs) for climate finance by bolstering further the Resilience and Sustainability Trust established in the IMF; modernise the architecture for rechanneling SDRs so that they can be used more easily and expand channels of use to MDBs and regional institutions; augment the pool of SDRs through regular issuance as envisaged in the Articles of Agreement; and leverage SDRs to catalyse private finance.
- **Tap voluntary and compliance carbon markets** for priorities such as restoration of forests, peatlands and degraded land and the accelerated phase-out of coal.
- **Create an International Financing Facility for climate at the global and regional levels to leverage finance through use of guarantees**, as has been done successfully for education.
- Leverage the growing flows of private philanthropy to foster partnerships and mobilise finance for priority goals such as the Global Energy Alliance for People and Planet (GEAPP).
- Harness the growing potential for South–South cooperation.”

Source: Finance for climate action - Scaling up investment for climate and development. <https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2022/11/IHLEG-Finance-for-Climate-Action-1.pdf>

The green hydrogen economy

When we refer to the green hydrogen economy, or large-scale renewable energy and the green hydrogen economy, we have in mind an industrial project and complex involving large-scale renewable energy production used to make green hydrogen through electrolysis. Renewable energy may use sun, wind, hydro, or geothermal, or, often, a combination of these, with sun and wind being the dominant ways to produce green energy. Once this energy has been produced, options start opening, depending on a wide range of factors, including location and the intended final product. After the production of energy, storage may be likely. This can be done in large batteries or through, e.g., pumped storage, with water being pumped up when the storage is filled, and allowed down driving a turbine when the energy is needed.

Next are the electrolyzers. These come in different shapes and designs, but tend to be relatively small, as the efficiency of large units is lower than that of small ones. Each unit includes a ‘stack’, i.e., a large number of membranes through which water is pumped. As an electric current is deployed, the water splits into hydrogen and oxygen.

The hydrogen is likely to then need to be stored in expensive tanks, or e.g., large salt caverns. Hydrogen is difficult to transport. The alternatives range from keeping it as a gas to move it through pipelines, though this is expensive for long distances and the infrastructure needs to be built in several places. It can possibly be put on ships, though as a gas it will be challenging to move in sufficiently large quantities. It is possible to liquify hydrogen, like fossil gas when it is converted into so-called liquefied natural gas (LNG), however, the temperature required is so low it will be relatively energy inefficient.

For these reasons, there are advantages to using hydrogen near where it is produced. Several early green hydrogen projects, such as H2Green Steel in Northern Sweden, or CWP’s project in Mauritania, illustrate this. This means the transition to a renewable energy and green hydrogen economy will provide major opportunities for countries with abundant renewable energy sources to build new, green industries.

Size matters - investments needed are large and risky

Few large-scale projects have reached FID. The NEOM Green Hydrogen Project in Saudi Arabia is one of them. With its 3.9 GW, it is currently the largest utility scale, commercial green hydrogen facility in the world, costed at US\$8.5 bn.¹⁰ According to the OECD, “major enablers to reaching FID include economies of scale to reduce costs as well as mid- to long-term contracts with first-mover customers willing to pay a premium for green hydrogen or green goods (e.g., green steel or e-fuels).”¹¹

The costs for large-scale renewable energy and green hydrogen projects are hard to estimate mainly due to three reasons. Firstly, very few projects have reached FID. There are simply very few precise numbers available. Secondly, a number of input costs are falling quickly. This is particularly true for electrolyzers, which have not been assembled at large scale until now, and for wind turbines, which continue to become larger and more efficient. Thirdly, systems optimisation has a long way to go. The green hydrogen economy is made up of complex systems, involving various forms of renewable energy, electrolyzers, storage, and often e.g., ammonia plants or steel making facilities. Significant efficiency improvements are likely in the coming decade.

“Blended finance can play an important role to crowd in public and private sector investors. Public sector, including national governments and multilateral development banks like the EIB, could provide first-loss investments, equity capital, or credit enhancements... To deliver on our shared climate goals, we must combine policy reforms, capacity development, and financing arrangements. What we need today is unprecedented cooperation and coordination... Each of us has a unique role to play – and we must all step up.”

Bo Li
IMF Deputy Managing Director

Electrolysers and ammonia plants should ideally be used at full capacity, both to optimise efficiency and to make the most of the investment. If a project is designed to use solar and wind, there will be times when neither the sun is shining, nor the wind is blowing. In such circumstances, it would be necessary to purchase power through a power purchase agreement (PPA). How much power can be bought from the grid will depend on rules such as the EU Delegated Act on renewable fuels of non-biological origin (RFNBO) and under the upcoming regulations for the the Inflation Reduction Act. Rules for what is considered green hydrogen in different jurisdictions will thus dictate the size of storage and the size of the renewable assets, electrolysers, and ammonia plants, if there are such. As electrolysers and ammonia plants improve, it is also likely they will be able to withstand greater power fluctuation, which will in turn lower the need for redundancies.

