SECOND EDITION

Understanding Power Project Financing

CONTENTS

CHAPTER 1: Introduction

This Handbook builds upon the first edition to provide an updated overview of the key considerations relevant to the financing of power projects in Africa. It also highlights the evolving financing landscape and offers insights into emerging structures and their specific characteristics. In doing so, this Handbook aims to provide practical guidance to stakeholders as they develop strategies to increase the volume of capital deployed to bridge the growing energy deficit.

Despite notable advancements in the energy transition, a substantial gap persists between power demand and supply within the power sectors of emerging economies, particularly in Africa. While various efforts have been made by governments, Multilateral Development Banks (MDBs), and other stakeholders to boost power generation and expand energy access, significant investments remain to be made. In addition, macroeconomic challenges have limited the fiscal capacity of developing economies to build a sustainable power sector without external support.

In most African markets, very little capital is deployed in the energy sector, despite the huge amounts of capital pledged and the broad alignment and commitments made to global development goals. Some reasons for this shortfall include a widespread and persistent negative risk perception despite the low default rates witnessed in reality and the need for further advancements in creating clear and transparent enabling environments.

In response to these challenges, stakeholders have explored alternative approaches to accelerating power sector development, moving beyond traditional models. The ongoing energy transition has also led to the widespread adoption of new technologies and business models which require innovative financing solutions and alternative approaches to risk allocation. A growing range of options is emerging to address these needs, opening up new sources of capital and offering hope for accelerated progress.

1.1 Who Is This Handbook For?

This Handbook is primarily intended for energy stakeholders involved in financing power projects. These stakeholders include government officials, state-owned enterprise representatives, independent power producers, development and commercial banks, investors, and other funders. Practitioners should consult this Handbook early in developing power projects to explore available financing options.

1.2 How Does This Book Fit Within the *Understanding* Series?

This Handbook is the sixth title in the *Understanding* series published by Power Africa. It references the other Handbooks, which are widely available in print and electronic formats. Some concepts or areas of a subject matter have been more comprehensively explained in one of the other books. In these instances, that topic will not be described in a detailed manner in this Handbook, and it will be assumed that the reader, if not familiar enough, can refer to the relevant Handbooks.

1.3 Who Are The Authors?

The authors, representing a diverse range of professionals within the power sector, including government officials, lawyers, academics, and financiers, have collaborated to create this Handbook. By combining their collective practical experience and knowledge, the book aims to offer a comprehensive perspective that transcends any single industry group, practitioner, or organisation. Through a collaborative writing process, the authors have produced insights that are greater than the sum of their individual expertise. They hope that their differing perspectives will contribute to a shared understanding of these topics among the various project stakeholders.

1.4 How Was This Book Developed?

The Handbook was produced using the Book Sprint (*www.booksprints.net*) method, which allows for the drafting, editing, and publishing of a complete product in just five days. Our journey began with a spirited discourse and quickly progressed to a furious pace of writing with occasional interruptions for the introduction of brilliant ideas and critical insights. There was a surprising amount of consensus on some topics and an unexpected level of debate on others. The outcome is a product that reflects this collaboration rather than the personal opinions of the authors or the institutions that they represent.

The authors would like to thank our Book Sprint facilitator Alysa Khouri for her patient guidance and unwavering leadership throughout the nearly 75-hour drafting process. The authors would like to extend their gratitude to the remote Book Sprints staff, Lennart Wolfert, for transforming our hastily written notes

into visually appealing and thought-provoking illustrations; and Raewyn Whyte and Christine Davis, whose meticulous proof-reading ensured the accuracy and clarity of the text.

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The authors would also like to thank the generous funding and logistics support from the United States Agency for International Development's Power Africa programme and the African Legal Support Facility.

1.5 How May I Use This Book?

Building on the open source approach of the Power Africa Understanding series, this Handbook aims to capture the dynamic spirit of the Book Sprint process. It's designed to be not just a reference but also a springboard for further discussion and research.

Initially available in English, a French edition is forthcoming. The Handbook is accessible both electronically at *cldp.doc.gov/Understanding* and in print format. It can also be used as an interactive online resource. Many contributing authors are actively working within their institutions to adapt this Handbook for training courses and technical assistance programmes.

The authors of this second edition would like to acknowledge and thank the contributions of the authors of the first edition of this Handbook, including Rhoda Limbani Mshana, Principal Results Specialist, African Development Bank (Côte D'Ivoire); Lucy Chege, General Manager—Infrastructure Finance, Development Bank of Southern Africa (South Africa); Patrick M. Dougherty, Senior Counsel, The World Bank (United States); Toyin Ojo, Senior Legal Counsel, African Legal Support Facility (Côte D'Ivoire); Alex Evans, Deputy Associate General Counsel SME Finance, Overseas Private Investment Corporation (United States); Dozie Okpalaobieri, Energy Adviser, Ministry of Finance (Nigeria); Franca Sandham, Power & Infrastructure Finance, Investec Bank Limited (South Africa); Jay Govender, Director—Projects and Infrastructure, Cliffe Dekker Hofmeyr Inc. (South Africa); Kaushik Ray, Partner, Trinity International LLP (United Kingdom); Tony Iskarpatyoti, Vice President, Nexant, Inc. (United States); Tim Scales, Partner, Allen & Overy LLP (United Kingdom); Vibhuti Jain, Senior Project Finance Advisor, USAID/Power Africa (United States/South Africa); Amir Shaikh, Chief Legal Counsel, African Legal Support Facility (Côte D'Ivoire); and Neil van Niekerk, Managing Director and Head—Africa Project & Export Finance, Standard Chartered Bank (South Africa).

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CHAPTER 2: Context

2.1 The Challenge of Financing Power Projects

The first edition of this Handbook was published at a time when the financing of power projects implemented by the private sector on the African Continent was well underway, but being newly adopted in certain countries. At that time, many countries around the world were debating the extent to which power markets should be opened up, given energy security concerns and the view of energy as a public good. Today, almost a decade later, the question of private partnership across the energy value chain is focused on the 'how' rather than the 'if', as private capital has become the dominant source of funding for power projects in most parts of the world. With a historic shift towards a reliance on increasing amounts of private capital comes the challenge of how best to attract, regulate, structure, and deploy these funds for power projects.

This second edition of the *Understanding Project Power Financing* handbook seeks to further address the growing complexity of energy needs and capital constraints paired with the evolving market structures, technology solutions, and the opportunities these present to countries and investors alike. This chapter briefly outlines key areas of change since the first edition of the Handbook was written.

2.2 Growing Energy Gap

In the period since the first edition of the Handbook was written, there has been a growing demand for reliable and consistent energy, which is critical for countries to industrialise and achieve economic growth. More recently, the World Bank and the African Development Bank have set an ambitious target of connecting

half of the 600 million Africans who still lack electricity access by 2030 through Mission 300. Mission 300 targets investment of up to an estimated USD 30 billion annually in the electricity sector in Africa, which is far more than the investment capacity of most African countries.

Over the past decade, many countries have implemented electricity market reforms aimed at increasing power sector participation and investment to increase energy generation, but this has yet to yield the intended outcomes. The power sector relies on physical value chain infrastructure of generation, transmission, and distribution, a costly undertaking to construct and maintain. An enabling investment environment and financial certainty are needed to both attract power projects and ensure long-run sustainability across the value chain, with private sector stakeholders asking for additional sovereign support in the absence of creditworthy offtakers. Competing demands on government funds and limited financial solvency in the power sector constrain the ability of many African governments to invest in additional power generation capacity, especially in countries already facing various macroeconomic challenges. The end result has been that fewer transactions involving public entities (directly or indirectly) are reaching financial close even as the energy requirement continues to increase.

2.3 Power Project Financing in a Debt-Constrained Environment

Another complexity is the reality of a constrained sovereign debt landscape in the wake of the COVID-19 global pandemic, rising interest rates, global conflicts, and other fiscal spending needs. The COVID-19 pandemic necessitated a swift shift in government fiscal priorities toward immediate emergency measures, inadvertently reversing years of progress in energy access. As energy

demand for development grows, traditional sources of capital are constrained, and governments continue to explore non-traditional options for financing and offtake structures.

The disruption of supply chains by global conflicts exposed the energy industry and the world to (i) the fragility of energy security and (ii) increased the cost of fuels and other imported equipment and goods required to build, operate, and maintain energy assets. Reduced exports and increased demand for essential imports led to the deterioration of the balance of payments for a number of African countries, resulting in a shortage of currency reserves crucial for attracting external debt.

Debt repayments, which have increased sharply in recent years, mean that many African governments find it difficult to access the funds required for capital-intensive energy projects. Moreover, low sovereign debt ratings further limit access to outside investment—in 2023, only two African countries, Botswana and Mauritius, held investment-grade ratings. The resulting country-wide and project-specific risk perception, coupled with the growing cost of capital of reserve currencies, have been a major impediment to scaling up energy investments in Africa.

2.4 Energy Transition and Climate Change

Many developing countries are at different stages of attaining the United Nations Sustainable Development Goal of ensuring universal access to clean and affordable energy (SDG 7). Since 2020, there has been increased global attention on making sure all countries that signed on to the 2015 Paris Agreement at the UN Climate Change Conference (COP21) have submitted their national climate action plans laying out their Nationally Determined Contributions (NDCs) committing to reduce greenhouse gas (GHG)

emissions by 2030. Meanwhile, to remain Paris-aligned, many traditional sources of capital, including Multilateral Development Banks (MDBs), bilateral Development Finance Institutions (DFIs), and Export Credit Agencies (ECAs), are restricting their financial support to low or zero-carbon technology solutions for power generation.

Public and private power stakeholders, including ministries, regulators, and public utilities, are being asked to view energy transition as an opportunity to meet the demands of emissions reductions, energy security, and sustainable development goals. However, in many countries on the continent, the electrification needs outweigh the emissions reduction priorities to meet the growing energy demand required to unlock further economic activity. Less than 50% of sub-Saharan Africa has access to reliable electricity. In comparison, energy-related carbon emissions for the continent represented 3.2% of cumulative global emissions in 2022, according to the International Energy Agency (IEA). Countries with lower electrification levels require significant energy to industrialise and grow their economies: they will need to balance emissions against the costs of not electrifying with the most cost-effective available solutions.

To reach universal energy access in Africa, the IEA estimates that USD 25 billion is needed annually in grid infrastructure by 2030. Most state-owned utilities responsible for transmission on the continent experience high system losses, averaging 15% across the continent in 2020 compared to the 7% global average. Their poor financial health makes it challenging to expand and modernise the grid into a reliable and robust electricity network that will facilitate greater penetration of renewable energy.

The cost of capital for utility-scale clean energy generation projects in Africa using mature and commercially viable technology is at least two to three times higher than in advanced economies. With the urgency to decarbonise to meet NDC targets, rapid advancements are identifying new sources of energy and emerging technology solutions, ranging from renewables,

storage, nuclear, hydrogen, carbon capture utilisation and storage (CCUS), and smart grids, which will continue to require financial investment and deployment to expand the capacity of the power sector. The appropriate enabling policy, financing incentives (including blending different sources of finance to reduce the cost of adoption), and market structures will be required to deploy and scale solutions to expand the capacity of the power sector.

2.5 Climate Finance Facilities

Climate finance refers to local, national or transnational financing—drawn from public, private, and alternative sources of financing—that seeks to support mitigation and adaptation actions that will address climate change.

Over the last decade, climate finance has changed from an abstract concept to a tangible market. There has been enormous growth in both public and private climate finance since the first edition of the Handbook. In 2021/2022, climate finance was almost evenly split between public and private actors. Public sector commitments, primarily from DFIs and state-owned enterprises, reached approximately USD 640 billion worldwide. The private sector also provided significant contributions, led by commercial financial institutions, corporations, and households, reaching about USD 625 billion during the same period.

In the energy sector, climate finance funds are dedicated instruments to drive the global shift towards low-carbon, climate-resilient energy systems, utilising concessional loans, equity, grants and guarantees. These funds can use a blend of financial instruments to (i) support a wide array of energy-related initiatives, from small-scale community projects to the development of large renewable energy projects; (ii) de-risk emerging business models; and (iii) support the commercialisation of new technology.

While the growth in types of private and public climate finance facilities is important to note, commitment amounts and access to funds are important for stakeholders to track. Opportunities for power projects in Africa will continue to be driven by public and private institutions setting net-zero goals while enabling climate finance.

Unrealised Potential of Climate Finance in Africa

Developing countries face significant challenges in accessing these climate facilities. For instance, in 2021, Africa received only USD 30 billion of climate finance, of which only about 12-13% came from private investment. Ways to increase this amount include (i) increasing understanding of climate finance mechanisms, (ii) providing greater clarity on regulation at the international level, and (iii) improving capacity and coordination between the relevant sectoral ministries and authorities (e.g., those responsible for environment, finance, energy and land) and with relevant implementing government agencies. Barriers that are keeping the private sector from benefiting from climate facilities include protracted project development linked to (i) an unfavourable enabling environment; (ii) high borrowing costs; (iii) limited long-term, predictable funding; (iv) perceived reputational risks around certain projects; and (v) inability to meet eligibility thresholds related to the robustness of associated quantification methodologies.

Evolution of Market Structures

To accelerate the development of new generation capacity, some African governments are in the process of opening their electricity sector to new sector participants who have the legal and practical ability to generate and/or purchase power. These new sector participants and the structures that facilitate their offtake of power from independent power projects are discussed in the paragraphs below and *Chapter 4 (Offtake Structures)*.

