

C L I F F O R D

C H A N C E

“

**FUNDING THE
ENERGY TRANSITION:
MOBILIZING PRIVATE
FINANCE FOR NET ZERO**

”

— THOUGHT LEADERSHIP

DECEMBER 2023



FUNDING THE ENERGY TRANSITION: MOBILIZING PRIVATE FINANCE FOR NET ZERO

As world leaders gather at COP28 in Dubai, there is widespread acknowledgment of the scale of action required to address climate change by accelerating the development of low-carbon energy sources, while also decarbonizing industry and transportation. This global energy transition will require large-scale construction of renewables and other low-carbon energy infrastructure worldwide (particularly challenging in developing economies) as well as the development and implementation of new technologies and the scaling-up of existing technologies. Investments in batteries for energy storage and electric vehicles, carbon capture and storage (CCS), sustainable aviation fuels (SAF), and green hydrogen, among others, are needed to reduce greenhouse gas emissions in hard-to-abate sectors in addition to power generation.

Given the significant investments that are needed to fund the global energy transition, it is clear that successfully addressing these challenges will require mobilizing private capital on a large scale to address the significant funding gap (estimated by some sources to be around US\$95 trillion in emerging markets alone) that cannot be filled by governments or multilateral development institutions acting in their individual capacities. Therefore, it will fall upon private capital providers, including private equity, real estate, infrastructure, venture capital and private credit funds, as well as pension and sovereign wealth funds, wealth managers and asset management arms of banks and insurers to provide the vast majority of energy transition funding. To that end, mobilizing private capital has been a focus of recent international efforts to overhaul the global financial architecture, including the Bridgetown Initiative, the Glasgow Financial Alliance for Net Zero and the New Global Financing Pact meetings in Paris in June 2023. The Nairobi Declaration, the call to action from African leaders attending the Africa Climate Summit in September 2023, also demands acceleration of these initiatives and recognition that decarbonizing the global economy is also an opportunity to contribute to equality and shared prosperity.

However, private capital does not act alone. Using private capital to fund energy transition projects will also involve the active participation of other project stakeholders, including through the use of so-called "blended finance", i.e., the strategic use of public money and/or development finance to reduce risk for private capital by allocating certain risks to governments or development financial institutions (DFIs). All of the participants in a project (e.g., host governments, project developers and private capital providers, project lenders, Multilateral Development Banks (MDBs)/DFIs and external governments) have a role to play and must work together in mobilizing private capital. Given the finite availability of funding, the focus must be on developing well-structured projects that can attract private capital. In the context of larger-scale or more complex energy transition projects involving new technologies or cross-jurisdiction aspects, project stakeholders may even collaborate in the creation of "ecosystems" by engaging with buyers, sellers, transporters, governments and lenders at the outset, allowing for better prediction of demand. For example, proposed large-scale hydrogen projects such as HyDeal Ambition (in Europe), HyDeal LA (in the US), and Hyphen Namibia require significant party coordination in the effort to create hydrogen "hubs", including

infrastructure investments at all steps of the supply chain for green hydrogen.

We highlight here the roles that key project stakeholders can each play in contributing to a successful project, with examples from our experience in various sectors related to the energy transition.

Host Governments

Clearly, host governments will play a central role in incentivizing the deployment of private capital for energy transition projects within the borders of their countries. In any energy or infrastructure project, the host government's responsibility to grant key permits, facilitate access to land and provide other forms of support through incentive arrangements, concession arrangements and credit support undertakings for public sector counterparties, makes it a crucial participant at all stages of project development. However, what is needed in the context of the energy transition goes beyond a project-by-project view; instead, a systemic approach and large-scale commitments by host governments are required in order to encourage the development of a stable pipeline of investible and bankable projects, rather than a series of one-off projects in an uncertain regulatory environment. In practice, this means developing new regimes to encourage relevant technologies. The key ways in which host governments can encourage the deployment of private capital for energy transition projects include the following:

- **Regulatory Certainty:** Developing and maintaining regulatory certainty, including for taxation, foreign exchange, and expropriation, is critical. Host governments can attract net zero investments by assuring potential private capital providers of the following factors:
 - a political leadership that is committed to net zero targets and will not change course with a change of administration;
 - strong market demand created by policies and regulations that encourage growth;

- a competitive and stable tax regime that incentivizes investment; and
- robust rule of law.