Green hydrogen economy – rules of thumb project costs

Most of the green hydrogen projects announced so far have been large, involving \$ billions of investment. The project size for commercially viable projects will fall over time, as input costs shrink and through optimization. The Oxford Institute for Energy Studies has recently attempted to develop a financing model for an 'Archetype' large-scale green hydrogen export project comprising:

- 1 GW solar power generation: US\$665million
- Electrolysers with an output of 50,000 tonnes per year: US\$665million
- Ammonia plant with a capacity of 250,000 tonnes per year: US\$560million
- Total capital cost: US\$1.875 billion.
- Total project cost, including financing costs: \$2.1 billion.

The Oxford 'Archetype' large-scale green hydrogen export project model addresses key issues such as political, offtake, and completion risks.¹² Key findings include:

- The debt level should be maximized throughout the project lifecycle. This can be accomplished by reaching the highest possible initial debt-equity ratio and subsequently minimizing the debt repayment rate, achievable either by securing long-term debt (15+ years maturity) and/or by refinancing debt during the project lifecycle.
- Concessionary lenders and export credit agencies are well suited to provide long maturities and insurance against political risk.
- Lending rates are expected to decline over time as lenders are presumed to be more conservative in the early stages of the project lifecycle, being unfamiliar with the green hydrogen sector and when completion guarantees are not offered. As familiarity increases and the supply and variety of lenders increase, rates are expected to decline.
- Commercial debt from either commercial banks or project bonds can help create competition and supply the balance of the financing need.
- As risk declines over the project lifecycle, initial sponsors can consider selling parts of their equity (at a premium) to investors with lower risk/return appetite. This will both increase their return on equity and allow for recycling capital into new projects at a faster pace.
- Although it is not expected that green hydrogen will become globally traded or commercially viable for decades, regional markets with local hydrogen pricing could be developed earlier.

The model provides an excellent illustration of the financing need for a large-scale green hydrogen project, and what will be required to make a project bankable. However, although the paper recognizes that concessionary lenders are well suited to provide long maturities and insurance instruments, it does not specifically address the important role DFIs can play by providing blended financing to crowd in necessary levels of private capital.

In collaboration with the Green Hydrogen Organisation, GIZ's PtX Hub¹³ has therefore initiated similar work in this area, speaking to a wide range of project developers, banks, and investors, and looking specifically at the potential role of DFIs and governments in de-risking projects. The Green Hydrogen Organisation will continue working with GIZ and other partners to develop such a financing model.

3. The role of DFIs in providing blended financing instruments and new financing models

During **project preparation**, the role of DFIs is often to provide emerging and developing economies with technical assistance for developing national hydrogen strategies, policies, regulatory frameworks, and fiscal regimes, including special incentives for early movers, carbon credit schemes, and contracts for difference; conducting environmental and social impact assessments; building capacity; implementing road maps; etc. Based on their vast experience and technical know-how, particularly from the infrastructure and renewables sectors, DFIs can also play an important role in supporting the actual development and appraisal of large-scale green hydrogen projects. In our discussions with project developers, the role of DFIs in strengthening investor confidence during the project preparation phase, thereby lowering the cost of capital, has been highlighted several times.

Blended financing instruments

As per the OECD/World Economic Forum definition, blended finance instruments have three key characteristics: (i) leverage to attract private capital; (ii) impact on social, environmental, and economic progress, and returns; and (iii) market rate returns for private investors, incorporating real and perceived risks. Benefits associated with blended financing include improved borrowing terms as time horizons for capital providers get extended, overcoming market failures, and validating viability in under-penetrated markets.

Development funders have numerous tools at their disposal for leveraging private capital for development projects. First, structured direct funding instruments such as debt, equity, and grants can be made available throughout various market segments

(preparing, pioneering, facilitating, anchoring, and transitioning funding). Second, by providing risk underwriting tools such as insurance policies or guarantees for specific risks associated with a transaction or to protect against market volatility (thereby reducing the cost of capital), development funders can help make projects commercially viable. Third, results-based financing or price guarantees (such as e.g., advance market commitments, challenge funds, matching funds, and development impact bonds) can be tailored to reduce market uncertainty and encourage capital to move into sectors with high development impacts. Finally, technical assistance can be provided to addresses risks in new, uncertain, and fragmented markets, helping to reduce transaction costs and operational risks for investors.

As guarantee instruments and insurance policies typically do not require any immediate outlay of capital, and subsequently only in a proportion of cases – as called – for the same amount of funding, a larger number of projects can be supported than through other instruments.

Source: OECD and World Economic Forum (2015), *Blended Finance Vol. 1: A Primer for Development Finance and Philanthropic Funders*, https://www3.weforum.org/docs/WEF_Blended_Finance_A_Primer_Development_Finance_Philanthropic_Funders.pdf

For **project financing**, the role of DFIs will be crucial to unlock private capital at scale by providing blended financing, likely at an unprecedented magnitude. Applicable financing instruments include direct financing such as grants, equity, and debt (e.g., through anchor investments, repayable grants¹⁴, concessional and non-concessional lending, and green bond issuance) as well as de-risking tools such as insurance policies, guarantees, and advance market commitments. Given the current portfolio limitations of DFIs, it is expected that the demand for innovative de-risking instruments (possibly in collaboration with bilateral shareholders) will increase dramatically as green hydrogen projects in emerging and developing economies expand in both number and size.