Decentralised Solutions

New developments in the power sector, such as mini-grids and other decentralised systems, complement utility-scale grid-connected generation. Decentralised solutions connecting people beyond the grid may be the most cost-efficient way to provide power for more than half of those seeking access, especially in countries with widely dispersed populations or where the grid infrastructure build-out tries to keep up with renewable technology and population growth.

Decentralised solutions could contribute towards the rapid electrification of unserved populations. Nonetheless, for projects to be truly economical and provide a stable base for national industrialisation efforts, they must be delivered at scale and must be capable of being subsequently connected to the central grid.

Bilateral PPAs and Captive Power

Commercial and industrial end-users across Africa have, where regulations permit, installed captive power projects to provide reliable electricity to their industrial operations that require uninterrupted electricity to maintain safe and consistent functionality.

Industries relying on captive power can share excess energy with surrounding communities as captive generators supplying energy to the grid or mini-grids operated by others. They can also operate mini-grids if they invest in necessary network infrastructure and transform themselves from captive power generators to mini-grid system operators, or indeed act as anchor offtakers for utility-scale projects.

Progress on Regional Integration

Cross-Border Interconnectors

The continent is well-versed in the concept of cross-border interconnectors and regional power pools to address energy deficits

and also enhance regional cooperation. Key energy projects such as the West African Gas Pipeline (WAGP) supplying gas from Nigeria to Benin Republic, Togo, and Ghana, the ongoing North Core transmission line linking Nigeria with Burkina Faso, Niger, and Benin, and the Trans-Saharan Gas Pipeline (TSGP) that is expected to link Nigeria with Algeria represent concrete examples of cross-border energy trade. In Southern Africa, the Southern African Power Pool (SAPP) is in the process of raising a blended finance fund (the Regional Transmission Infrastructure Financing Facility (RTIFF)) to invest in a portfolio of cross-border interconnectors. All of these examples point to a future involving increasing cross-border energy transactions across the continent.

Power Pools

Since the first edition of the Handbook, there has been significant evolution in the development of the regional power pools, including regulatory and technical harmonisation and the design of market rules for the proper functioning and trading of power within interconnected transmission networks. This is creating an opportunity for (i) additional markets and membership categories, (ii) new offtake structures, and (iii) more private sector participation in energy transmission, resulting in the optimisation of energy generation distribution.

CHAPTER 3: Financing Considerations

3.1 Introduction

This chapter will cover the key factors capital providers take into account when deciding to finance a power project. Their main focus will be issues that may impact, directly or indirectly, the generator's ability to provide the expected return on equity and/or repay any debt. If such factors or risks are insufficiently or inadequately mitigated, it will affect the project's ability to attract capital or significantly increase its cost.

This section identifies risks at both a country level (systemic risk) and at a project level (asset-specific risk). These risks can be mitigated through a combination of offtake structures (further explored in *Chapter 4*), financing structures (further explored in *Chapter 6*) and contractual agreements (further explored in *Chapter 7 (Transaction Documents)*).

A more detailed discussion of the risks described below can be found in section 7 of the Handbook *Understanding Power Purchase Agreement 2nd edition.*

3.2 Country Level Concerns

The successful implementation of a power project requires an enabling environment conducive to developing, constructing, operating, and maintaining an asset that generates cash flows through the sale of electricity. It also necessitates that the cash flows be predictable and unhindered by policy or regulatory hurdles. This requires (i) a policy ecosystem (including legal and regulatory frameworks) protecting and enforcing the rights of all actors participating in the energy sector and (ii) the ancillary

physical infrastructure required to develop, construct, operate, and maintain the asset (e.g., access to roads, fuel infrastructure, ability to evacuate or transmit power to offtakers, etc.)

Technical Assistance

Technical assistance, often directed at governments, can assist in enhancing the regulatory and institutional framework in the energy sector and building technical capacities within relevant government departments. This assistance aims to create an environment conducive to attracting investment and developing sustainable energy projects. It is typically funded through grants, with no repayment required, and is used to support policy development, capacity building, and institutional reforms that strengthen the energy sector's ability to plan, procure, manage, and implement large-scale projects. Please refer to the Annex for a list of potential providers of technical assistance.

Policy Enabling Environment

An investment-friendly enabling environment with a stable and predictable legal and regulatory framework is important for attracting the private capital required to develop, construct, and operate power projects. Additionally, the efficiency of the coordination between government actors will underpin the commercial viability and investability of a power project as it affects the execution risk, a key factor in attracting capital to develop and construct a power project. This section will consider the following topics:

- ➔ Planning risk
- ➔ Currency devaluation
- ➔ Convertibility and transferability restrictions

- Public debt sustainability
- Force majeure
- Capacity/human resources

Planning Risk

Any investment in greenfield power generation should be evaluated within the broader context of a country's energy landscape. This includes but is not limited to, balancing how a power project fits into a country's larger energy planning roadmap. Most countries have the equivalent of an integrated resource plan (IRP), which lays out how they intend to meet their supply-side requirements to respond to the projected long-term growth of their energy demand. IRPs also lay out the ideal mix of energy generation sources and technologies to ensure affordable, reliable, and sustainable energy, informed by wider policy goals such as the Sustainable Development Goals (SDG) and Nationally Determined Contributions (NDCs).

The following risks underpin the initial feasibility assessment a capital provider will conduct:

- **Demand forecast risks:** Uncertainties and potential inaccuracies in predicting future electricity demand, as well as existing suppressed demand, can impact power project planning and financial and operational decisions. Independent Power Producer (IPP) projects are typically structured on an availability basis rather than a demand basis—i.e., they are paid based on whether they can generate electricity, not whether such electricity is required or used. This enables the IPP to focus on the factors under its control, leaving the demand forecasting (and risk) with the government. Governments can benefit from comprehensive demand forecasting tools, such as electricity master plans and short-term generation expansion plans, to make informed decisions about future electricity demand.

- **Technology risks:** The energy transition is accelerating the pace of technology evolution across product classes. Many of the best-in-class emission-reducing or zero-carbon solutions that exist today are expensive or have not yet been fully commercialised, with expectations that next-generation versions of what is available today could be cheaper and/or more efficient. For example, the pace of technology evolution for renewable energy products, including battery storage technologies, could render existing projects less competitive or risk technology obsolescence. Changes in government regulations regarding energy production and environmental standards could introduce uncertainties that impact project viability. Establishing a framework in the project cycles, including during procurement and development, that allows developers to adopt technology advancements that improve or retain the economics of the project can mitigate this risk.
- **Procurement risks:** Uncertainties and potential issues can arise during the procurement process, which can negatively impact project execution, cost, and timelines. Procurement risks primarily relate to sourcing processes and contracting considerations, which if not transparent, could create legal and reputational challenges for the project and lead to the termination of the process, cancellation of project agreements, and potential litigation.

For a comprehensive discussion on planning procurement of power projects, see the *Understanding Power Project Procurement* handbook.

Compliance With the Law, Change in Law, and Change in Tax

A project is bound by the legal and regulatory regime of its host country. The laws and regulations applicable to a power project

could range from international treaties (e.g., bilateral investment treaties and the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards), to statutory instruments (e.g., laws domesticating international treaties and tax laws), grid codes and municipal guidelines. The manner in which these laws and regulations are drafted and implemented will impact the perceived country risk and investability of a project.

If applicable laws and regulations change during the development, construction, or operation of a project, the consequences for the project and its capital providers could be significant, including increased construction or operating costs and/or inability to perform contractual obligations.

Section 7.5 of the second edition of the *Understanding Power Purchase Agreements* handbook considers these risks where the state-owned utility and the government are counterparties to a Power Purchase Agreement (PPA). For transactions with private sector offtakers, the allocation of risks associated with a change in law and change in tax is premised on commercial considerations that are discussed further in *Chapter 4 (Offtake Structures)*.

Political Risk

Political risks are associated with government actions that deny or restrict the rights of the generator and/or capital provider to use or benefit from the project, which (i) negatively impacts the project revenues or (ii) reduces the value of the project's assets. Political risks include war, revolution, seizure of property, and actions to restrict the repatriation of profits or other revenues.

Political risks represent the probability of disruption of business operations by political forces, actions, or events, whether they occur in the host country or result from changes in the

international environment. Political risks are typically those that the host government is considered better placed to manage and will often embody a wide range of risks including:

- financial currency/foreign exchange risk: currency restrictions on the convertibility of local currency into foreign exchange and its transfer outside the host government. Further detail on this is provided below;
- terrorism and acts of violence;
- war, civil disturbance, and insurrection;
- expropriation of ownership, control, or rights to an investment; and
- creeping expropriation: Where the government does not directly expropriate a plant but takes measures that ultimately ensure that the generator is no longer in effective control of the plant, including onerous regulatory impositions and restrictions in foreign currency purchase or repatriation where the PPA tariff is denominated in local currency.

It is important to distinguish expropriation from legitimate government actions. Governments must remain able to take measures to regulate the country's socio-economic activity, including health and environmental safety measures and tax-related measures. When a generator has contractual agreements with state-owned enterprises (SOEs) responsible for associated infrastructure, e.g., transmission or gas transportation agreements, commercial disputes may occur and should be dealt with in accordance with the remedies provided for in these agreements. However, such measures or actions must be made in good faith and not be discriminatory or primarily intended to confiscate property.

Foreign Exchange, Convertibility, and Remittance Risks

Reserve vs. Local Currency Financing Implications

Power projects can be financed in either local currency or reserve currency. Local currency is the currency of the jurisdiction in which the project is to be constructed and operated, and reserve currency is a currency held in significant quantities as part of government or institution foreign exchange reserves. Loans to power projects are often denominated in reserve currencies, such as U.S. Dollars and Euros. Reserve currencies are often interchangeably referred to as hard currencies, that is, currencies that are widely accepted as a form of payment around the world, typically originating from highly industrialised countries.

Reserve Currency Financing as the Status Quo

In emerging markets, including in sub-Saharan Africa, power projects are typically entirely or mostly, financed in reserve currency. It is often not possible, due to liquidity constraints and market availability, to finance long-term debt in local currency in the magnitude required by many grid-scale power projects. Specifically, debt providers, such as international commercial banks, MDBs, DFIs and ECAs are often unable to lend in local currency in emerging markets. Certain DFIs are able to provide local currency financing, but typically, local banks are the best source of local currency-denominated debt. In the power sector, however, local commercial banks may not have the ability to finance a loan in local currency for the amount and tenor required.

To the extent local currency financing is an option, lenders tend to charge lower rates in reserve currency than in local currency, as the local currency is typically more volatile and prone to inflation. Thus, reserve currency lending rates are lower. Consequently, reserve currency has conventionally been

presented as a cheaper financing option. In truth, this assessment does not account for local currency depreciation or devaluation, as is currently rife in emerging markets during periods of global commodity and economic down cycles. Nonetheless, nominal rates for reserve currency loans are almost always lower than for local currency loans in emerging and frontier markets.

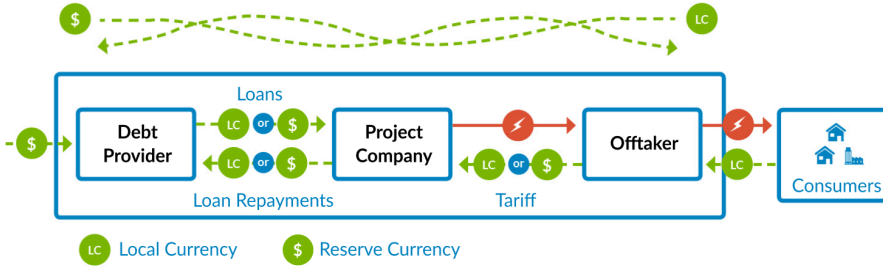
In an emerging market, the developer typically insists on having a reserve currency-denominated PPA (typically, U.S. Dollars) to match its reserve currency borrowings due to the perceived currency depreciation risk associated with the local currency.

At the same time, an offtaker, such as a utility, almost always charges an electricity tariff to local end-users and thereby earns revenue in local currency. This results in a currency mismatch, whereby power finance and PPAs in emerging markets are denominated in a different currency than the revenue stream of the offtaker. This mismatch is significant and strains the overall risk profile of a power investment in the following ways:

- Firstly, particularly in times of local currency depreciation and volatility, it reduces an offtaker's ability to meet its payment obligations to a power producer (in this instance, the project company) under a reserve currency-denominated PPA.
- Secondly, if a currency depreciation strains an offtaker's ability to pay the project company, it can result in the project company lacking funds to repay its reserve currency-denominated debt.

A lender investing in a power project in an emerging country will consider currency risk when evaluating the overall attractiveness of a project and may either be less inclined to lend to a project company in an emerging market without some risk mitigant or may demand a higher interest rate.

The diagram below represents the potential currency mismatch.



Hybrid Reserve/Local Currency Financing

While financing power investment exclusively in local currency may not be possible, it may be possible to develop a hybrid solution by financing part of a power project in local currency and the remainder in the reserve currency. The primary advantage of having a portion of a power project financing denominated in local currency is to avoid currency mismatch and the associated risks, at least for that portion of the project. Another key benefit is that local currency financing is more likely to attract local sources of financing, thereby helping deepen local markets and helping develop local market liquidity.

Currency Devaluation

Currency devaluation may have a significant impact on a power project's commercial viability as it increases the risk of financial loss. When a country's currency devalues, any debt denominated in foreign (reserve) currencies becomes more expensive to service from local currency revenues. The timing of the devaluation may also affect the relative cost of the project equipment and other capital expenditures required during the construction, operation, and maintenance of the project. This can compromise the sufficiency and adequacy of local cash flows to cover

increased costs, which could place the offtaker or the generator in financial distress and may lead to an event of default or termination.