Regulatory uncertainty is not solely a concern for private capital providers in the context of developing economies. For instance, the UK Government's recent announcement of a weakening of some of its climate targets, including a five-year delay of a ban on the sale of new petrol cars, caused ripples in investor circles. In the US, domestic political challenges, including a divided Congress and pushback by the Supreme Court against certain regulatory approaches (see last year's decision in *West Virginia v. EPA*), also limit legislative efforts to create regulatory certainty. And there are already concerns that a change in the US Government could result in a rollback of the Inflation Reduction Act (IRA) and other key legislation which contributes to the US's ability to attract funding for energy transition projects.

Internationally, tools such as regional implementation agreements or bilateral investment treaties may protect investments, but implementing new policies may be difficult when World Trade Organization mechanisms are already facing political challenges. Further contributing to uncertainty on the transnational scale, national or regional green energy policies such as the IRA, the EU's Green Deal and EU Hydrogen Bank, among others, have recently sparked "green trade wars" by which developed economies challenge each other's energy transition incentive programs on the grounds of protectionism. See our recent publication, **The green industrial policy revolution**. In an increasingly unsettled international order, concerns about national security and control of supply chains are distorting allocations of private capital and investment flows from developed economies to the Global South. This "weaponization" of energy – and especially green energy – is also hindering global efforts to mobilize private capital.

- **Incentive Policies:** Creating local demand and "market signals" through incentive programs can be another opportunity for host governments to

US Regional Hydrogen Hubs

The US Congress has allocated up to US\$8 billion in federal grant funding for the creation of regional hydrogen hubs under the Bipartisan Infrastructure Law (BIL). On October 13, 2023, nearly two years after the enactment of the BIL, the White House and the US Department of Energy (DOE) finally announced the much-anticipated hub "winners". From 70+ initial hub applicants, the DOE chose seven regional clean hydrogen hubs that will receive funding with the goal of accelerating the domestic market for low-cost, clean hydrogen.

play a productive role in an energy transition project. Examples include:

- Standards and tradable certificates: certificates are issued to suppliers to demonstrate that their electricity has been generated from renewable sources. Sometimes these certificates can be traded. In the US, regulations such as renewable portfolio standards (RPSs) have provided the frameworks and market incentives for renewable energy certificates (RECs). California's Low Carbon Fuel Standard has also resulted in market signals that influence the US energy markets nationwide.
- Tax credits: the first wave of renewable energy projects in the US were largely funded through "tax equity" investments spurred by Obama-era production and investment tax credits; similarly, the IRA was structured as a series of tax credits supporting a wider range of projects (hydrogen, CCS and others). In the US, tax credits are an obvious choice to support new technologies, and production tax credits have already been successfully deployed in California to support SAF production.
- Feed-in tariffs/CfD structures: the UK's proposed support schemes for key energy transition sectors such as hydrogen have centered on the "contracts for difference" (CfDs) that have been successfully used to support offshore wind projects for many years. The regime replaced the initial feed-in tariff support mechanism since CfDs are thought to be better value for money for both the government and consumers and enable greater control over the rate of development in a more mature market. Under a CfD regime, the developer is required to make a difference payment when the market price exceeds the agreed, or 'strike', price under the CfD, and receives an equivalent payment when the market price is low. Strike prices are set by competitive auctions and CfDs have been successful in driving down deployment costs for the development of renewable energy.