Securing **demand aggregation** through project offtake agreements with pricing clauses, relying on joint references or standards to pricing, are important factors in making projects bankable. DFIs can play an important role in developing offtake markets, including through regional arrangements as well as model bankable offtake agreements, aiming for a global standard for the green hydrogen sector.

New financing models and cooperation mechanisms

Several innovative financing cooperation mechanisms have recently been established to strengthen collaboration amongst DFIs and improve access to blended project financing in emerging and developing economies across various sectors. Initiatives that could serve as relevant examples for the green hydrogen sector are described below. More details on some of the already established initiatives are provided in the Annex.

Country/regional/sector platforms

Country platforms, bringing together key stakeholders from both the private and public sectors (including bilateral development partners, DFIs, and philanthropists), have been established to mobilize large scale private financing for climate action and energy transition in emerging and developing economies. The purpose of such platforms is to incentivize countries to “set out clear strategies and investment programmes, tackle binding policy impediments, put in place structures for scaling up project preparation, and create replicable and scalable models of

financing”¹⁵. Both the South African International Just Energy Transition Partnership (JETP) as well as the Egypt Country Platform for Nexus of Water, Food and Energy provide examples that could be replicated in other countries as well as in relevant regions or for the green hydrogen sector as a whole.

Scaling approach

The scaling approach focuses on “aggregation and investing upstream to achieve credibility downstream”¹⁶. The approach is based on building a robust public-private partnership (PPP) model for a single deal, which can subsequently be replicated to develop a pipeline of projects that are considered bankable for the private sector. The benefits of the scaling approach are that it creates new markets by spreading costs, encourages both competitive and programmatic tendering, and improves leverage through scale, thereby increasing impact.

The IFC has applied this approach in its Scaling Infrastructure program¹⁷, facilitating dialogues between governments, investors, and commercial banks, providing a mix of advisory, investment, and guarantee instruments, collaborating closely with both the World Bank and MIGA, and adapting its approach to specific country circumstances. Due to the programmatic approach, the IFC has only been required to provide a small portion of the direct financing needed in the new markets it has created. e.g., of the 4.4 GW of the renewable energy market created under the RenovAr project, the IFC only financed 148 MW.¹⁸

Plug-and-play investor solutions

Concrete, standardized, and scalable ‘plug-and-play’ solutions have been developed to incentivize asset owners and other stakeholders and thereby unlock institutional capital for large-scale renewable energy projects. The IFC Managed Co-Lending Portfolio Program (MCLPP) provides an example of an innovative blended finance framework that could potentially be replicated in the green hydrogen sector. The purpose of the MCLPP is to combine investor contributions with the IFC’s own funds to substantially scale up climate-responsible financing for private companies, providing investors with priority access to the IFC’s pipeline through one large allocation of capital, and then passively co-lending alongside the IFC in eligible projects.¹⁹

In addition to benefiting from innovative financing mechanisms, the large-scale renewable energy and green hydrogen economy in developing countries and emerging economies will of course also need many other things to happen. Projects need to be developed, electrolyzers need to become readily available and, just as importantly, large-term off-take agreements are crucial for eliminating cyclical and price volatility, thereby de-risking investments in green hydrogen.

An integrated model, relying on vertical partnerships between project developers, technology providers, policy makers, off-takers, and consumers/clients, can help de-risk green hydrogen projects, as stakeholder throughout the project value chain will all have vested interest in the project being successful. In particular, the FID can be facilitated by equity participation of these groups of actors.²⁰ Collaborating with industrial investors who are able to provide capital (equity) on longer terms than financial investors (loans) may also contribute to long-term stability of the investment and reduce the cost of capital. This model has successfully been pursued by companies such as H2 Green Steel, albeit the project is located in Europe close to a market, which may be more difficult to replicate in developing and emerging economies. DFIs could play an important role in establishing platforms for project development, providing grants during the project development phase, and incorporating stakeholders from various parts of the project value chain. Without access to offtakers in a local market, DFIs could also play an important role in providing guarantees to back up such agreements over longer time periods.

Securing offtake agreements

It is expected that hydrogen could account for more than one third of all energy trade by 2050 and that about 25 percent of all production would be traded on the global market²¹ The UN High Level Champions have stated that only renewable/green hydrogen is truly aligned with a 1.5°C pathway.²² In light of this scenario, it will be necessary to develop effective trade channels between producers in emerging and developing economies and consumers throughout the world.

The EU has set a goal to use 20 m tonnes of hydrogen by 2030, with 10 m tonnes being imported from the rest of the world.²³ A wide range of efforts have already been announced and additional details are forthcoming. One such effort is the European Hydrogen Bank (EHB), which is described in more detail below. While not resulting in direct financial involvement in projects in developing countries and emerging economies, the EU is also preparing a wide range of initiatives to drive European demand, including a provisional agreement to require 42 percent of hydrogen used in industry to come from renewable green hydrogen and its derivatives by 2030, rising further to 60 percent by 2035.²⁴

“We must create a market maker for hydrogen in order to bridge the investment gap and connect future supply and demand. Therefore, I announce that we will create a new European Hydrogen Bank. It will help guarantee the purchase of hydrogen, notably by using resources from the Innovation Fund. It will be able to invest €3bn to help build the future market for hydrogen. This is how we power the hydrogen economy of the future.”