Capital providers will carefully consider the risk of devaluation and how it is mitigated. Their assessment will vary significantly if the country is in a monetary union or its currency is pegged to a reserve currency. At a policy level, a cost-reflective tariff may help public utilities adjust to the devaluation of their currency and will, therefore, be perceived favourably by foreign capital providers. However, this places the burden of higher local currency tariffs on the population. A government may also want to consider how best to mobilise domestic capital, thus limiting the country's exposure to currency devaluation.

Convertibility and Transferability Restrictions

Most capital sourced from international capital providers will need to be serviced and repaid in its original currency. As such, the capital provider will carefully consider the process and cost to convert the local currency back into a reserve currency (which may be then converted into the original currency, if not the same). Difficulties in converting the currency will impact the cost of capital and may, in some cases, reduce its availability for a project.

For projects with significant external funding where the offtaker is an SOE or where the government commits to providing support to the project, the currency risk is likely to be allocated to the offtaker and/or government. In such cases, the government and project developer should discuss with the central bank to assess the limitations of the local currency market and ensure that the conversion-related costs will not increase the cost of capital and, therefore, the PPA tariff. An invoicing/conversion protocol can be established to minimise the loss or even a decision that the offtaker host government is better placed to convert the payments could ultimately be taken.

Discussions with the central bank should also be held to assess any potential obstacles to the transfer of funds from onshore accounts to offshore accounts. The risk of not being allowed to transfer funds outside of the country (transferability risk) will impact the project's capacity to attract external financing, and if it materialises during the operations phase of the project, it may trigger the termination of the PPA. For power transactions where the offtaker is a private entity, the risks associated with currency convertibility and transfer of project funds will be allocated amongst the private project participants with consideration of the enabling environment. These risks, though principally borne by private parties, will ultimately be priced into the economics of the project, reflected in a higher cost of capital and electricity tariff.

At a policy level, a government may want to consider whether the mobilisation of domestic capital is feasible, thus limiting the country's exposure to currency conversion and transfer challenges.

Public Debt Sustainability

The host country's public debt sustainability significantly impacts both the cost and access to capital for the financing of power projects. Inadequate public debt management creates uncertainty in the prospects of the economy, leading to risk-averse behaviour from capital providers. Consequently, projects are likely to face higher borrowing costs due to perceived risk. Debt sustainability concerns will restrict the ability to raise capital and the types of instruments that may be available. It may also lead to a devaluation of the host country's currency, which, as described above, is another concern of the capital provider.

Force Majeure

In general, a force majeure (FM) event will typically have the following characteristics:

- ➔ The event has a material adverse impact on a party's ability to perform its contractual obligations.
- ➔ The event is not the fault of the party seeking relief and is beyond the reasonable control of that party.
- ➔ The event could not have been reasonably foreseen by the party, and reasonable measures could not have been implemented by a diligent party to avoid it or mitigate its impact.

FM event categories under a PPA normally include local political FM events, foreign political FM events, and natural FM events. A PPA counterparty may seek FM relief for events under other agreements; it is important to harmonise and align the concept of FM and its treatment across all the project documents. In a misalignment, a party may not qualify for relief from its other contractual obligations.

Generally speaking, while local political FM events should be treated as a country-level risk and allocated to the government accordingly, natural and potentially foreign FM are sometimes treated as project-level concerns. FM events can lead to delays in project completion, increased project costs, and revenue disruptions. The allocation of FM risk to the party best suited to manage the risk is a critical aspect of the investability analysis. Capital providers will seek assurance that risks are appropriately allocated/managed and that the project company has contingency plans in place. It may also involve taking out insurance for the insurable force majeure events.

Capacity and Human Resources

A related country-level risk pertains to the institutional arrangement and their human resourcing with the necessary skill sets to implement power projects. This includes but is not limited to, the government agencies responsible for negotiating PPAs, transmission and distribution planning, and overall regulation of the

power sector. Should the assessment highlight that the institutions have limited experience or face resource constraints, more thorough due diligence would be required.

Strengthening such institutions with adequate staffing and insulating their operations from political interference is key to building investor confidence. Technical assistance (see box in section 3.2 above) may assist in this process.

3.3 Infrastructure Requirements

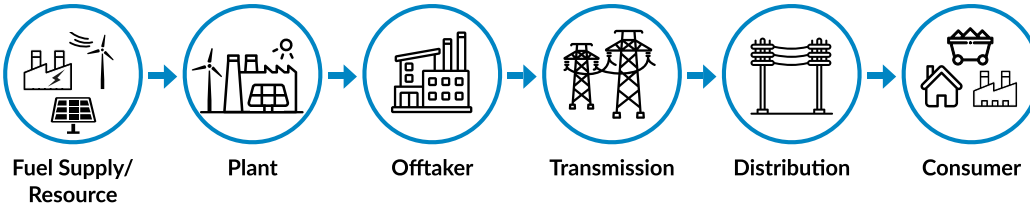
Whether the necessary physical infrastructure to support a power project's construction and operation exists and is available at sufficient capacity is a critical component of the physical enabling environment. This includes site-related infrastructure like roads and water pipelines that allow access to the project site, transmission, and grid infrastructure to evacuate power. To the extent that these are not available and costs to provide or build these must be borne by the project, the capital expenditure associated with the additional infrastructure cost will increase the amount of external capital required. Capital providers will want to ensure that the negotiated tariff generates sufficient cash flow to cover these additional costs, which may increase financing and credit risk, discussed further below.

Transmission and Distribution Risk

Investors will need assurance that once construction is complete, the project can earn revenue, which relies on the offtaker generating sufficient cash flow to pay for the electricity. This requires sufficient available grid capacity to transmit the power to the ultimate paying consumers. As part of the grid studies leading to the connection agreement, the Transmission System Operator (TSO) must ensure that the grid can absorb the additional power and that the new connection does not adversely impact the

integrity of the grid. Grid interconnection delays can hinder a project's operational success, leading to increased project costs and loss of revenue. Grid unavailability during the operational phase can also lead to financial loss for capital providers.

If both the offtaker and the TSO of the network to which the generator connects are state-owned, the offtaker will likely take on transmission risk. If the offtaker is a private sector entity, the TSO becomes a service provider and transmission risk needs to be allocated between the parties. See *Chapter 4 (Offtake Structures)* for further details.



3.4 Project Level Concerns

The successful implementation of a power project requires that risks specific to the project be properly managed during the development, construction, operation, and maintenance of the asset to protect the cash flows from the sale of electricity. This section will consider the following topics:

- Credit risk
- Health, Safety, Environmental, and Social (HSES) risk
- Construction risk
- Interconnection risk
- Contractual interface risk
- Change in Control

- ➔ Operational risk
- ➔ Termination risk
- ➔ Climate change risk

Credit Risk

Capital providers require clear visibility of the revenue stream that will cover the operating costs of the project as well as debt service obligations and investor returns.

In a limited or non-recourse project financing structure, the PPA payments are the sole source of revenue for the project. The project and its capital providers, therefore, need to have confidence in the ability of the offtaker to make timely payments of the amounts due and meet any termination payments.

In a developer financing structure, the project will still be very concerned about the ability of the offtaker to meet PPA payments, but the debt repayment is a liability of the corporate borrower and is not limited to the revenues received under the PPA.

If the offtaker is not sufficiently creditworthy, a form of third-party credit enhancement of the offtaker's payment obligations will be required. If the offtaker is an SOE, this may take the form of a sovereign guarantee, which may be contained in a Government Support Agreement. If the offtaker is in the private sector, this may take the form of a parent company guarantee. In either case, letters of credit or guarantees issued by third parties may also be used. In every case, capital providers will take a view of the financial capacity of the issuer of the credit enhancement. The creditworthiness of the entity that has the ultimate payment obligation is a crucial element in determining a power project's ability to attract long-term financing and the cost of such financing.

Health, Safety, Environmental, and Social (HSES) Risk

HSES impacts of a project on the local community and the project workforce during both the construction and operation phases of the project require careful consideration. While local law associated with permitting or licensing may set out environmental and social standards, procedures, and safeguards, many international lenders (whether DFIs or commercial banks) will expect compliance with international guidelines (*Equator Principles and/or IFC Performance Standards*) and/or their own environmental and social requirements, such as the U.S. International Development Finance Corporation (see DFC's Investment Policies *https://www.dfc.gov/what-we-offer/work-with-us/investment-policies*) and African Development Bank (see the *Integrated Safeguard System*).

Improper identification and mitigation of HSES considerations and failure to meet the above standards, such as inadequate compensation for people displaced from the project site, will severely impact the project's ability to raise capital.

Construction Risk

Various risks are associated with the design and construction phase of a power project, including:

- **Design risk:** a design fault may delay commercial operations, impair the facility's ability to deliver the installed/nameplate capacity, or meet other technical requirements of the PPA. This risk is often highest with the deployment of new or untested technology.
- **Contractor risk:** the skills and experience of the Engineering Procurement Construction (EPC) contracts may impact its ability to complete the power project on time or to the

required standard. Delayed completion may give rise to the payment by the contractor of liquidated damages to compensate the generator for revenues lost as a result of the delay. In some instances, it could also give rise to the right of the offtaker to reject the power plant.

- **Completion risk/construction overrun:** The timely completion of the power plant could be adversely impacted by other factors, including the occurrence of force majeure events, insolvency of the contractor, the developer's inability to satisfy loan disbursement conditions, or termination of the PPA. This poses the greatest risk to the capital providers as the asset has yet to start generating electricity and does not yet have a revenue stream. These risks need to be clearly identified and suitably allocated.

Interconnection Risk

Power plants do not function in a vacuum. It is important to ensure that the power plant is interconnected with the transmission grid to ensure that the power can be reliably evacuated to the grid. A power plant that is not well interconnected to the grid could become stranded and thus unable to deliver the capacity contracted for the PPA. Usually, the terms and conditions of the interconnection are covered in the grid connection agreement between the generator and the TSO to whose network the generator connects. This includes any obligation on the TSO to develop a transmission line and any obligation on the project to construct interconnection facilities. There is also the risk of a timing mismatch between the completion of the power plant and the completion of the interconnection to the grid or the fuel source. Issues associated with interconnection could result in a stranded power plant if they cannot be suitably addressed.

Contractual Interface Risk

This speaks to the risk of misalignment between the various project agreements. Any such misalignment could create unintentional additional risks. For instance, where a generator is liable under the PPA to pay liquidated damages to an offtaker for delayed completion of the power plant, this risk should be transferred to the EPC contractor under the EPC contract. Also, the events that amount to force majeure under the PPA should be similarly classified as force majeure events under the fuel supply agreement. Essentially, any risk associated with a responsibility that the project developer subcontracts should be similarly transferred to the developer's contractor, who is directly responsible for managing or controlling such a risk. The key project agreements that require alignment from a risk management perspective will vary depending on the offtake structure and nature of the power plant but may include the Concession/Implementation Agreement, Grid Interconnection Agreement, Land Lease Agreement or Land Concession Agreement, Fuel Supply Agreement, Fuel Transportation Agreement, Engineering, Procurement, and Construction (EPC) Contract, Operations & Maintenance (O&M) Agreement, Long Term Service Agreement (LTSA).

Change in Control

Implementing a power project typically requires significant due diligence by various parties. The capital providers conduct due diligence on both the offtaker and project developers. The offtaker does legal and reputational due diligence on the project and its promoters. Both the offtaker and developer of a power project could face certain risks where changes occur in the ownership/control of the power plant or the offtaker, as the case may be. For the developer as well as its capital providers, a change of control of the offtaker could create uncertainty

regarding the party responsible for the payment obligation under the PPA, including termination payment where applicable. For the offtaker, a change in control of the project company could result in the suboptimal operation of the power plant and the subsequent inability of the plant to meet the developer's obligations under the PPA. It could also result in reputational issues for the project depending on the integrity of the project's new controllers. The PPA usually has provisions that stipulate which changes in control are permissible and where consent is required to undertake a change.

Operational Risk

The Power Purchase Agreement (PPA) usually forms the basis for the power plant to be successfully constructed and be in a position to generate the electricity required by the offtaker. Equally as important is the successful operation of the power plant for the duration of the PPA term. This often requires the generator to engage a reputable contractor that will operate and maintain the power plant. Where a power plant is not well operated and maintained, there is the risk that it can fail to meet the minimum requirements under the PPA, which, if not cured within a stipulated period of time, could result in termination of the PPA. Some key indications of a poor operation and maintenance regime include not servicing the plant as and when due, not keeping vital spares in the store, not maintaining adequate insurance, and operating the power plant beyond its technical limits. A poorly maintained power plant also runs the risk of increasing the operating costs for the power plant and breaching the terms and conditions of the generation licence issued by a regulator.

Abandonment Risk

Abandonment of the power plant, either before or after completion of construction, would result in the offtaker not receiving the

electricity it has contracted for. Abandonment will constitute an event of default under the PPA and is likely to trigger termination and the payment of a termination payment.

Termination Risk

Various specified events may lead to a premature termination of the PPA. The risks that could result in this outcome can broadly be classified as events of default (by either the buyer or the seller) and prolonged force majeure events (neither of the parties is directly responsible).

The consequences of a PPA termination extend beyond the agreement itself. The project has implications for the other agreements linked to the PPA, including the fuel supply agreement, grid connection agreement, operation and maintenance agreement, and, before the completion of the power plant, the EPC contract. Depending on how the project was financed, it could result in a major financial loss for the debt and/or equity providers, especially if the termination occurs early in the PPA.