However, low margins and a tough economic environment in the supply chain are making it challenging for developers, and the UK's latest CfD allocation round failed to deliver any offshore wind bids due to a low maximum bid level (and the UK Government has decided to increase support for the next round as a result). Reform of the market is expected, and the UK Government is currently consulting on proposals to introduce non-price factors such as capacity, sustainability, innovation, and system flexibility as part of the assessment criteria for the CfD auction process.

- Public-Private Partnership (PPP) programs: various forms of collaboration between government and the private sector are possible to finance, build and operate projects. Governments may support market development by acting as quasi-private off-takers or otherwise creating markets for ancillary services (i.e., storage). For example, renewable projects adding a battery storage component might be compensated by the government for providing energy reserve services, as was the case with the Capella and Providencia solar projects in El Salvador. Similarly, the Los Angeles Department of Water and Power (LADWP) provided market demand and offtake support for the recent Advanced Clean Energy Storage hydrogen project in the US, as the energy storage services provided by the Utah green hydrogen production and storage facility will support LADWP's end users by mitigating the intermittency of the Los Angeles basin's renewables-heavy grid.

Governments are progressively using the regulatory and policy tools that have been successfully deployed in the past to finance renewables and other critical infrastructure projects and applying these tools to new technologies and new sectors. There is no "one-size-fits-all" approach to successfully incentivize energy transition projects; rather, the incentive tools available for projects can (and should) differ between developed and developing economies, and among

jurisdictions, based on the unique characteristics and experiences of each. For instance, the use of tax credits does not make sense in a jurisdiction where taxes are not collected efficiently and regularly. Similarly, while they are essential tools for infrastructure development in some countries, PPP structures are not widely accepted in some markets, and having the government as an offtaker can either be reassuring or concerning, depending on the jurisdiction and the fiscal health of the sovereign.

- **Direct Funding:** Governments can provide direct funding (equity or debt) alongside private capital sources, including pension and sovereign wealth funds that can only invest within a country, and other development institutions, to support early-stage and first-of-a-kind (FOAK) projects. In the US, such funding has been provided by the Department of Energy's Loan Programs Office (DOE LPO), while in the Middle East, sovereign wealth funds and other public and quasi-public bodies such as Saudi Arabia's Public Investment Fund (PIF), Abu Dhabi's Mubadala and others have provided direct funding to energy transition projects in their respective jurisdictions. In the NEOM green hydrogen project in Saudi Arabia, for example, the government-owned National Infrastructure Fund was the largest lender alongside a club of commercial banks.

Direct government funding can provide comfort to the private sector that a FOAK project is investible and bankable and benefits from the support of the host government. However, direct government funding is not an option in many developing economies, where governments may not be able to depend on full coffers to fund essential services, much less to support potentially risky projects involving untested technologies.

- **Other Innovative Approaches:** Debt-for-nature and debt-for-climate transactions are another opportunity for host governments to support domestic climate initiatives while reducing debt service costs. The basic structure of a commercial debt conversion transaction involves an indebted nation buying back its existing publicly traded debt at its market price through a tender offer or similar operation, funding such buyback out of a new financing that benefits from a guarantee/political risk insurance (or similar credit enhancement) or a combination thereof from a highly rated entity, generating both principal and debt service reductions on the sovereign's debt. The credit enhancement is provided in exchange for commitments from the indebted nation to redirect a certain percentage of the fiscal savings towards agreed nature or climate objectives. Alternatively, an indebted nation can agree to such commitments bilaterally with an official bilateral