Ursula von der Leyen

President of the European Commission

Specific initiatives to create marketplaces for offtake agreements in the green hydrogen sector include auctions initiated by EHB and H2Global of €3 bn and €900 m respectively. The EHB is specifically aimed at bridging the investment gap and connecting future supply and demand of green hydrogen by guaranteeing the purchase of hydrogen, using seed capital from the EU’s Innovation Fund. An initial tranche of €800 million dedicated to domestic production²⁵ will cover a fixed “green premium” per kilogram of hydrogen produced, aimed at bridging the price difference between the cost of production and the willingness of consumers to pay over a maximum ten year period.

The intention behind H2Global is to support the development of a global market for green hydrogen by purchasing hydrogen on the world market (production must be outside the EU and EFTA) and selling it to the highest bidder in the EU.²⁶ The auction, which should provide its first deliverables by end-2024, will provide security for the hydrogen exporters as they support investment decisions through long-term purchase contracts (lasting ten years) while the importers gain access to green hydrogen derivatives. This will be the first global bidding process for green hydrogen, identifying the world’s first market price for the product.

Despite these notable efforts in Europe, these marketplaces may not be large enough to have a catalytic impact on green hydrogen investments in emerging and developing economies.

To scale up the magnitude of offtake agreements, DFIs could take on the role of “demand aggregators”, linking producer and consumer countries by facilitating a marketplace (auction) and/or underwriting initial market risks for potential offtakers, possibly organized in regional clusters for emerging and developing economies.

Incentivising large scale renewable energy and green hydrogen projects

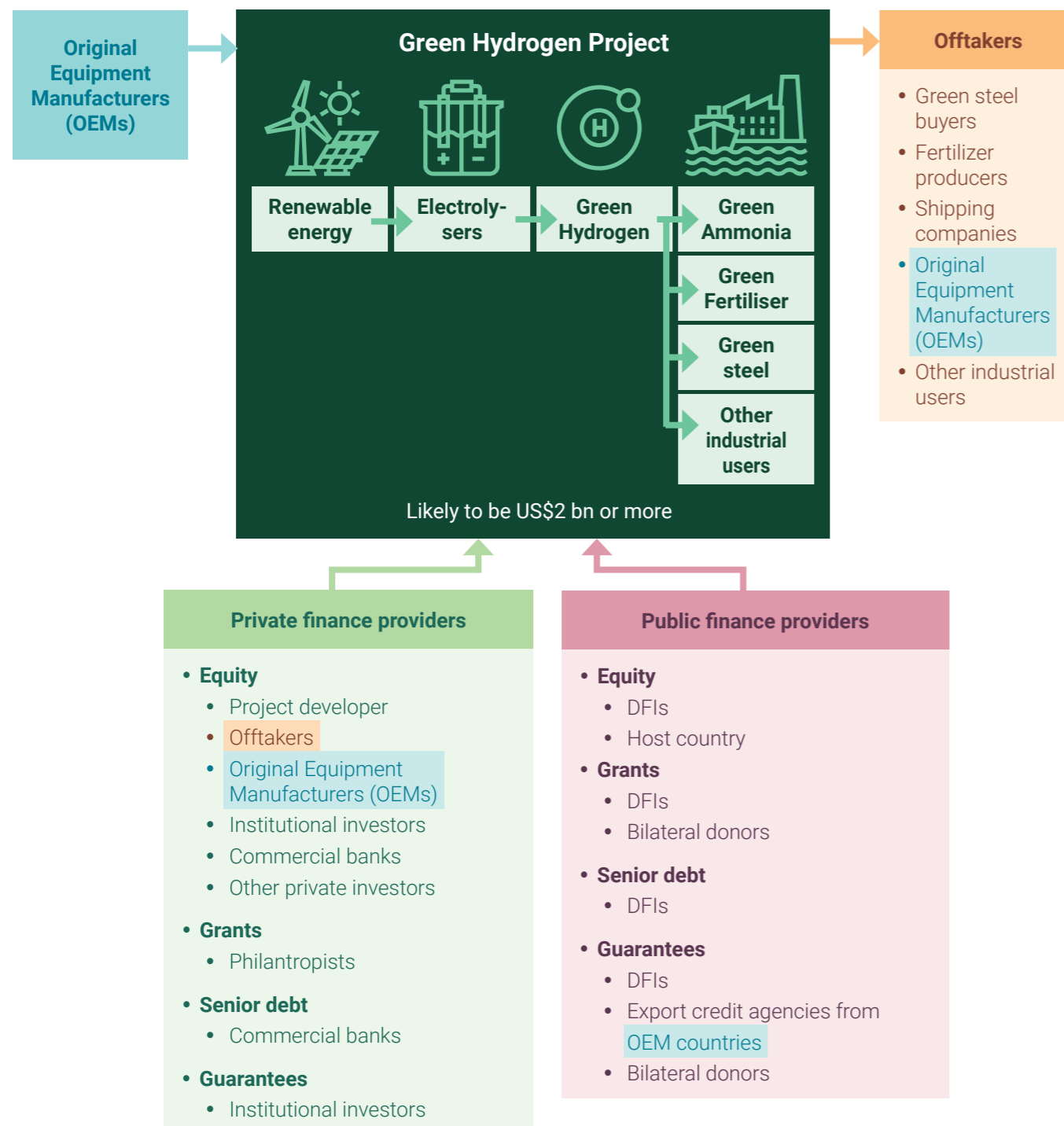
In recent months and following the adoption of the Inflation Reduction Act, a growing number of countries have been considering how to incentivise large-scale renewable energy and green hydrogen projects. In countries such as Egypt and India, the governments have announced and are preparing further measures to attract large developments. Everything from tax holidays and lower wheeling charges to reduced land rent have been considered as part of making the fiscal regime attractive for developers. Governments have a fine balance act to execute: to provide attractive fiscal terms while at the same time making sure that foreign investments bring long lasting income and benefits. As one minister of a developing country with significant renewable energy potential said: “We have to be prepared for the fiscal benefits to be limited and focus on making sure we get some longer-term economic benefits”.