Given the far-reaching implications of a termination event, the termination clause in the PPA is one of the most negotiated provisions in the PPA, with the focus being on clarity as to the issues or events that could result in PPA termination and the resulting consequences of the termination. There would usually be a provision for notification by one party to the other of the occurrence of an event that could result in the termination of the PPA if not cured within a period of time stipulated in the PPA. If a power project is financed using a project financing structure, the lenders will require certain protections (e.g., notice, extended cure period, right to cure, and step-in rights) prior to termination of the PPA.

3.5 Climate Change Considerations

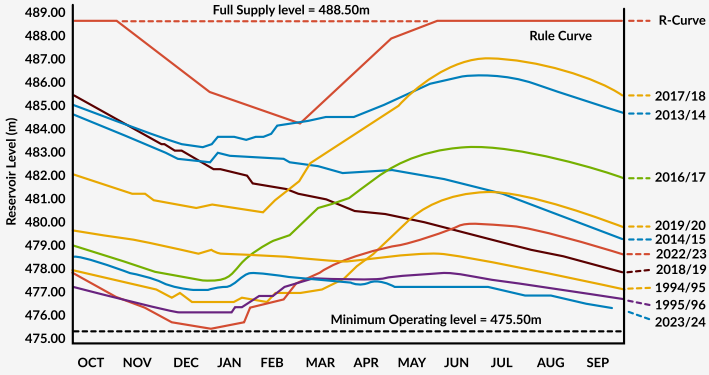
As part of the global quest to address climate change, countries have and will continue to develop commitments related to the energy transition. Some climate change impacts are intrinsic to the project, and others impact the ability to finance the project.

Project Level: The effects of climate change also pose a risk to individual project economics. Weather events such as hurricanes, floods, storms, droughts, or heat waves can be factored into development costs, expected returns, and overall asset 'success'. However, historical climate patterns may not provide reliable baselines for future projections. Adaptation research groups have quantified the significant adverse financial and timing impacts on projects that may result from increasingly common extreme weather events. Power sector stakeholders should assess the potential impact of climate change on the design and implementation of projects.

Country Level: According to the IEA, while Africa only contributed 3.2% of global emissions in 2022, 20.5% emanated from electricity and heat producers. High-emitting energy sources are becoming increasingly scrutinised by citizens, governments, and potential financiers. The policy mandate of many capital providers already restricts the provision of financing to high-emitting projects, whereas the amount of capital available for low-emitting energy projects is increasing. More information on climate-focused sources of capital can be found in *Chapter 5 (Source of Capital)*. An additional explanation of global and national emissions reduction commitments can be found in *Chapter 6 (Financing Structures)*.

Climate Change Impacts on Hydropower Generation

Historically low rainfall has severely impacted the water levels in Lake Kariba, the world's largest reservoir, a shared resource between Zambia and Zimbabwe. As a result, the usable storage capacity, as of September 2024, sits at 7% of its potential. Power generation on the Zambian side has been reduced by around 800 MW to 98 MW, and the country is officially subject to 17 hours of load shedding per day. Zambia has historically met ~83% of its electricity needs from hydropower, but the devastating impact of climate change on Lake Kariba and other hydro resources in the Zambezi River Basin has forced Zambia to diversify its energy mix. There is a sustained effort to accelerate the deployment of solar PV, but the country is also doubling the capacity of its coal-fired power plant as a result of its vulnerability to climate change.



Declining Water Levels in Lake Kariba Reservoir

CHAPTER 4: Offtake Structures

4.1 Introduction

This chapter aims to provide a comprehensive overview of the various offtake structures that are currently prevalent or emerging across the African continent. It considers the key parties involved in the purchase and sale of energy, as their relationships significantly influence the allocation of risks and, consequently, the available financing options. A more general overview of these risks can be found in *Chapter 3 (Financing Considerations)* and *Chapter 6 (Financing Structures)*.

Currently, the most prevalent offtake structure involves a long-term bilateral contract with a single buyer, which is generally the state-owned utility. As power sectors evolve, new actors are introduced, including alternative offtakers such as private companies (corporate offtakers). An additional evolution is the introduction of traders that sit between generators and offtakers.

Risk Discussion

The offtake arrangement for the electricity generated by a power project will have an impact on the allocation of risks between the parties to the transaction. The most common offtaker in emerging markets remains the state-owned utility. In sub-Saharan Africa in particular, most utilities remain state-owned (either in whole or substantial part). The private utility offtaker model will also be covered in this chapter, providing a comprehensive landscape of the offtake structures.

As governments seek to attract greater amounts of financing for power projects but are still constrained in the amount of sovereign support they can offer state-owned utilities, the role of alternative offtakers has expanded considerably in the past decade.

Each offtake structure reviewed will focus on the following:

- ➔ general description of the offtake structure with a visual outline; and
- ➔ discuss risks inherent to the offtake structure, with a focus on the general categories of Credit Risk, Foreign Exchange Risk, Legal and Regulatory Risk, and Transmission Risk.

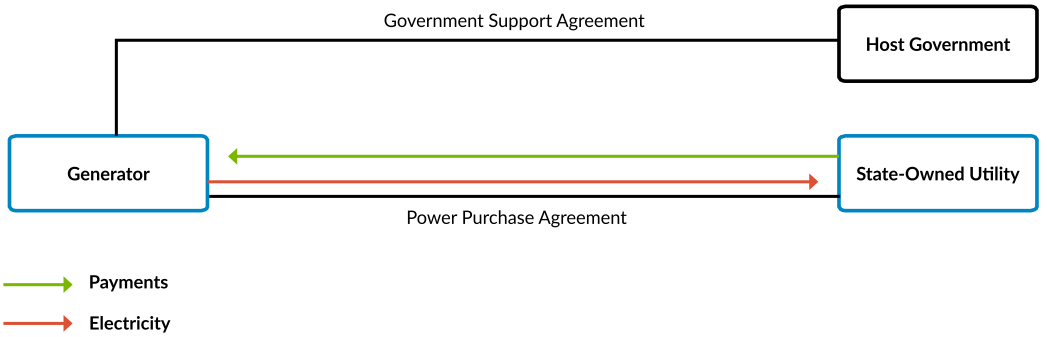
The prominence of these risks varies across the models but there are commonalities as well; wherever possible, we have cross-referenced earlier risk discussions to avoid repetition.

The key document for all offtake structures is the Power Purchase Agreement. For an in-depth explanation of structuring the allocation of risk between the generator and offtaker in a PPA, please consider reading the second edition of the *Understanding Power Purchase Agreements* Handbook.

4.2 Utility Offtaker

State-Owned Utility Offtake

Structure
A state-owned utility (offtaker) purchases power from an independent power producer (IPP) (generator), under a long-term PPA between the generator and the public utility. In addition to the PPA, the host government and the IPP will typically enter into a Government Support Agreement (GSA), under which the host government provides certain assurances to the IPP. A detailed discussion of related project and finance agreements can be found in *Chapter 7 (Transaction Documents)*.



Sale of power by an IPP to a state-owned Utility

Risk Allocation

Credit Risk

The payment risk arises from the inability of the state-owned utility to fulfil its payment obligations. Few state-owned utilities on the continent have a formal credit rating, making it challenging for investors to assess their creditworthiness. There may also be concerns that regulators lack the independence to ensure cost-reflective retail tariffs and the regulated tariffs end up being lower than the actual costs incurred by the utility in purchasing the power and delivering it to an end consumer. This can further erode confidence regarding the long-term financial solvency of the utility and the likelihood of a payment default absent additional government support.

To mitigate this payment risk, IPPs and their capital providers may seek any of the following solutions: (i) *standby letter of credit* (SBLC) to support the utility's ongoing payment risk, and/or (ii) *sovereign guarantees* to financially backstop ongoing and/or termination payments owed by the utility. These mitigants are discussed in depth in *Chapter 8 (Sovereign Support)*.

Foreign Exchange Risk

Generally, financing from capital providers is provided in a reserve currency. At the same time, the single buyer offtaker typically earns local currency when it sells electricity to consumers, creating a currency mismatch. This exposes the utility to significant payment risk if the domestic currency devalues relative to the reserve currency, potentially compromising the utility's ability to satisfy its reserve currency payment obligations. IPPs (and their lenders) will also seek to address the risk that the host government may not allow the transfer of funds outside of the country (transferability risk), which would limit the IPP's ability to service foreign debts or pay dividends to investors outside the country. Foreign exchange risk is further explained in Chapter 3 (Financial Considerations) and discussed in detail in the second edition of the *Understanding Power Purchase Agreements* Handbook.

Legal and Regulatory Risk

Contracting with a state-owned utility for the sale of power presents a significant legal and regulatory risk because, amongst other concerns, the government is often both an investor in the state-owned utility and the regulator of the market in which it operates. If the country is perceived to have a weaker investment-enabling environment, there may be concerns of political interference, i.e., that governments may leverage control over regulation to advance the interests of their utility. IPPs (and their lenders) will often seek to mitigate this risk through political risk insurance (PRI), which is discussed in detail in *Chapter 9 (Third-Party Credit Support and Risk Mitigation)*.

Transmission Risk

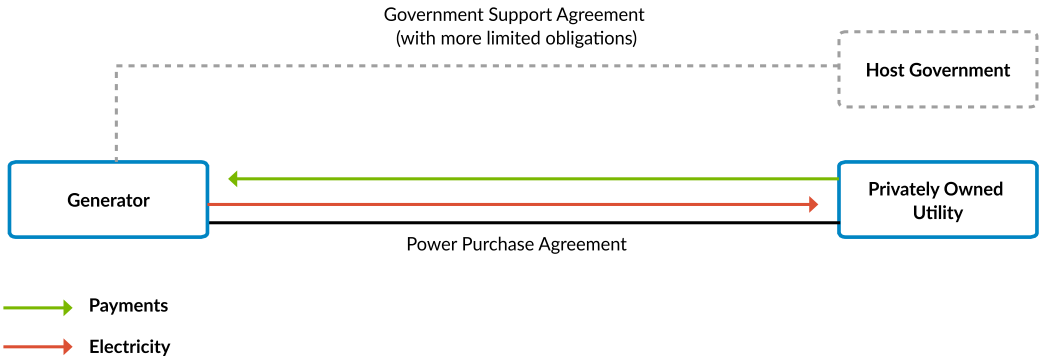
In most countries in Africa, a government utility or Transmission Systems Operator (TSO) owned by the government is generally responsible for maintaining the transmission network. In this scenario, it is established practice that the government should

also bear the costs that arise from transmission failures. The practical outcome of this risk allocation is the generator will be paid deemed energy payment for the power made available even though it may not be delivered or received by the utility when there's a transmission failure. However, the consequences of transmission disruption may differ depending on whether it was caused by a force majeure event. See *Chapter 3 (Financing Considerations)* for further discussion of force majeure events.

Privately Owned Utility

Structure

A privately owned utility purchases power from a generator under a long-term PPA. At the physical level, the generator may be connected directly through the utility's lines or the generator may deliver power via a third-party network (which raises issues of wheeling). In either case, since the utility is not state-owned, government support through a GSA may not be available. In limited cases, if the government views the private utility as critical infrastructure, a limited degree of support under a GSA may be provided.



Sale of power to a privately owned utility

Risk Allocation

Credit Risk

Similarly to the state-owned utility model, generators (and their lenders) will be concerned about payment risk, especially in the case of termination risk. A sovereign guarantee as a financial backstop is less likely to be issued since the government does not own the utility. Payment security is still relevant under this model. Another mitigation strategy for both payment and termination risk is, in the case of payment default, to allow the generator to suspend their supply to the private utility and to instead supply a third-party offtaker; however, this is contingent on (i) the availability of an alternative buyer on satisfactory terms, and (ii) the physical ability to wheel power to the new offtaker.

Foreign Exchange Risk

The currency mismatch and transferability risk highlighted in the previous structure also applies to this model. Currency risk may be reduced if the private utility is able to structure its payments to the offtaker in a reserve currency (i.e., through reserve revenues from alternative lines of business operating outside of the country if the offtaker operates in other countries). This is an unlikely solution if the private utility only operates domestically and earns local currency from domestic customers.

Legal and Regulatory

Legal and regulatory risks such as change in law or change in tax are similar regardless of whether the utility is privately or state-owned. However, since the private utility is not a state actor, it might be more challenging for a private utility to benefit from the issuance of a government support agreement (GSA). PRI will also not provide the same coverage, except in the limited instances where the state's actions have a material impact on this purely private arrangement. This nuance requires a careful unders-

tanding of the scope and limits of PRI, so the reader is encouraged to refer to *Chapter 9 (Third-Party Credit Support and Risk Mitigation)*.

Transmission Risk

If the private utility owns the transmission system through which it receives power produced by the generator, then the private utility is best placed to assume (and mitigate) transmission risk. If power needs to be wheeled through the network of a third-party TSO, risk allocation depends on whether the generator is required to deliver the power to its gate or the connection point between the third-party TSO and the private utility. The party responsible for the wheeling will need to enter into a wheeling agreement with the TSO.

How to Mitigate Transmission Risk on a Third-Party Network?

It is worth noting that transmission risk only becomes an issue if the offtaker is unable to draw the volume of power it has contracted to buy and the generator has injected. In reality, the power injected by the generator is not the same power drawn by the contracted offtaker—how power flows through a network is controlled by the laws of physics, not by contracts. Therefore, it is perfectly possible that there could be some disruption to the wheeling path between the generator and the offtaker without impacting the generator's ability to inject or the offtaker's ability to draw power from the grid.