Debt-for-Nature – Marine Conservation in the Galápagos

Ecuador executed its debt-for-nature swap transaction in May 2023. The transaction was arranged by Credit Suisse and was structured and executed in partnership with the US International Development Finance Corporation (DFC), the Oceans Finance Company, the Inter-American Development Bank (IADB) and the Pew Bertarelli Ocean Legacy (with Clifford Chance acting as legal counsel to Credit Suisse on all elements of the transaction). It is the largest transaction of its kind to date, with Ecuador buying back US\$1.628 billion of its outstanding bonds from the market via a third-party tender offer led by Credit Suisse. The buyback was financed by a US\$656 million loan to Ecuador from a special purpose vehicle, which, in turn, funded itself via an issue of marine conservation-linked bonds also arranged by Credit Suisse. The transaction was made possible by a US\$656 million political risk insurance policy from DFC and a US\$85 million liquidity guarantee from the IADB, which allowed Ecuador to swap US\$1.628 billion of commercial debt securities (paying commercial rates of interest) for US\$656 million of debt effectively guaranteed by DFC (and paying a lower rate of interest). Successful execution of the transaction required close collaboration between the transaction parties and their respective legal counsel and coordination across various Ecuadorian government stakeholders.

The transaction will generate an estimated US\$323 million for marine conservation in the Galápagos Islands during the life of the deal, split between operational funding and funding for an endowment, with the goal of supporting marine conservation projects beyond the term of the transaction. Combined, the debt conversion and endowment will generate more than US\$450 million for marine conservation in the Galápagos Islands. The conservation funding is paid over time to a newly established Delaware nonprofit organization, the Galápagos Life Fund, which is tasked with directing the funding in furtherance of the agreed conservation objectives.

creditor (or group of official bilateral creditors) in exchange for reduced principal or interest costs on its debt from that creditor (or group of creditor). This is particularly salient at this time as 50 of the world's poorest countries are at risk of default on their external debt, and 28 of these countries are also among the most-climate-vulnerable nations. As a recent example, Clifford Chance represented Credit Suisse as arranger of a debt-for-nature swap for Ecuador, which involved Ecuador agreeing to direct part of the fiscal savings towards marine conservation in the Galápagos Islands (see box). See also our recent briefing: **Debt-for-Nature Swaps: A New Generation**. The structure is versatile and can be applied to different objectives, provided that an MDB or other highly rated entity is willing to provide credit enhancement, and a non-governmental organization (NGO) or international organization with sufficient experience in the relevant field is willing and able to sponsor it.

Finally, host governments can work to minimize legal and technical risks and incentivize projects through the establishment of special technical and legal regimes. For example, Egypt and Oman have pushed to become regional green hydrogen leaders through the creation of special economic zones (the Suez Canal Economic Zone and Special Economic Zone at Duqm, respectively) where electrolyzers can be co-sited with desalination plants, transport facilities and other support infrastructure.

Just Transition: Balancing Affordable Power and the Energy Transition

Policies, pledges and industry-wide agreements expressed in absolute, single-track terms can be inappropriate in countries where energy poverty remains extremely high. In some regions, the development and use of gas (including blue hydrogen) can both address immediate access to energy while enabling the development of infrastructure necessary for the introduction of large-scale renewable energy projects, not to mention the significant socio-economic impacts on

the host communities and the country. For example, the Globeleq-led gas-fired power project in Temane in Mozambique is designed to support the country's longer-term energy transition to net zero by 2050 as it can deliver variable baseload and dispatchable power to support renewable generation. It could also be upgraded to handle hydrogen.

Global policies and rules must be nuanced to reflect regional realities – well-planned transitional gas projects with the necessary mitigations and capacity for future transition to low carbon use is the right path to net zero in certain parts of the world and a blanket ban on financing hydrocarbons runs the risk of perpetuating energy poverty and further delaying the transition to net zero. [See further PWC's 2023 Africa Energy review.](#)

Project Developers and Private Capital – Equity Financing

Beyond traditional energy companies, including hydrocarbon producers, a wide range of project developers and private capital providers will need to participate in energy transition projects in order to unlock the full range of equity financing available – these include private equity, real estate, infrastructure, venture capital and private credit funds as well as pension and sovereign wealth funds, wealth managers and asset management arms of banks and insurers. Key considerations for these participants include:

- **Need for Increased Flexibility:** Given that many energy transition technologies are new or have not been implemented at large scale, standard "market" terms and structures have yet to solidify. This means that project developers and private capital providers may need to show greater flexibility, both in the structuring of projects and in offtake arrangements. They will need to consider where in the capital structure they invest, with whom they invest and the type of investments they make, as well as their approach to the revenue model underpinning the project (e.g. merchant or contracted offtake arrangements).