In the recent document prepared by the Green Hydrogen Organisation, Green Hydrogen Contracting Guidance: Fiscal Terms and Incentives²⁷, lessons from the oil, gas, and mining sectors are discussed in greater detail. An overarching lesson appears to be that governments should be careful when aiming for quick fiscal returns, bonuses, or other forms of up-front payments. Such short-term fiscal benefits often turn out with time to have been less beneficial than would first have seemed the case. As part of this overarching lesson, it also appears that companies should be careful with hugely advantageous longer-term fiscal terms. A sound and long-term stable investment climate is often rooted in terms that do not give the government quick revenues, and over time makes sure the government gets a significant part of the revenue if the project is successful. This is a complex area largely outside the remit of this paper, but more can be read at the website of the Natural Resource Governance Institute.²⁸

The situation is particularly challenging for developing countries and emerging economies that almost never have the financial means as, say, the United States has at its disposal, and that do not have access to the significant tax credits enacted in the Inflation Reduction Act.

While this paper is focused on the role of DFIs in realising the large-scale renewable energy and green hydrogen economy in developing countries, as mentioned earlier, this role is not confined to DFIs providing grants, concessionary lending, guarantees, etc. to individual projects. DFIs can also provide technical assistance, advice, and capacity-building to governments in developing appropriate fiscal regimes. This is particularly important during the early years of the industry, when there are first-mover disadvantages and significant incentives attracting investments elsewhere.

Figure. Financing example of green hydrogen project



“Mobilizing international finance may require both direct and indirect financing to balance risk exposure for investors. Accessing direct financing for developing economies from development finance institutions such as the Green Climate Fund or the International Finance Corporation could help enhance existing private-sector capital (originating either locally or internationally) to overcome financing shortfalls. Indirect financing, such as partial credit guarantees, political risk guarantees, and first-loss provisions, could help manage project financial risks as well as hedge against downside political risks that some investors may perceive.”

Africa Green Hydrogen Alliance report on Africa's Green Hydrogen Potential prepared by McKinsey, launched at COP27

4. Key recommendations

To substantively scale up green hydrogen investments in emerging and developing economies, we recommend that DFIs pursue efforts in the following areas:

1. Massively scale up blended financing.

It is expected that US\$1.2 trillion of investment in hydrogen supply and use will be required between now and 2030²⁹ and, in line with the Bridgetown Initiative, DFIs have a key role to play in financing the transition to green energy in emerging and developing economies. Some DFIs have already announced or are preparing significant transactions for renewable energy and green hydrogen projects. However, further speed, scale, and transparency is needed.

2. Scale up support for projects along the value chain.

The mere presence – and not necessarily the scale – of DFI engagement in a green hydrogen project can have a substantive impact on reducing risk and thereby lowering the cost of capital. According to several project developers, the engagement of reputable DFIs during the project preparation phase has been particularly helpful in strengthening investor confidence. In addition to providing technical assistance, DFIs should seek to increase direct financing, including through anchor investments, as well as the use of de-risking instruments to effectively crowd in private capital for green hydrogen investments.³⁰ The IFC's Managed Co-Lending Portfolio Program provides a good example of a platform that has been successful in crowding in private capital, with investors being able to co-lend alongside IFC.

3. Develop a global investment platform for the green hydrogen economy.

Rather than competing informally for projects, DFIs should collaborate to leverage their comparative advantages and skill sets. The platform could draw on models that have worked well in other areas, including initiatives like Finance in Common³¹, the Africa50 Infrastructure Investment Platform, and the Just Energy Transition Partnerships. Some progress to improve coordination of activities amongst the largest DFIs has already been made in recent years, including by instituting regular meetings between the institution heads.³²

4. Develop a joint model for a bankable large-scale project in an emerging or developing country.

The model should distinguish risks in different phases and for critical elements of a project, identify options for de-risking these, and deploy workable risk allocation methods to unlock blended financing instruments from DFIs. Such a project model could be replicated with the intention of scaling up investments in the green hydrogen sector. Given their long experience from financing both infrastructure and renewable energy projects, DFIs are well suited to develop such a framework and an initiative such as the IFC Scaling approach could serve as a useful example.