In some cases, however, grid unavailability will result in the generator being unable to inject the energy it is able to generate. Utility offtakers that own or control the lines connecting them to the generator may assume transmission risk by agreeing to make deemed energy payments for energy generated but not delivered. This risk may also be assumed by a third-party TSO across the network in which the power is transmitted. However, in either case, deemed energy

payments may give rise to significant liabilities for either utilities or TSOs, which may be disproportionate to the revenues they receive from wheeling the power. The extent of liability assumed will be a commercial negotiation.

A separate issue relates to what happens if a generator injects power, but the consumer is unable to draw an equivalent volume of power due to a transmission constraint. An emerging alternative to the TSO paying for deemed energy is that, rather than paying for deemed energy, the TSO provides a notional credit for the energy the generator injected but the intended consumer was not able to withdraw, on the basis that the energy has been used in the system, presumably by customers of the TSO, and the TSO has therefore been paid for such energy. This notional energy credit enables the corresponding volume of energy to be sold at a different time, realising the value of the otherwise lost energy.

Examples of Private Utilities in Africa

Rift Valley Energy (Tanzania): RVE is a privately owned energy generation and distribution company operating in one area of the country. It sells power to state-owned utility Tanesco as well as directly to customers.

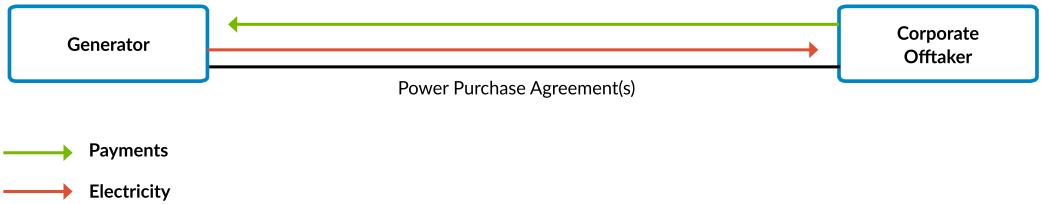
Nigerian distribution companies (Discos): There are 11 privately owned Discos in Nigeria, most of which supply power to more than one state, but each is the sole Disco in that state, apart from Lagos state, which has two Discos. Nigerian Bulk Electricity Trading Company (NBET), which is a state-owned entity, buys power from IPPs and other generators under PPAs, and on-sells under vesting contracts (a type of PSA) to customers, including the Discos.

4.3 Corporate Offtaker

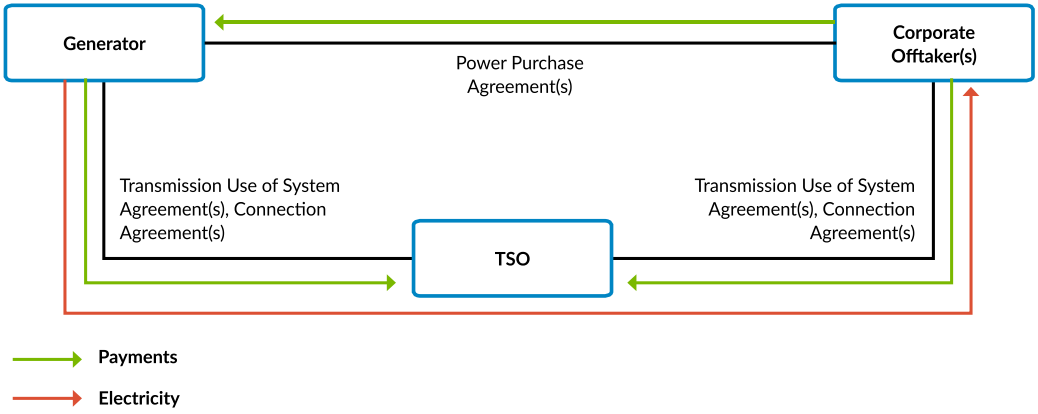
Overview

The structure of the contractual relationship between a generator and a corporate offtaker may differ significantly based on the physical location of the generation assets, which generally fall into two categories:

➔ *Embedded Generation assets* located at the site of the corporate offtaker



➔ *Offsite Generation assets* where power is delivered to the corporate offtaker through a wheeling arrangement



PPAs for embedded generation projects are usually shorter (10-20 years) than those for grid-connected utility projects because of the need to align the use of the generation asset with the energy demand of the corporate. For example, a commercial property hosting a rooftop solar PV system may become dated and require rebuilding, or a mine may cease operations after exhausting its resources.

Offsite generation projects also often feature shorter-term PPAs since they suffer from the same demand concerns. In the case of offsite generation, however, the generator may be able to mitigate that risk through the ability to replace one corporate buyer with another buyer, assuming they have access to alternative buyers through the grid (which raises similar questions of both physical infrastructure and regulation).

Risk Allocation

Credit Risk

If there are concerns about the payment risk of the corporate offtaker, generators, both offsite and onsite, may seek credit support in a manner similar to utility offtakers. The most likely forms of credit support are parent company guarantees or standby letters of credit (SBLCs).

Alternatives for generators to mitigate corporate credit risk include reducing the term of the PPA (as discussed above) or securing covenants linked to the corporate's business, such as debt-to-equity ratio limits or change of control limitations. When the lender to the generator is also an existing lender to the corporate, informal comfort around payment risk may come from existing insight into the corporation's finances.

In regards to termination payments, the generator under this structure is in a similar position as under the private utility structure. If the generator can secure a replacement offtaker, the termination payment may be limited to a period of time (negotiated by the parties) sufficient to give the generator a reasonable opportunity to replace the original offtaker. If the generator is unable to sell its power to a new offtaker, which is more likely in the case of embedded generation, the termination payment will typically repay the outstanding debt (and equity) of the generator.

Foreign Exchange

Corporate offtakers may be in a better position to mitigate the risk of a currency mismatch if their business generates revenues in the same reserve currency as the PPA.

Alternatively, particularly for smaller projects, it may be possible to obtain local currency financing to avoid a currency mismatch altogether.

Legal and Regulatory Risk

This structure presents the same challenge regarding mitigating legal and regulatory risk as the private utility model. The additional consideration here is that it is even less likely that the host government will be willing to mitigate this risk through a government support agreement (GSA) because of the typically non-strategic nature of corporate activities. However, one could imagine a situation where a particular industry (and its energy security) could be viewed as critical infrastructure (e.g., a medical equipment manufacturer).

Transmission Risk

The transmission risk for this structure is similar to that of the private utility structure, with the key difference being that a corporate offtaker is far less likely to own the lines that connect to the generator. The risks and considerations inherent in relying on a TSO are therefore more prominent here. Embedded generation projects do not face a transmission risk (unless they eventually seek a grid connection).

Transmission Pricing

In a developed power market, transmission pricing should be transparent, universally applicable to all network users, regulated and based on cost-of-service studies to ensure full cost recovery (but not over-recovery). A number of countries, including Namibia, are in the process of implementing unbundled, transparent, and regulated transmission pricing. However, pending the availability of such generally applicable transmission pricing frameworks, transmission pricing may be bilaterally negotiated between a TSO and a network user such as a generator or trader. To avoid any long-term market distortion, once generally applicable pricing frameworks have been approved by the regulator, these may supersede the bilaterally agreed pricing.

As noted in the box **"How do you mitigate transmission risk on a third-party network?"**, how power flows through a network is controlled by the laws of physics, not by contracts. The notion of a wheeling path from a generator to a customer is, therefore, a fiction, and in the interests of creating a level playing field and allowing for further market development, use of system charges should be levied based on entry and exit charges to ensure each electron is only charged once. This becomes particularly important once financial derivatives of energy begin to be traded, such that a single electron may be traded multiple times before it reaches its final consumer. In Europe, the average electron is traded seven times. If system charges were levied on each trading transaction, this would result in a highly inefficient duplication of cost. By applying the use of system charges at the point of injection and the point of withdrawal, this risk is avoided. This does not, however, negate the need for the TSO to ensure that there is sufficient transmission capacity within the network for power to be injected by a generator and power to be withdrawn by a consumer, and this should be part of the grid studies conducted before a connection agreement is agreed.

4.4 Emerging Offtake Structures

The intention of this Handbook is to provide the reader with a broad view of the sources of capital available in today's market to finance power projects and the practical strategies that can be deployed to address risks and attract that capital to support power generation. This subsection departs from our practical review of well-established business models that have successfully attracted financing to look at new opportunities to finance power generation through emerging business models.

These models share the same motivation, market efficiency as a mitigant of risk, to drive additional innovation in the African power sector. Readers are encouraged to consider the explanation and examples detailed in this chapter as indicative of current practices in specific settings. Their applicability will depend on the regulatory and market features in each country.

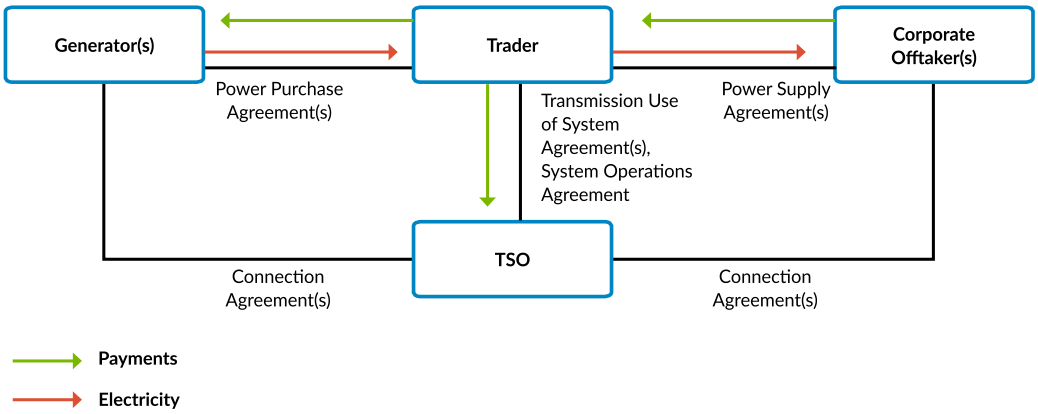
Energy Traders

Energy traders purchase power from generators and sell that power to offtakers (primarily Corporate Offtakers). They may sell power from a single generator to a single offtaker or aggregate supply from multiple generators to sell to multiple offtakers. Similarly, they may or may not have access to a competitive market as an alternative source of supply and demand. The figures below illustrate these differences.

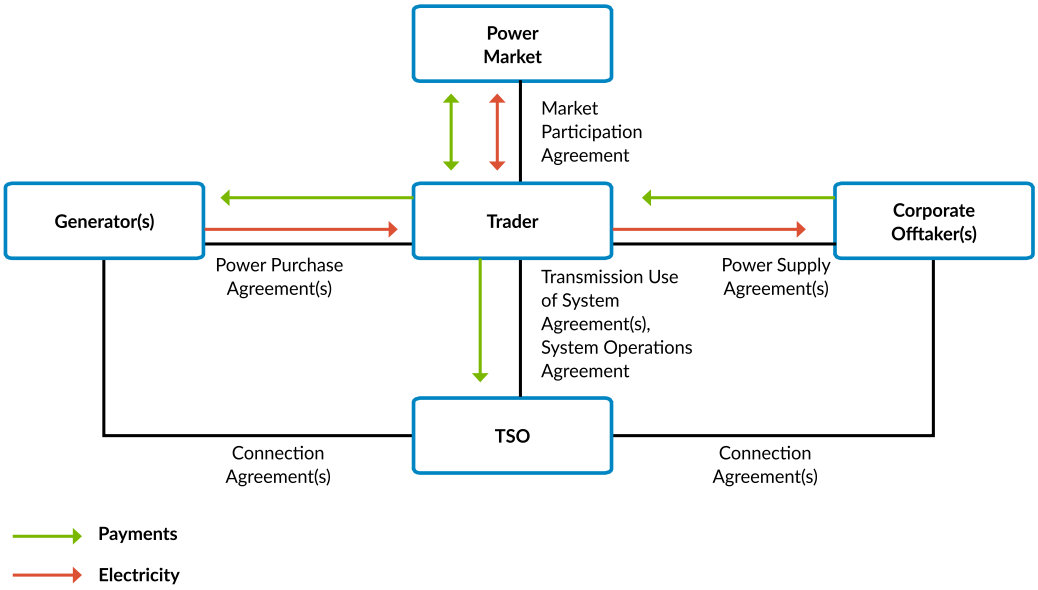
Traders that sit between back-to-back arrangements between a generator and an offtaker may be referred to as brokers as they take limited risks in the structure. Traders that buy from multiple generators and sell to multiple offtakers are also referred to as aggregators.

It is important to acknowledge that the role of traders in Africa's power sector is shifting rapidly in certain countries, specifically in countries connected to Southern African Power Pool (SAPP).

Whether or not private entities are permitted to trade in any specific country will depend on the regulatory framework in that country. In recent years, a number of countries, including Nigeria, Namibia, Zambia and South Africa, have amended their legislation to specifically provide for energy trading.



An energy trader without access to a market



An energy trader with access to a competitive power market

The Role of Traders

Although it may be counterintuitive to permit non-generating entities to participate in the sale of power from generators, the role of energy traders is well established in developed markets such as the U.S. and Europe. The role of traders in those developed markets is diverse. For generators, selling to a trader may be an attractive alternative if they are unable to find a long-term offtaker or cannot sell their power directly into a competitive market. For offtakers, purchasing from a trader offers (i) the flexibility to purchase a quantity of power that may be too small or too large for one generator and (ii) the security of purchasing power from a multi-generator portfolio to limit the risk of disruption if any one generator goes offline.

It is also worth noting that the contractual arrangements for a trader, as a non-utility, do not depart significantly from the Corporate Offtaker structure described above:

- ➔ The trader enters into contracts for the purchase of power from generators and the sale of power to offtakers; and
- ➔ The trader enters into agreements which allow it to access the transmission system, in a manner similar to generators and Corporate offtakers.