This increased flexibility can help developers be more adaptable in managing risk at the asset level. In some transactions, private capital providers have invested early in the development lifecycle prior to the final investment decision and/or debt financial close, including through the use of structured equity arrangements such as preferred stock, rather than *pari passu* with project finance debt at financial close. This helps to avoid negative arbitrage and demonstrates to the debt financing market that the equity investors have confidence in the project (i.e., they have "skin in the game").

- **Use of Portfolio Structures:** Some energy transition projects may have a big impact at a regional level but nonetheless be too small to finance independently – for example, electric vehicle (EV) charging stations or rooftop solar installations. This often results in the aggregation of individual projects using platform or portfolio structures to achieve size and scale and, in many instances, mitigate risk across assets at different stages of development and across different jurisdictions. Achieving size and scale is often required in order to attract private capital from certain types of investors such as private equity.
- **Corporate Structuring Considerations:** As traditional energy companies (including hydrocarbon producers) increasingly seek to diversify and invest in the energy transition, renewables or energy transition-dedicated business units are often spun-off into separate corporate subsidiaries tasked with developing and managing low-carbon projects. In COP28 host the United Arab Emirates, this is illustrated by the Abu Dhabi Government's recent restructuring of its public sector energy companies, through which developer TAQA acquired the leading role in the renewables business of Abu Dhabi's Masdar, while oil company ADNOC took the controlling stake in Masdar's green hydrogen business. While some have questioned the optics of hydrocarbon producers and energy transition-focused units sharing the same ownership, this approach benefits energy transition projects

generally by providing access to the parent company's larger balance sheet, particularly in new technologies or projects without firm committed offtake. In addition, this allows government developers to take on more risk.

In certain sectors, such as EV battery production, the need to tie up supply chains also means that project developers may be willing to fund more on balance sheet if the output of the project is needed for further applications by sponsors or their affiliates.

Private Capital – Debt Financing

As with equity financing, the type of private capital providers of debt financing that are needed to support the energy transition will need to be broader than the commercial banks traditionally operating in the project finance market – for example, by opening up the participation of credit funds, institutional investors and private credit, and these participants will also need to be flexible as funds flow to FOAK projects and new sectors.

- **Need for Flexibility as Market Practice Emerges:** Private lenders that fund new sectors and technologies needed for the energy transition, such as SAF and hydrogen, will at least initially be working without the benefit of standard "market" terms and conditions. As such, lending institutions will need to be flexible and move with the market as it develops. Nascent hydrogen and energy storage markets, for example, should be supported by lenders offering longer tenors and flexible amortization schedules, as well as flexibility in loan terms to avoid stringent representations, covenants and "hair-trigger" events of default – and banks increasingly have management mandates to do so in order to support institutional priorities to shift funds towards energy transition sectors. However, despite these mandates, it may be difficult for lenders' risk committees to approve projects that feature an element of FOAK risk. From this perspective, for lending to grow, risk committees will have to become comfortable (or be "allowed" by management to become

more comfortable) with reviewing new technologies (including FOAK) and newly regulated industries. This may involve imposing a different standard of risk review for energy transition projects, including acceptance of some portions of these risks when appropriately shared with others.

In order to mitigate the risks highlighted above, private lenders can spread risk through syndication with other lenders as well as through "blended finance" structures in which public sector capital is deployed alongside private lending – for example, using A/B loan structures in which MDBs or DFIs provide direct loans (the "A loans") as well as acting as lender of record for loans that are funded by commercial bank participants (the "B loans"). This allows commercial banks' B loans to benefit from the applicable privileges and immunities of the MDB, and thus facilitates the private financing of projects by de-risking the commercial banks' participation.