5. Increase co-financing for large-scale projects

Large investments require risk-sharing amongst different actors and sources of financing. To achieve greater impact within the green hydrogen sector, DFIs must further strengthen collaboration and consider pooling more available resources (including for joint assessments and technical assistance) within the DFI system to promote efficient co-financing of large-scale projects. A successful example of DFIs pooling resources is the Just Energy Transition Partnerships. While education projects are not large scale, the International Finance Facility for Education also provides a successful example of four major DFIs that have been able to pool resources to fund projects in lower-middle income countries.

There are currently at least 30 major DFIs operating across the world. While the World Bank and the major regional MDBs are well-known, most other DFIs are small but with growing portfolios. In fact, several DFIs in Latin America, Africa, and Eastern Europe/Central Asia, such as e.g., the Brazilian Development Bank (BNDES), Development Bank of Latin America (CAF), the Central American Bank for Economic Integration (CABEI), Afreximbank, the Trade and Development Bank (TDB), and the West African Development Bank (BOAD), have expanded rapidly in recent years, partially as a result of increased access to bond market financing.³³ As recommended in a recent publication by ODI, the larger MDBs should seek opportunities to cooperate more closely with these smaller but growing institutions "to better leverage their potential to address global development needs"³⁴.

Whilst encouraging pooling of DFI resources to de-risk investments, it will be important to ensure the intended outcome of actually crowding in private capital is achieved. According to the Independent High-Level Expert Group on Climate Finance, "MDB incentive structures create a risk of 'crowding out' private capital instead of driving co-investment and mobilisation of additional private capital. This can lead to hoarding assets as opposed to using MDB capital to de-risk projects and unlock private investment."³⁵ As per the Enhanced Principles of the DFI Working Group on Blended Concessional Finance for Private Sector Projects, "DFI support of the private sector should make a contribution that is beyond what is available, or that is otherwise absent from the market, and should not crowd out the private sector...The concessionality embedded in a financing package should not be greater than necessary to induce the intended investment ("minimum concessionality" principle) and maximise the leverage of private funding."³⁶

6. Scale up the volume of tailored guarantee instruments.

While it may not be possible to substantively increase the volume of direct DFI financing available for green hydrogen projects over the short to medium term, in line with the Bridgetown Initiative, DFIs (in collaboration with bilateral shareholders) should seek to considerably increase the volume of guarantees for the sector, and tailor these instruments to accommodate risks specific to the green hydrogen industry.³⁷ The instruments should be applicable during various stages of the project lifecycle to insure/de-risk various political, financial, operational, and transactional risks. To accomplish this, DFIs should be looking at successful examples from other sectors, like e.g., the International Finance Facility for Education, which has managed to multiply scarce donor resources up to seven times across its guarantee and grant windows combined, aiming to unlock at least US\$10 billion of new funding over the next few years. With guarantees amounting to over US\$40 billion, the European Fund for Sustainable Development Plus seeks to mobilize more than €500 billion for investments in sustainable development by 2027.

7. Support the development of bond markets for green hydrogen projects.

To increase the number of bond issuers and issuances, DFIs should consider providing anchor investments, issuing insurance policies or credit guarantees, and enabling debt conversion or cross currency swaps, etc., thereby helping to catalyze private capital for the green hydrogen sector.³⁸ The Amundi Planet - Emerging Green One Fund, which aims to increase the capacity of emerging market banks to fund investments in climate action, provides an example that has been supported by several DFIs and could potentially be replicated specifically for the green hydrogen sector.

8. Develop a flagship green hydrogen project with one leading institution and several other co-financers.

This could build on experience from projects such as Benban under the Africa50 Infrastructure Investment Platform, RenovAr under IFC Scaling Infrastructure, and SDG Namibia One Fund.

“We need to rethink development finance to get large-scale green hydrogen projects to final investment decision. We need a major scaling-up of innovative solutions, including flexible alternatives for blending to arrive at scale; co-financing arrangements for large-scale projects; and tailored guarantee instruments along the green hydrogen value chain. DFIs have a clear opportunity to put the Bridgetown agenda into practice by catalysing and derisking investments in large-scale renewable energy and green hydrogen projects in emerging and developing economies.”

Frannie Léautier
CEO, SouthBridge Investments

Annex: Examples of blended finance models

Below, we present several existing blended financing models that DFIs could replicate to scale up investments in the green hydrogen sector. A couple of the models, e.g., the SDG Namibia One Fund and the Just Energy Transition Partnership, have already been supporting investments in the sector, while others have yet to be applied to financing green hydrogen projects.

IFC Scaling Infrastructure – replicating models to achieve scale in output with IFC in the drivers' seat

IFC has recently prioritized a new approach to creating bankable private sector infrastructure opportunities by focusing on a holistic approach to develop a pipeline of projects. The essence of the so called 'Scaling approach' is to develop a robust public-private partnership (PPP) model for a single deal and then replicating it. The purpose of this approach is to create new markets by spreading costs, enhancing impact, and encouraging programmatic, competitive tendering with faster delivery and lower prices.

The scaling approach has involved working with governments, investors, and bankers, while focusing on aggregation and investing upstream to achieve credibility downstream. The primary impact of the approach is scale in output—volume of new capacity brought on line, volume of capital expenditure on infrastructure assets, and investment opportunities for financiers and sponsors.