Risk Allocation

The fundamental risk for energy traders is that the price that they pay to purchase power from generators will fall below the price for which they sell the power (whether to corporate offtakers or through competitive markets), resulting in a net loss for that transaction. The degree of risk taken by a trader may vary. Some traders will seek to fully align power purchase and power sale arrangements, simply taking a margin in the middle. Other traders may be willing to accept a mismatch of volume and/or tenor between the purchase and sale commitments, using their technical expertise and trading systems to adopt a portfolio approach.

Traders will seek to mitigate or reduce exposure to generator or customer default risk by contracting with multiple generators and customers, diversifying their sources of power supply and demand. Access to a competitive power market also provides significant risk mitigation as power can be bought and sold at short notice in case of a generator or customer default while alternative longer-term arrangements are put in place.

As with all offtake structures, the generator (and its lenders) will focus on the creditworthiness of the trader as the PPA counterparty, and the same considerations and credit support mechanisms apply.

It is also important to note that traders are still exposed to the same risks as any offtaker, such as a disruption in the transmission network or default by a generator to supply its production requirements, whether for technical or financial reasons.

Energy Trading in Nigeria

Nigeria is transitioning from a central buyer model to a multiple buyer model in the electricity market. In the early stages of electricity reform, the government set up the Nigerian Bulk Electricity Trading Company Plc (NBET) to be a central buyer and load aggregator in the electricity market. This was considered critical to enable the market to take off, given the goal of attracting more investment in power generation in the electricity market.

More recently, the market has shifted towards bilateral non-government-backed electricity trading. The regulator has started granting trading licences to private electricity traders who can buy electricity from private IPPs and sell that electricity directly to buyers, including distribution companies and corporate customers in the electricity market. The government is also exploring the possibility of NBET transitioning into an electricity exchange that will serve as a marketplace for IPPs, energy traders, and energy customers.

Africa's Pioneering Energy Traders

In recent years, a number of energy traders have been licensed by national regulators to act as alternative offtakers and to increase liquidity in the energy market. Some energy traders have also become members of the Southern African Power Pool (SAPP) alongside state utilities, TSOs, and IPPs.

Their common goal, as traders, is to match electricity generation supply with consumer demand, deriving their revenue from the price differentials between various markets/consumers.

Traders may also help to mitigate some of the risks associated with the single buyer model by providing a backup route to market in case of offtaker default. This mitigant may be especially useful in circumstances where the government is averse to guaranteeing its utility's offtake obligations.

4.5 Competitive Power Markets

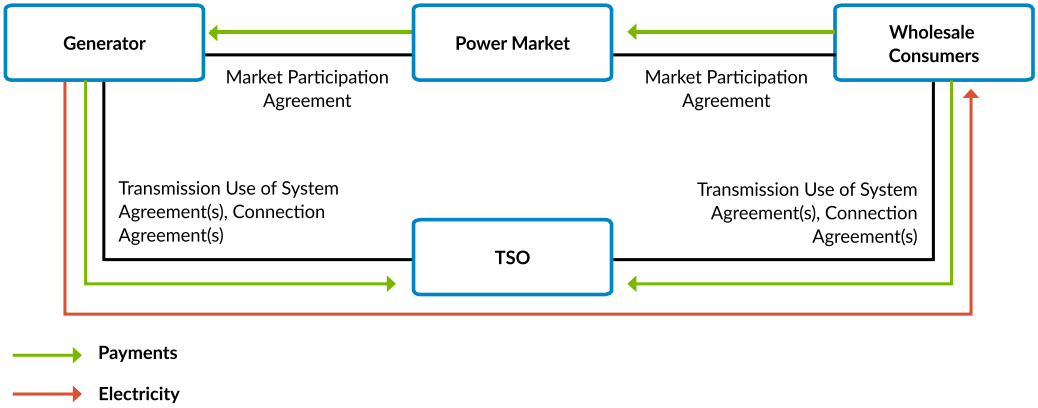
Structure

As opposed to the largely bilateral relationships described in the previous offtake structures, a competitive power market enables the trading of power between multiple generators and multiple offtakers through the placing of bids and offers. The flexibility of power markets offers the potential to significantly increase financing for power generation by mitigating demand risk through the generator's ability to access a broader customer base. A market structure also allows the offtaker to more effectively address concerns around the security of supply, or efficient price discovery.

Participants do not choose who they buy from or sell to—the trades are matched and settled by the market operator. The price

at which the power is sold is also determined through the bid matching process, which calculates the market price for a given period (the market clearing price or MCP). As with any market, greater competition may drive more efficient price discovery and reduce concerns around transparency and governance. All participants must satisfy the requirements for market participation, which may include having a certain number of licensed traders.

The ability of generators to sell into a competitive power market raises unique risks. The sale of power through the market platform is subject to constant price volatility, which in turn introduces commercial viability concerns for generators (proportionate to how much of their total power is sold outside of long-term contracts). Despite this price uncertainty, generators may nevertheless be attracted to sell a significant amount of their power through the competitive power market if they have a confident view of market dynamics but may be constrained in this by the risk appetite of their lenders. Access to a competitive market may also serve as a backup to their firm supply obligations. Generators should also consider whether it is worth building the internal technical and intellectual capacity to participate directly in the market. Particularly for smaller generators, it may make sense to outsource its trading activities to a trader.



Sale of power into a power market

Risk Allocation

Credit Risk

Buyers in competitive power markets are generally required to collateralise their payment obligations by depositing funds into an escrow account or providing a SBLC to the market operator, similar to the mitigation strategies in the sections above.

Generators (and their lenders) will want to minimise exposure to the market price volatility discussed previously. A power market analysis which uses a complex simulation to forecast future market volumes and prices may reduce uncertainty. Such analysis depends upon there being access to validated historical data. The simulation must also take into account changes in generation and grid capacity, which may influence the supply and demand dynamics and, therefore, the market prices (e.g., if new capacity is introduced, how much of that new capacity will be sold in the power market), and physical growth of the power market itself through the construction of new interconnectors.

Legal and Regulatory Risk

Depending on the market rules, a highly structured and transparent power market can mitigate regulatory and political risk by reducing opportunities for self-dealing. Confidence in the market structure may also reduce concerns around unpredictable changes in pricing methodologies since the MCP is not subject to political influence in the same way as a regulator setting retail tariffs.

Transmission Risk

To sell its power on the market, a generator requires access to the transmission network. The risks discussed above regarding the reliability of the grid, therefore, apply equally.

Energy Balancing

When power is being wheeled across a third-party TSO network, such power flows generally need to be scheduled with the TSO, and deviations from such schedules need to be compensated. If a generator injects less than scheduled, it is generally liable to pay for balancing energy, reflecting the cost to the TSO of making up the shortfall. If a generator injects more than forecast, the treatment varies between jurisdictions. The generator may receive a payment (or a credit) in respect of the surplus to reflect that the power was absorbed and used in the system (albeit at a discount to a reference price to disincentivise under-scheduling as any deviations from forecast impact the TSO), but in some jurisdictions, any such excess is treated as spilled energy and no payment or credit is provided to the generator.

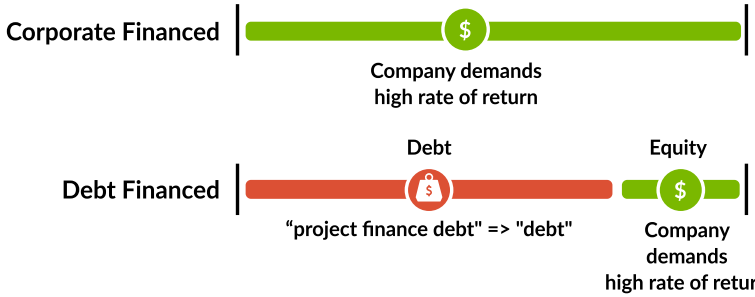
CHAPTER 5: Sources of Capital

5.1 Introduction

Sources of capital for power projects can be broadly categorised as debt, equity, and grants. As the business landscape continues to evolve, capital providers are actively seeking innovative methods to raise and deploy money. This chapter outlines the types of capital commonly deployed in power projects and examines the various entities that provide such capital. The chapter also provides innovative approaches used by some capital providers to fund projects.

5.2 Types of Capital

In this Handbook, capital structure refers to the combination of financing products, including equity and debt, used to fund the development, construction, operations, and maintenance of a defined asset or project. The proportion of each type of capital used to finance a project can widely differ and will be driven by many factors, including (i) the risk appetite of the capital providers, (ii) the types of risks inherent to the project and its operating environment, and (iii) the project's commercial viability. Conversely, the way in which a project is financed will have direct repercussions on the risk assessment of the capital providers, impacting returns expectations.



Equity

Equity capital represents an ownership stake in an asset or project, either through the developer's own sources or through third-party investment, with anticipation of future repayment and returns. Equity will always absorb a project's initial financial losses (if any) and therefore creates a buffer before any other type of capital is impacted by the adverse event. The riskier a project is perceived to be, the higher the proportion of equity that is likely to be required by the debt providers.

The project development phase is usually equity-funded when uncertainties around project execution and the probability of financial loss are greatest. Because it bears the highest risk, equity capital generally requires a higher rate of return. Typical sources of equity include project developers, strategic investors, some public financing agencies, and funds that seek the higher investment returns associated with equity investment.

Debt

The majority of the project costs are generally financed with debt. Since the cost of debt is lower than the cost of equity, the more debt a project can secure, the lower the weighted cost of capital

of the project. Most power projects will need long-term senior debt to be investable, with repayment periods, or tenors, that align as closely as possible with the commercial life of the project and that may often extend beyond 10 years. The longer the repayment period, the lower the periodic repayments will be, which in turn enables the project to sell power at a lower cost while being able to service the debt and make its equity payments.

Senior Debt: This is the largest portion of a project's financing, typically supplied by commercial banks, multilateral development banks (MDBs), development finance institutions (DFIs), or export credit agencies (ECAs). Senior debt is secured against the project's assets and has the highest repayment priority, meaning senior lenders are the first to be repaid from the project's revenue. The security provided by the project's assets and revenue streams makes senior debt a lower-risk form of funding than other sources of capital for the same project, regardless of the project's own overall risk profile.

Subordinated Debt/Mezzanine Debt: Subordinated or mezzanine debt occupies a middle position in the capital structure, sitting between equity and senior debt in terms of repayment priority. While it carries more risk than senior debt—since it is repaid only after senior debt services obligations have been settled—it attracts a higher interest rate to compensate for this additional risk. Mezzanine debt is occasionally used to fill funding gaps in a project's capital structure; however, it is not common in African power projects. There may be more demand for it as the market matures and providers of senior debt and equity become more discerning.

Quasi-equity: This typically takes the form of subordinated debt, convertible loans or preference shares, which combine features of both debt and equity, offering a flexible option for financing energy projects. It provides the capital provider with a higher return potential compared to traditional debt but with less risk than pure equity. This instrument allows project developers to

access capital without immediately diluting ownership, while investors benefit through equity-like returns. Quasi-equity is often used alongside other financing mechanisms to strengthen a project's capital structure and improve its bankability.

Grants

Grants are generally non-returnable capital made available to facilitate early-stage development activities, such as improving the enabling environment and supporting project preparation. Project preparation may include technical, environmental, and financial feasibility studies, legal assessments, and lender due diligence. The primary objective is to ensure the project has strong foundations and to enhance the likelihood of successful project implementation. Such grants are usually provided by governments, MDBs, DFIs (including their associated trust funds), philanthropic organisations, and climate finance funds that can support technical assistance.

The eligibility criteria and terms and conditions of grants vary. For example, some grants are reimbursable, i.e., the grant must be reimbursed if the recipient achieves a specified trigger, for example, reaching financial close or beginning construction.

Grants can also be used in blended finance structures to help (i) reduce the amount of senior debt required in the capital structure; (ii) reduce the overall cost of capital associated with senior debt financing; or (iii) be used as a first loss tranche to improve the financing risk. For more information on blended finance, please refer to *Chapter 9 (Third-Party Credit Support and Risk Mitigation)*.

5.3 Cost of Capital

The cost of capital plays a crucial role in the financing of energy projects, directly impacting the feasibility and competitiveness of

these ventures. The basic principle is the more equity is injected into the project, the higher the returns of the project must be to meet the return expectations of the capital provider(s). Conversely, replacing a portion of the equity funding with debt, or even grants, can help reduce the overall cost of capital of the project and reduce the project's required rate of return.

In many African countries, perceived risks in relation to the enabling environment make it more expensive to raise funds for energy projects. As a result, project developers often face difficulties in attracting investment, as investors and financiers require higher returns to compensate for the perceived risks.

MDBs and DFIs can play a key role in lowering the cost of capital by, among other tools, providing concessional loans or blended finance solutions. They also provide risk mitigation instruments that address specific risks, reducing the risk for other capital providers and allowing such capital providers to reduce their return requirements. The ability to reduce the overall cost of capital will be critical for projects that have constraints on the pricing of electricity and must keep the consumer tariff below certain levels.

5.4 Capital Providers

Numerous capital providers can offer the types of funding previously discussed. Each provider may offer more than one type of capital and will have specific return expectations and associated costs of capital.

Host Governments

Governments can provide capital for projects, either through grants or concessional debt, particularly when they view a project as a national priority. By tapping into government funding, a project can benefit from a lower cost of capital, which typically results in reduced electricity prices for consumers. Alternatively, governments may invest directly in projects, either on their own or alongside private partners, through a public-private partnership (PPP) model. This allows for collaboration between the public and private sectors to deliver critical infrastructure while sharing risks, resources, and revenues. Any decision by the host government to provide capital to a project should be considered carefully as it will have a direct impact on the country's public finances.