Some government or quasi-government entities in the Middle East have also employed similar structures to support private lenders in energy transition projects. For example, the Saudi National Infrastructure Fund (NIF) has entered into participation arrangements with private Saudi Islamic Finance Institutions (IFIs) by which the IFIs advance funds which are backed by NIF, which is obligated to purchase the IFIs' commitments upon the occurrence of certain trigger

events, including payment default by the project company. This funding structure was used in the US\$8.5 billion financing of the NEOM green hydrogen project in Saudi Arabia, where NIF participated with a club of international commercial banks and Saudi IFIs.

- **Capital Markets:** Given the huge amount of investment required on a global scale and on a project-by-project basis for some particularly capital-intensive projects and sectors (for example, the HyDeal LA project, which would have required US\$30 billion to complete), new forms of financing beyond the loan market, including through capital markets, may be necessary. Green bonds and sustainability-linked bonds have been used to support green projects or by corporates generally to improve their sustainability levels. However, to unlock debt capital markets and attract institutional investors to energy transition projects, climate bonds will need to be appropriately structured to create efficient pass-through of cash flows that will attract institutional investors. MDBs can help absorb risks in green bond issuances by providing political risk cover and other mitigants.

The Sun King securitization of home solar power systems in Kenya is an example of a portfolio financing using a securitization structure (see box). This structure can be particularly useful to industrials seeking to decarbonize their operations.

Kenya – Sun King Securitization

Sun King is the world's largest off-grid solar energy company which designs, distributes, installs and finances solar energy solutions for African and Asian households and businesses who cannot access, rely on or afford traditional electric grid connections. The company does this by rolling out low-cost home solar power systems to millions of homes across twelve countries. For the vast majority of them, it provides finance enabling them to pay for the systems in instalments. International investors are now funding that credit via a securitisation transaction which could provide a blueprint for future transactions at a larger scale.

Key features:

- **Pay-As-You-Go Contracts:** Sun King provides portable solar-powered lamps, larger solar powered home and business energy systems powering essential appliances, including charging systems, televisions and fans to customers. Payment for the products is on a pay-as-you-go basis. Sun King and the customer would agree a payment plan for the product on an instalment basis and once instalments are paid in full, the product is permanently unlocked, enabling the customer access free solar generated electricity and lighting throughout the product's lifetime.
- **The Financing:** The KES-equivalent US\$ 130 million financing is based on a sustainable financing model, backed by a granular portfolio of pay-as-you-go receivables originated in Kenya.

Multilateral Development Banks / Development Finance Institutions

MDBs and other regional and national DFIs have historically played a key role in funding renewable energy generation and other energy transition projects. The role of these institutions is particularly important in emerging economies where private lenders may be reticent to extend credit without the "halo" of DFI funding. Funds are finite and DFIs cannot fill the gap alone, but they can play other roles beyond direct funding to incentivize the flow of private capital:

- **Expanded Risk Coverage:** A traditional role of MDBs and DFIs is to absorb certain risks that are not well addressed by other private participants – for example, by providing political risk cover. However, in order to assist in mobilizing private funding, these institutions can develop new products and mechanisms that extend beyond political risk insurance to cover the risk of FOAK projects, trade risk and foreign exchange risk, among others. This could include insurance products or co-lending mechanisms with the private sector through which a DFI provides subordinated debt to absorb technology or ramp-up risks. To that end, the Independent High-Level Expert Group on Climate Financing, in its report **Finance for climate action: Scaling up investment for climate and development**, has called for MDBs and DFIs to significantly scale up their collaboration with the private sector.