In addition to financing and transaction advice, the programmatic approach covers standardizing financing documents; lowering adviser and service costs by mandating a common set of service providers and negotiating service fees to achieved bulk discounts; benchmarking engineering, procurement, and construction costs; and IFC potentially acting as the common lead arranger and having a say in the final allocation of lenders across projects. IFC's engagement has been coordinated closely with World Bank interventions and adapted to specific country circumstances.

Examples include the RenovAr program in Argentina. A World Bank guarantee has been offered to Argentina as an optional, partial cover for investors willing to pay for it.

Source: Scaling Infrastructure: New Tools for a New Strategy. https://www.ifc.org/wps/wcm/connect/industry_ext_content/ifc_external_corporate_site/infrastructure/resources/scaling+infra++new+tools

European Fund for Sustainable Development Plus – generating investment through guarantee capacity and blending grants

The European Fund for Sustainable Development Plus (EFSD+) is included in the EU's long-term budget program for external action: Global Europe – NDICI is the main financial tool to mobilize investments under Global Gateway – the EU strategy to narrow the global investment gap in infrastructure. Together with the private sector, EFSD+ aims to mobilize more than half a trillion euros in for investments in sustainable development, including for renewable energy, in the period 2021-2027.

The instrument seeks to ensure world-wide coverage and includes:

- Guarantees (up to €40 bn in guarantee capacity);
- Grants provided through 'blending' (a mix of EU grants with bank loans);
- Technical assistance to help improve the quality of projects and the implementation of reforms; and
- Other support tools to support the development of partner countries.

The guarantee instrument will be provided in collaboration with the European Investment Bank (EIB) and other European financial institutions.

Source: European Fund for Sustainable Development Plus (EFSD+). https://international-partnerships.ec.europa.eu/funding-and-technical-assistance/funding-instruments/european-fund-sustainable-development-plus-efsd_en

SDG Namibia One Fund – an investment platform dedicated to attract blended finance

The SDG Namibia One Fund, launched during COP27, is created through a partnership between Climate Fund Managers (owned by the Dutch Development Bank and Sanlam Infracore), Invest International (owned by the Dutch Ministry of Finance), and Environmental Investment Fund of Namibia (owned by the Government of Namibia). The investment platform will convene and coordinate activities related to the green hydrogen industry in Namibia. Invest International will act as an anchor investor to help derisk private capital and facilitate further investments at scale, with the aim to mobilize up to €1 bn.

The Fund is premised on the principles of an innovative blended finance platform to accelerate the development of a green hydrogen sector in Namibia. The platform is designed as a program with a multiphase approach that includes a development fund, construction fund, and operational fund to facilitate fundraising and investments in untested markets, as well as attract sponsors with limited track records of operating in a market, or innovative schemes with limited proofs of concept.

Source: SDG Namibia One Fund: developing a green hydrogen economy in Namibia. <https://investinternational.nl/sdg-namibia-one-fund-developing-a-green-hydrogen-economy-in-namibia/>
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Just Energy Transition Partnership – a multi-stakeholder blended financing cooperation mechanism

The Just Energy Transition Partnership (JETP) is a new funding model created to help South Africa, Indonesia, India, Vietnam, and Senegal accelerate decarbonization by supporting the countries to move away from coal and accelerate their transitions toward a low emission, climate resilient economy.

In addition to the beneficiary countries, the Partnership is a collaboration between the governments of France, Germany, the United Kingdom, and the United States of America, along with the European Union. Multilateral development banks, national development banks, and DFIs are now also actively engaged in the JETP donor coordination group. South Africa was the first country to benefit from the JETP, which emerged from COP 26 in Glasgow.

The JETP is expected to catalyze private sector financing through various mechanisms including grants, concessional loans, investments, and risk sharing instruments. The Partnership will work to identify financing options for innovative technical developments and investments, including green hydrogen.

Source: France, Germany, UK, US and EU launch ground-breaking International Just Energy Transition Partnership with South Africa. https://ec.europa.eu/commission/presscorner/detail/cs/ip_21_5768

Just Energy Transition Partnerships: An opportunity to leapfrog from coal to clean energy. <https://www.iisd.org/articles/insight/just-energy-transition-partnerships>

Asia-Pacific Climate Finance Fund – promoting innovative, scalable, and commercially viable financial risk management products

The Asia-Pacific Climate Finance Fund (ACliFF) is a multi-donor trust fund established and managed by ADB with financial support from the Government of Germany's Federal Ministry for Economic Cooperation and Development (BMZ). ACliFF has been set up to fund the development and implementation of innovative, scalable, and commercially viable financial risk management products that:

- scale up the adoption of climate technologies;
- mobilize new sources of private sector climate financing;
- support investment in climate-sensitive sectors; and
- address extreme weather events.

ACliFF engages and uses the capacity of established constituents in the insurance, reinsurance, and financial industries, in both sovereign and nonsovereign operations, seeking to promote market development and innovation.

Examples include funding the structuring and implementation of letters of credit through ADB's Pacific Renewable Energy Program and the Uzbekistan Solar Public-Private Partnership Program. Both programs are foreseen to expand and include additional renewable energy projects. Further opportunities include (i) structuring and issuance of a blue bond to finance projects linked with the ocean economy and (ii) financial mechanisms for the transition away from fossil fuel energy generation.