Nachtigal Hydroelectric Project

The Nachtigal Hydroelectric Project in Cameroon is a flagship example of a successful public-private partnership (PPP) in the energy sector. With an installed capacity of 420 MW, the project is a collaboration between the Government of Cameroon, the private sector, and development finance institutions. The PPP structure brings together EDF (Electricité de France), the Government of Cameroon, and the International Finance Corporation (IFC), each playing a crucial role in financing, construction, and long-term operation. This partnership ensures risk-sharing among public and private entities while leveraging private-sector efficiency and public-sector oversight to deliver critical infrastructure. The project not only strengthens Cameroon's energy supply but also highlights the value of PPPs in mobilising capital for large-scale infrastructure development in Africa.

Host Government Bonds/Sovereign Bonds

Governments regularly use the issuance of sovereign bonds to raise general revenue to support public expenditures. This may also facilitate funding of power projects since it earmarked the capital from bond issuance to be used either as equity (where the government is co-investing with a private partner) or debt (where the government is lending to a power project). The government should carefully consider the level and timing of expected returns on this project investment or lending since insufficient or mismatched repayments from the project will need to be budgeted and covered from other government sources. Recent sovereign debt crises in Africa have been, at least partly, caused by an investment of proceeds in projects that did not produce an adequate return. For an in-depth explanation of best practices for the issuance of sovereign bonds, please see the African Legal Support Facility (ALSF) Handbook *Understanding Sovereign Debt: Options and Opportunities for Africa*.

Infrastructure Bonds

A more structured approach to raising capital for power projects through bond issuances is the use of infrastructure bonds. As opposed to sovereign bonds, infrastructure bonds often define a narrow category of infrastructure projects for which the borrowed funds may be used. The proceeds from an infrastructure bond are typically deposited into an escrow account and disbursed by project developers (public or private) as needed. This is still in the very early stages of gaining traction in the African context.

Infrastructure bonds may be considered lower risk by investors because of the constraints on how the government may use the funds. The structured nature of infrastructure bonds also allows the marrying of policy objectives with capital requirements, such as requiring the government to use the funds in a manner that realises a specific development outcome.

State-Owned Companies

Another way that governments can inject capital into power markets is through the creation of state-owned enterprises (SOEs). SOEs are meant to be operated independently and focus on commercial rather than policy or objectives. In the power sector, the most common SOE is the national utility company, although separate companies may be created for sub-sectors (e.g., transmission and generation), for particular types of projects (e.g., rural power development) or specific projects (e.g., government investment in a power project through an SOE special purpose vehicle). Governments may provide direct budgetary support to SOEs, such as subsidising the working capital budget of a national utility. Direct support may also come in the form of shareholding, whereby the government purchases shares in a state-owned enterprise, and the SOE then uses the capital raised from that share sale to fund a portfolio of projects or a single project.

Project Shareholders

Equity provided by the shareholders in the project company is one of the most critical sources of capital during the early stages of project development. These shareholders may include the project sponsors and private equity investors. Equity investments have also become a strategic tool for development banks that seek to catalyse early-stage development in projects and to benefit from the potential equity upside if the project succeeds.

Sponsors

This is equity capital provided by the project sponsors or developers, representing their direct ownership stake in the project. It is generally the first equity committed, demonstrating the sponsor's confidence and commitment to the project's success, and may include capitalisation of sweat equity, i.e., time provided for no charge or a below-market charge. The sponsor may or may

not be part of a larger international company with access to deep pools of capital. In recent years, there has been a growth in the number of smaller African-based sponsors, many operating in a single country but some regionally, whose involvement in a project can bring a greater understanding of local circumstances and enhanced relationships with local governments and other stakeholders. Many African governments seek to encourage a greater role for local sponsors alongside other local investors such as pension funds. In some cases, this may be a requirement written into national legislation or the terms of a procurement tender for IPPs. In other cases, international investors recognise the value local investors bring, combining local expertise with international transaction experience for the benefit of the project.

Strategic Investors

Strategic investors typically support power projects that align with their long-term business objectives in a particular sector or region. This may include building a portfolio of investments in which their interests go beyond just financial returns and link to the underlying opportunity in which they are investing. For example, a large industrial company may invest in a power project in order to improve the supply of electricity in its locality, or an O&M contractor may invest in order to secure the O&M contract.

Their return requirements may be lower than those of private equity funds because of their broader strategic objectives. The balance sheet size and broader capabilities of strategic investors make their involvement in a project attractive to lenders, especially if the strategic investor is an aligned stakeholder in ensuring the project is successfully executed. This is particularly important for larger or more complex projects.

Private Equity Funds

Private equity funds aggregate capital and deploy it across a diversified pool of investments. The fund manager manages the

investments on behalf of the investors. The fund's investment mandate may be linked to a specific sector or asset class, jurisdiction, or other objectives such as reducing emissions or targeting high growth returns. Investors may opt to invest through private equity funds in order to access investment opportunities that they do not have the internal capacity to manage directly.

Private equity funds may invest at various stages of the project development cycle, tailoring their financial objectives and risk appetite to suit specific circumstances. This flexible approach allows them to capitalise on opportunities across different phases of a power project's lifecycle.

Early-stage involvement in project development and planning enables private equity firms to influence project design and scope, potentially identifying areas for cost savings or efficiency improvements.

Secondary Markets Can Increase Capital Availability

The secondary market refers to investors acquiring interests in power projects that are already generating electricity and earning revenue. For the acquiring investors, these operating assets are attractive because they provide stable returns. For the original project capital providers, secondary market deals represent an opportunity to realise gains on their successful project development much earlier in the project lifecycle than holding the investment throughout the project life. Enabling secondary market transactions benefits power markets since the developers who sell their projects at an earlier stage often recycle that capital into new power projects, thereby increasing capital availability and accelerating market growth.

Commercial Lenders

Concept of Bankability

In the context of power projects, the willingness and ability of lenders to provide funding is often referred to as bankability, the ability of a bank (or other financial institution) to lend to a project based on its credit risk tolerance and regulatory capital requirements. This concept encompasses the bank's assessment of the borrower's creditworthiness and any credit support providers and the project's overall viability, including the ability to achieve completion and operate successfully for the duration of the loan. Banks must also consider the quality of the offtaker, whose payments are the primary (or only) source of revenue to service the loan. A bank's decision to finance a project is ultimately driven by its confidence in the borrower's ability to repay the bank.

In general, commercial lenders are conservative in their risk appetite compared to other lenders because they must protect the interests of their depositors. There are, however, significant differences in the risk appetite of different commercial lenders.

Commercial lenders operating in Africa fall into three main groups:

Local Banks: This refers to banks operating domestically in a country, e.g., a Kenyan-incorporated bank lending to a power project in Kenya. The domestic bank may be owned by local or international shareholders or a mix thereof, but in recent years, there has been a trend toward fewer controlling shareholders of such banks coming from outside Africa. Local banks tend to have limited balance sheets, meaning they can lend smaller amounts for shorter loan tenors than is often required by power projects, except notably in the well-developed South African financial market. Local banks typically lend in local currency, and if power

project revenues are denominated in USD, then the financing may also be in USD to avoid introducing an additional forex risk, thus limiting the lending role of local banks. However, local banks can also play a helpful role in opening and maintaining project finance bank accounts that act as a crucial part of the security package (see *Chapter 7 (Transaction Documents)*), acting as security agents, providing short-term working capital facilities, trade finance, and foreign exchange services.

Regional Banks: This refers to banking groups that operate as local banks across multiple countries in the region but are headquartered in one country, typically a larger economy such as Nigeria or South Africa. However, a small number headquartered outside Africa remain active regionally. In addition to having the capabilities of local banks in each country, they may have more capacity to provide financing and other services to multiple countries on a cross-border basis, for example, loans denominated in USD or hedging services, because their country knowledge derived from a local presence gives them greater appetite to assume country risk and support the interests of their local banking business.

International Banks: This refers to banks headquartered outside Africa with little or no domestic presence. The role of these banks in the African power sector has diminished in recent years, largely because of home country regulatory constraints.

Multilateral Development Institutions

Multilaterals are international institutions with governmental membership. In the African context, these include the World Bank Group (encompassing the International Finance Corporation (IFC), the Multilateral Investment Guarantee Agency (MIGA), the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA)), African Development Bank (AfDB), European Investment Bank (EIB), European Bank for Reconstruction and

Development (EBRD), Islamic Development Bank (ICIEC) and the Private Infrastructure Development Group (PIDG, encompassing InfraCo, Emerging Africa Infrastructure Fund, GuarantCo and PIDG TA), all of which have a significant developmental mandate.

MDBs can provide a wide range of finance products, including equity, debt, guarantees, and other forms of credit enhancement, with some MBDs specialising in specific products. For example, Africa50, InfraCo, and IFC may invest directly in projects. At the same time, WBG, AfDB, IDB, and others can provide guarantee support for projects by covering certain obligations of governments and/or sub-sovereigns, which may be deployed in various ways to protect capital providers against credit or political risk and thereby mobilise private sector capital.

In addition, under their A/B Loan programmes, other lenders can benefit from their respective preferred creditor status as loans syndicated by them receive pro rata and *pari passu* treatment through cross-default arrangements.

Special Initiatives and Priority Areas by Multilaterals

A number of MDBs have established special initiatives or priority areas. For example, AfDB has established the *Desert-to-Power initiative* (DtP) to harness the solar potential of the Sahel countries through the development of 10 GW of solar generation capacity to provide electricity to up to 250 million people across 11 countries of the Sahel through grid and off-grid solutions. Other AfDB programmes include the *Alliance for Green Infrastructure in Africa*, USD 500 million of early-stage project development and project preparation capital which aims to support Africa's transition to net zero with investments in greener, climate-resilient, and sustainable infrastructure; *Climate Action Window (CAW)*, to mobilise between USD 4 billion and USD 13 billion to scale up climate

action in Africa; *Facility for Energy Inclusion* investment platform, to improve energy access across Africa through small-scale renewable energy and mini-grid projects.

Bilateral Development Finance Institutions

Development Finance Institutions (DFIs) are supported by the balance sheet of their host government through direct funding or issuance of bonds in the capital markets to leverage deposits or guarantees from host governments. The creation of these institutions is often guided by a government's need to address specific challenges and/or to promote specific development and/or other policy objectives such as economic development, and environmental and social impact. These factors influence their willingness and ability to support projects. Some DFIs have private sector investors alongside the lead government shareholder.

By leveraging their financial resources and expertise, DFIs can help bridge the funding gap between project developers and commercial capital providers. This can be particularly important in emerging markets where access to capital, particularly for large-scale projects, is limited. These institutions are often able to take greater risks in order to deploy capital in emerging markets that may be too risky for other capital providers. For this reason, power project financings in emerging markets often include one or multiple DFI participants as direct lenders and/or providers of credit support/enhancement.

Regional and National Development Banks

Regional and national development banks are funded like international DFIs and may have a similar mandate but focus on supporting the priorities of the host region or country, such as the energy, infrastructure, and transportation sectors. These banks are increasingly tasked by their governments to structure

solutions to make capital available to the private sector working in these priority sectors. These institutions must be nimble and responsive to changing market conditions, with a deep understanding of the needs of local businesses and entrepreneurs. By developing creative financing models, national development banks can help unlock new sources of funding that might otherwise remain inaccessible. This enables them to support more projects and contribute meaningfully to national development goals.

Examples of regional development banks include the West African Development Bank (BOAD), the East African Development Bank (EADB), the Trade and Development Bank (the COMESA Development Bank, TDB), and The Development Bank of Southern Africa (DBSA).

Although MDBs, DFIs, and other development banks are each distinct types of lenders, they are often all colloquially referred to as DFIs and given their overlapping mandates and philosophies, they tend to be particularly comfortable cooperating with others in this group.

Export Credit Agencies

Export Credit Agencies (ECAs) are established by a country's government to promote the export of its goods and services. ECAs provide cover to a transaction by means of insurance or a direct guarantee of payment. Such insurance cover or guarantees could be a combination of commercial and political risk cover or only political risk cover. The cover is typically provided to a commercial bank, enabling the bank to assume risks (particularly country risks) that they could not otherwise take. ECAs from countries that are members of the OECD consensus arrangement aim to foster a level playing field and encourage exporters to compete on price and quality of supply rather than on securing the most favourable terms from the ECA. Nevertheless, the terms available to the power sector in Africa from OECD ECAs are typically

competitive with other sources of debt finance, as is their capacity to assume risk, even though identifying eligible exports to cover may be challenging.

Contractor Financing

Engineering, Procurement, and Construction (EPC) contractors and major Original Equipment Manufacturer (OEM) contractors are often able to mobilise financing from their respective ECAs. Some of the largest multinational contractors have the ability to procure and/or manufacture components or equipment and services from more than one country, making it possible to source financing from more than one ECA. In some cases, larger OEMs have access to untied facilities and preferential terms and conditions with certain ECAs based on their economic benefits in countries, which can also be used to optimise financing terms and conditions.

EPC contractors may also arrange lending to power projects to create demand for their services in the form of vendor financing or may participate in the project equity as strategic investors (described above). Similarly, major OEMs and other contractors (e.g., turbine suppliers) may arrange financing for power projects in order to secure equipment sales.

Capital Markets

Domestic and international capital markets are another source of financing for power projects. The term *capital markets* broadly refers to regulated markets in which one can buy and sell debt and equity instruments.