As an example of the type of support that MDBs can provide by collaborating with the private sector, in the recent refinancing of solar projects in Egypt's Benban complex, both MIGA and EBRD risk mitigants were incorporated into the financing structure to facilitate distributions to investors in a "green bond" capital markets financing (see box).

- **Support for FOAK and Other Innovative Projects:** MDBs/DFIs can support innovative projects in sectors where private lenders have not been willing to lend, for example in decommissioning programs and CCS, by reducing the cost of capital and building lender confidence in the relevant sector or project. For example, the Asian Development Bank Energy Transition Mechanism seeks to develop a framework to buy and retire operating coal plants, including the use of both concessional and commercial bank financing, with pilot programs in Indonesia, the Philippines, Vietnam, Pakistan and Kazakhstan.

DFIs and MDBs can also support commercial banks in debt-for-nature swaps, such as the Ecuador transaction described earlier, in which DFC provided US\$656 million in political risk insurance for the loan and the IADB provided a US\$85 million guarantee.

Finally, MDBs can also provide soft support through development of model laws, programs, and templates for energy transition projects.

MDB risk coverage: Benban Solar Refinancing

An innovative US\$334.5 million green project bond refinancing of six solar PV projects in the Benban Solar Park in Egypt, the fourth largest photovoltaic solar power plant in the world and the largest on the African continent.

This capital markets climate finance transaction is the first of its kind in Africa and benefits from a Climate Bond certificate from the Climate Bond Initiative.

The green bonds were distributed to a consortium of DFIs — the European Bank for Reconstruction and Development (EBRD), DFC, Dutch Entrepreneurial Development Bank (FMO) and German Investment Corporation (DEG) — alongside private institutional investors from around the globe.

Multilateral Investment Guarantee Agency (MIGA) and EBRD risk mitigation instruments were incorporated into the structure to facilitate distribution to private sector investors.

The structure establishes a precedent for future transactions, including the prospect of Investment Grade credit ratings, to introduce private investment and support the financing of energy transition and climate resilience investment programs in Egypt and beyond.

External Governments and Others

While the key project participants described above will play an important role in every project, other actors may take on new or expanded roles in financing particular projects on a case-by-case basis.

- **External Governments:** External (non-host-country) governments, particularly in advanced economies, can incentivize the flow of outbound investment to projects in developing countries through a number of means. As illustrated by the discussion of DFIs/MDBs above, these governments can expand funding for their DFIs (and MDBs to which they contribute membership funds) and direct these institutions, as well as other internationally focused government lenders, such as credit agencies, towards the funding of energy transition projects. In addition to mobilizing funds through government lending institutions, external governments can also support "national champion" companies that develop and operate projects in the developing world. To that end, the initiative recently announced by the United Arab Emirates at September's Africa Climate Summit in Nairobi to provide US\$4.5 billion in energy transition funding to Sub-Saharan African nations involves the participation by Dubai-based energy developer AMEA Power alongside Abu Dhabi's Masdar.

Governments can also accelerate technological scale-up through research and development programs and incentives, which result in lower costs and benefit the wider world as new technologies become more efficient (as we have seen over the years with wind and solar generation technologies). For example, the DOE has an ambitious R&D program underway with the goal of reducing the cost of clean hydrogen to US\$2/kg by 2026 and US\$1/kg by 2031.

Finally, Governments can also help to create global demand for appropriate energy transition products, such as green ammonia, and remove trade barriers that would impede markets. For instance, the European hydrogen program creates a global market for green hydrogen, albeit with restrictions.

- **Private Insurers:** Insurance coverage is an important tool to absorb risk in any project, and insurance markets will need to be expanded in light of the global energy transition to adjust to both new technologies and the scale of the expected energy transition investments. The relationship between insurance and the success of new technology sectors is almost symbiotic. The better, or more comprehensive, the cover economically available in the market for a particular product, the broader the investor confidence in that technology. If insurers are given the opportunity to work with equipment manufacturers and understand the technology, they can play a crucial role in getting projects financed and delivered and thus have a huge role to play in the energy transition and the move towards net-zero.
- **Private Foundations and Others:** With new technologies and new challenges come new participants. Given the scale of funding required, private foundations focused on climate funding (e.g., Bezos Earth Fund, Bill & Melinda Gates Foundation) and climate-focused investment funds may take a more active role in supporting energy transition projects over the coming years, especially on very early-stage capital.