Source: Acliff Overview. <https://www.adb.org/sites/default/files/page/631241/acliff-overview.pdf>

International Finance Facility for Education – freeing up additional MDB capital

The International Finance Facility for Education (IFFEd) is a public-philanthropic partnership developed for financing quality education in lower-middle income countries (LMICs). By multiplying scarce donor resources up to seven times across its guarantee and grant windows combined, the innovative financing mechanism aims to unlock at least US\$10 bn of new education funding over the next five years.

The Facility was first developed for financing education in close partnership with four major multilateral development banks (MDBs) and development partners. Using guarantees provided by shareholders for sovereign loan portfolios, the mechanism frees up MDB capital for additional lending, harnessing the power of the existing MDBs without creating new parallel structures. As recognized by the recent G20 Independent Review of Multilateral Development Banks' Capital Adequacy Frameworks (Expert Panel 2022), IFFEd has potential for much wider application in other sectors. The Facility has been reviewed by reputable credit rating agencies, who have provided a preliminary evaluation that it could be strongly rated.

IFFEd uses donor guarantees to provide a new form of quasi-equity to MDBs, allowing them to raise additional financing in capital markets and provide funding to countries for education. For every US\$1 in guarantees, donors provide US\$0.15 in cash as paid-in capital, with the remaining US\$0.85 in the form of a commitment to disburse should loans not be repaid. For every US\$1 of quasi-equity provided through IFFEd, MDBs are able to provide an additional US\$4 in financing to LMICs. The Facility explicitly guarantees MDBs as creditors (or lenders) and extends the portfolio guarantee of multiple loans to cover "all" loans. In the case of the World Bank (IBRD), this could be the entire loan portfolio and as such it could be termed an "equity" or "portfolio" guarantee.

Source: The International Finance Facility – A Proposal to Optimize MDB Balance Sheets in the Short to Medium Term. https://iff-education.org/wp-content/uploads/2022/11/IFF_final-Nov-23.pdf

Amundi Funds Emerging Markets Green Bond – creating new markets for climate finance

The Amundi Planet - Emerging Green One Fund aims to increase the capacity of emerging market banks to fund investments in climate action by deploying US\$2 bn into green bonds over its 12-year term. The Fund seeks to capture attractive risk-reward opportunities within both investment grade and high yield segments of the investment universe

As part of the Green Cornerstone Bond Program, the Fund takes a holistic approach by both investing in emerging market green bonds and supporting capacity building for the development of a robust green bond market, including developing green bond policies, providing training programs for bankers, and facilitating the adoption of the Green Bond Principles and international best practices in emerging markets.

In addition to Amundi Asset Management, EIB, IFC, and EBRD have supported the establishment of Amundi Planet - Emerging Green One Fund.

Source: Sourcing exposure to emerging markets yield premiums and green projects. <https://www.amundi.com/globaldistributor/product/view/LU2138388900>
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IFC's Managed Co-Lending Portfolio Program – co-investment on IFC terms

The Managed Co-Lending Portfolio Program (MCP) was launched by IFC in 2013 with the objective to co-invest in a portfolio of loans with institutional investors, such as central banks, sovereign wealth funds, pension funds, and insurance companies. MCP One Planet is a new facility, launched at COP26 in Glasgow, aiming to create the world's first cross-sectoral portfolio of emerging market senior loans aligned with the Paris Agreement. The new facility will combine investor contributions with IFC's own funds to substantially scale up climate-responsible financing for private companies

The standardized MCP Platform provides an efficient way to receive priority access to IFC's pipeline through one large allocation of capital, and then passively co-lending alongside IFC in every eligible project. This way, investors gradually receive a globally diversified pool of new senior loans across all sectors on the same terms as IFC. Through a flexible approach, the Platform has been adapted for MCP One Planet and offers a combination of dedicated IFC trust funds and B Loan funds.

MCP has succeeded in (i) identifying a clear problem; (ii) securing commitment of internal resources by an asset owner; and (iii) mobilizing seed funding.

Source: Managed Co-Lending Portfolio Program: MCP One Planet. <https://www.ifc.org/wps/wcm/connect/2458ed31-8c1d-4242-860c-273865976c46/MCP-OnePlanet-Brochure.pdf?MOD=AJPERES&CVID=okndNA8&id=1422400453272>

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37. E.g., the large commercial banks, who often do not have a presence in developing countries, are often unable to lend long-term (15+ years) unless such loans are backed by guarantees.

38. Green Bonds for Climate Resilience. https://gca.org/wp-content/uploads/2021/10/Green-Bonds-for-Climate-Resilience_State-of-Play-and-Roadmap-to-Scale.pdf?_gl=1*q6c23f*_ga*MjExODY3MDgyNy4xNjc0NTUzMTE3*_up*MQ

Digital report



The Green Hydrogen Organisation (GH2) is a non profit foundation focused on dramatically accelerating the production and use of sustainable green hydrogen across a range of priority sectors globally. GH2 initiatives include the Green Hydrogen Standard; the Green Hydrogen Charter and country portal; the DFI Green Hydrogen Roundtable; Green Hydrogen Contracting - for People and Planet; the Planning for Climate Commission and the Campaign for 100 million tonnes of Green Hydrogen by 2030.