What's next?

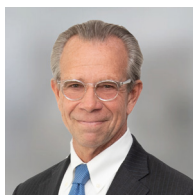
It is clear that private capital will be critical to address the net zero funding gap and there are many ways in which this can be accelerated. However, there are clearly some big challenges to be addressed. Solving these will require collaboration between private capital providers and other key project stakeholders such as host governments, project developers, commercial lenders, and external governments who can each play a role in contributing to successful projects that will show the way forward in the energy sector.



CONTACTS



Clare Burgess
Partner
London
T: +44 207006 1727
E: clare.burgess@cliffordchance.com



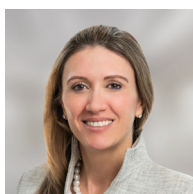
David Evans
Senior Counsel
Washington DC
T: +1 202 912 5062
E: david.evans@cliffordchance.com



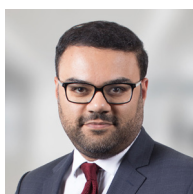
Mohamed Hamra-Krouha
Partner
Abu Dhabi
T: +971 2 613 2370
E: mohamed.hamra-krouha@cliffordchance.com



Greg Jehle
Senior Associate
Abu Dhabi
T: +971 2 613 2319
E: greg.jehle@cliffordchance.com



Nadia Kalic
Partner
Sydney
T: +61 2 8922 8095
E: nadia.kalic@cliffordchance.com



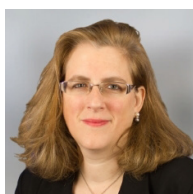
Daud Khan
Partner
Abu Dhabi
T: +971 2 613 2320
E: daud.khan@cliffordchance.com



Olamide Oladosu
Partner
London
T: +44 207006 2016
E: olamide.oladosu@cliffordchance.com



Kai-Niklas Schneider
Partner
Singapore
T: +65 6410 2255
E: kai.schneider@cliffordchance.com



Deborah Zandstra
Partner
London
T: +44 207006 8234
E: deborah.zandstra@cliffordchance.com

C L I F F O R D

C H A N C E

This publication does not necessarily deal with every important topic or cover every aspect of the topics with which it deals. It is not designed to provide legal or other advice.

www.cliffordchance.com

Clifford Chance, 10 Upper Bank Street, London, E14 5JJ

© Clifford Chance 2023

Clifford Chance LLP is a limited liability partnership registered in England and Wales under number OC323571

Registered office: 10 Upper Bank Street, London, E14 5JJ

We use the word 'partner' to refer to a member of Clifford Chance LLP, or an employee or consultant with equivalent standing and qualifications

If you do not wish to receive further information from Clifford Chance about events or legal developments which we believe may be of interest to you, please either send an email to nomorecontact@cliffordchance.com or by post at Clifford Chance LLP, 10 Upper Bank Street, Canary Wharf, London E14 5JJ

Abu Dhabi • Amsterdam • Barcelona • Beijing • Brussels • Bucharest • Casablanca • Delhi • Dubai • Düsseldorf • Frankfurt • Hong Kong • Houston • Istanbul • London • Luxembourg • Madrid • Milan • Munich • Newcastle • New York • Paris • Perth • Prague • Rome • São Paulo • Shanghai • Singapore • Sydney • Tokyo • Warsaw • Washington, D.C.

Clifford Chance has a co-operation agreement with Abuhimed Alsheikh Alhagbani Law Firm in Riyadh.

Clifford Chance has a best friends relationship with Redcliffe Partners in Ukraine.