The depth and level of investor interest in both markets will vary significantly. While the capital markets in emerging and frontier economies are still evolving, access to the capital market has contributed significantly to the successful financing of power projects in other parts of the world. It may become more prevalent on the African continent in the years to come. Capital

market products include project bonds, public offerings, and yield companies. The following instruments are most likely to become relevant in the African context:

- **Green bonds:** a type of debt security where the proceeds are tied to underlying projects delivering a demonstrated positive environmental impact (e.g., renewable energy and energy efficiency projects). Green bonds generally expect a lower spread than conventional bonds due to a 'greenium', which can be accessed if the borrower can demonstrate that funds are resulting in emissions reductions.
- **Sustainability-linked Bonds (SLBs):** link an issuer's borrowing costs to the attainment of specific ESG targets. Sustainability performance targets are integrated into the bond's structure, with financial penalties like higher coupon rates if targets (e.g., emission reductions and increased renewable energy use) are not met. SLB issuers provide a Sustainable Development Goals (SDG) framework demonstrating how the funds will support environmental and social projects.

Capital Markets Debt Financing Essentials

- **Credit rating:** Credit rating will impact the ultimate cost of financing for a capital markets issuance. Other factors like market appetite, oversubscription, and tenor can contribute to pricing.
- **Compliance standards:** Capital markets issuances carry specific legal and regulatory requirements, including detailed disclosure requirements.

Sustainability-linked Bonds

The Development Bank of Rwanda continues to look for ways to diversify its funding sources. It ventured into the capital markets space in 2023 by launching a sustainability-linked bond. This approach linked the bank's sustainability strategy to its funding strategy and demonstrated commitment to align with Rwanda's sustainable economic development.

Retail Investors

Individual investors may direct their personal capital to power projects by purchasing securities linked to the project. In the case of bond financing, individual investors may purchase bonds and hold them in their capacity. Some emerging markets have also begun requiring private power projects to list a portion of their shares on domestic stock exchanges (to drive domestic capital market growth), which provides retail investors another opportunity to invest directly in power projects. Some developers have targeted retail investors by creating crowdfunding platforms to aggregate individual investments for specific projects.

Climate Finance Funds

Climate finance funds for power projects are specialised financial mechanisms that facilitate the global energy transition towards low-carbon, climate-resilient energy systems. These funds play a critical role in mobilising resources to combat climate change by promoting cleaner energy alternatives and improving energy efficiency. They are strategically deployed either directly to specific projects or through MDBs/DFIs and other international organisations.

The funds are used for upstream activities, such as advisory services and capacity building, and downstream investment activities aimed at driving the development of renewable energy

projects, implementing energy efficiency improvements, and building sustainable energy infrastructure. In practice, climate finance funds support a wide array of energy-related initiatives, from small-scale community projects to large infrastructure developments. They support conventional and new renewable energy technologies and energy efficiency upgrades. Various climate finance facilities include the Climate Investment Funds (CIF), Global Environment Facility (GEF), European Union (EU) Climate Finance Programmes, and more recently, the Green Climate Fund (GCF) and Sustainable Energy Fund for Africa (SEFA). These funds provide innovative financial solutions, including concessional loans, junior equity, grants, and guarantees, to leverage private sector investment and scale up climate action in the energy sector, ultimately contributing to a sustainable energy future.

- ***Green Climate Fund (GCF)***: GCF accelerates transformative climate action in developing countries through a country-owned partnership approach and the use of flexible financing solutions and climate investment expertise. The GCF offers funding through direct access (i.e., national institutions) and via international organisations, such as MDBs and UN agencies. The private sector may access these funds through the Private Sector Facility (PSF). It offers various financing instruments, including grants, loans, equity, and guarantees, to support climate projects.
- ***Climate Investment Funds (CIF)***: CIF accelerates climate action by empowering transformations through programmes in the areas of clean technology, energy access, climate resilience, and sustainable forests in middle- and low-income countries. It works exclusively through six MDBs to mobilise investments to pilot and scale cutting-edge climate solutions to address climate challenges.
- ***Global Environment Facility (GEF)***: GEF provides grants and concessional funding to cover costs associated with transforming a project with national benefits into one with global

environmental benefits. The funds are transferred through *18 GEF Agencies* to government agencies, civil society organisations, private sector companies, and research institutions, among the broad diversity of potential partners, to execute projects and programmes in recipient countries. The GEF can also consider equity investment if the associated GEF agency is a co-investor.

➔ ***Sustainable Energy Fund for Africa (SEFA)*:** SEFA is the AfDB's leading blended finance facility, aiming to catalyse private investments in clean energy across Africa, with support from multilateral donors contributing over USD 500 million. SEFA focuses on key themes such as green baseload technology, energy efficiency, and green mini-grids, offering flexible financial instruments. It provides (i) technical assistance to the public sector through grants for enabling environments, (ii) project preparation grants to support activities that lead directly to investments, and (iii) concessional investments, including risk capital and viability gap financing through investment grants, junior equity, and concessional debt. These investments are typically blended with other sources, including AfDB's capital, and primarily target private entities.

Pension Funds

Pension funds primarily invest in stocks and bonds. Over time, they have ventured into a variety of asset classes, including real estate, infrastructure, and private equity. Pension funds typically invest through commitments to private sector fund managers, whether specialist infrastructure funds or unlisted debt funds. The largest African fund manager, with more than USD 150 billion under management, is South Africa's Public Investment Corporation (PIC) which is a state-owned fund manager that manages funds for the Government Employees Pension Fund (GEPF) and other public sector funds. South African pension funds have been very active in the power project field for some years, and others are following, for example, through recent

changes to the Retirement Benefits Authority's investment guidelines, Kenyan pension funds are permitted to invest up to 10% of their assets in infrastructure projects, effectively unlocking over USD 1 billion in this asset class.

Philanthropic Organisations

Philanthropy typically refers to charitable organisations or foundations. In the energy sector, their mandate includes contributing to advancing energy access, renewable energy, and climate action, often focusing on underserved communities or regions. These philanthropic entities do not seek profit but aim to address systemic challenges like reducing energy poverty, promoting sustainable energy solutions, supporting innovation in clean energy technologies, improving energy efficiency, and increasing electrification in remote or low-income areas. Philanthropic organisations often provide grants, concessional financing, or equity which help de-risk early-stage projects, making them more attractive for commercial investors later.

Capital From Power Consumers

Traditional power market dynamics involved a linear value chain with generators on one end and power consumers on the other. The emergence of renewable energy systems (solar PV in particular) has disrupted this dynamic by allowing power consumers to develop and utilise their own generation systems, often described as self-generation. Developed and emerging markets have seen exponential increases in capital investment for self-generation projects across the spectrum of power consumers, from individual households to large industrial operations and even public facilities like schools and hospitals.

Facilitating investment in self-generation assets can have a significant impact on increasing capital availability because it draws upon capital sources that may otherwise be unavailable to power projects. In the case of household self-generation, the

systems may be financed through consumer loans (based on the individual's credit) or mortgages (secured by the property itself). Corporate and industrial investors in self-generation projects can deploy their existing capital and/or borrow additional funds by leveraging their balance sheets. For public facilities, self-generation projects may be funded through general budget allocations (from tax revenue) or municipal financing (bonds and levies). In all cases, new generation capacity is being developed without further straining the credit capacity of the local utility and without the sovereign credit support often required for utility-scale projects.

Self-Generation Assets

Investment in self-generation assets is not limited to power generation systems and can also help accelerate the deployment of new energy technologies. For example, in 2023, customer-financed battery storage accounted for 35% of the global increase in battery storage capacity, while utility-scale systems accounted for the remaining 65%. The ratio of customer financing of new battery capacity is even higher in emerging markets where utilities lack the working capital to make new investments in battery capacity, but customers may be eager to self-finance new battery capacity if they are particularly concerned with power supply stability (such as manufacturing facilities with sensitive equipment).

CHAPTER 6: Financing Structures

6.1 Introduction

Power projects typically employ four primary financing structures, distinguished by the source which funds the upfront costs. Each alternative presents its own advantages and disadvantages related to timing, cost and complexity of structuring and implementation. The four primary structures are (i) host government financing, (ii) resource-based infrastructure financing, (iii) developer financing, and (iv) project financing. There are many variations of these four structures on transactions, but certain core concepts remain similar.

This chapter provides an in-depth overview of the project finance structure because of the prevalence of its use and because it is often the least understood method of financing. Although the project finance structure with IPPs is often discussed in the context of a state-owned utility offtaker model, the project finance structure is also used for financing power projects developed under the other offtake models discussed in *Chapter 4 (Offtake Structures)*.

6.2 Host Government Financing

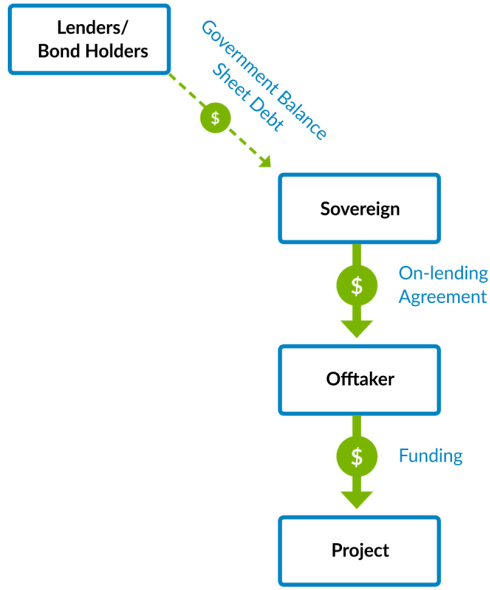
In host government financing, the government of the host country will use the strength of its balance sheet to fund a project by lending funds to, or contributing additional equity to, the offtaker so that the offtaker may develop the project. The funds may be derived from the sovereign's cash reserves or from funds that a sovereign borrows for its own account from third parties (e.g., capital markets, multilateral development banks, bilateral institutions). Where a sovereign borrows for its own account, then on-lends the funds to an offtaker, the funding is sometimes referred to as an on-lending arrangement.

The cost of funding varies based on the source of the funding and the creditworthiness of the sovereign. Development Finance Institutions (DFIs) may provide lower-income countries with financing at significantly lower costs, and possibly at longer tenors, than financing provided by the private sector, as described below in the section on financial structure optimisation tools. This financing is typically referred to as concessional financing.

Host government financing can be an attractive alternative where the host country has adequate funds on hand or can raise additional funds at attractive rates and does not have more pressing needs to which such funds must be applied. Host government-financed projects generally involve fewer parties. This model offers the benefit of not having to coordinate with multiple funding parties and all of the complicated structures that such coordination can entail.

The challenges presented by host government financing relate primarily to opportunity cost. Given the limited capital available to many governments, they must weigh the need to fund a project on their balance sheet against the funding requirements of the many capital-intensive services and programmes that a sovereign must support (such as social programmes, national security, and other infrastructure projects). In essence, every dollar that a sovereign uses to finance a project is a dollar that it cannot use for education, public health, policing its streets, or defending its borders.

The diagram that appears below graphically depicts a host government financing structure.



Host Government Financing Structure

Strengths:

- Lower financing costs, particularly if concessional financing is available or if the host country is able to raise funds by issuing bonds on international capital markets.
- Fewer coordination challenges

Weaknesses:

- Opportunity cost of capital
- Significant capital is required from the government
- The government requires sufficient technical capacity to manage the contractors

6.3 Resource-Based Infrastructure Financing

Resource-based infrastructure financing entails a third-party contractor or developer agreeing to design, construct, and implement a power project in exchange for rights to natural resources. In this structure, the third-party contractor is obligated to fund the project design, construction, and implementation activities, ostensibly with the contractor's ultimate reimbursement coming from its sale or use of the natural resources it can extract.

As with developer financing (which is discussed below and which is more common than resource-based infrastructure financing), this model limits the number of funding parties with which a host country has to deal and avoids the complexity that is often associated with multi-party financing. This model reduces the complexity of dealing with third-party owners and operators during the life of the project, accelerating the timeline of the development. It also presents the added benefit of not tapping into a sovereign's available cash reserves or its access to third-party lending, giving the appearance of avoiding the opportunity cost faced by many governments when contemplating sovereign financing.

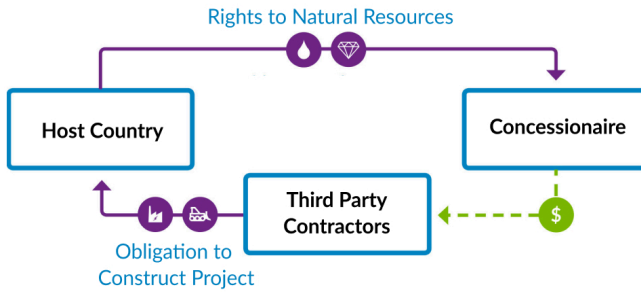
The primary challenge with this model is how to accurately value the rights to natural resources that are exchanged for the infrastructure. The volatility of commodity prices, the timing of planned extraction, and the financial capacity of the governments to benefit from natural resources make it almost impossible to properly assess their value. The rights to natural resources (often non-renewable) are used to pay the contractor. Host countries may not be able to calculate the true costs of the transaction for several years.

This structure also presents opportunity costs that may not be as readily apparent as those present in sovereign financing but that are very real nonetheless. While not directly impacting the balance sheet of the host country, this financing structure does require a sovereign to give up potential future revenues from natural resources that could be used to pay for other products, services, or initiatives for future generations.

In addition, because the sovereign is not required to make payments to the contractor in cash, there is a risk that less attention might be paid to the terms of the contract documents. In particular, because payments may not be made against the achievement of milestones, it may be hard to adequately incentivise the contractor to stay on schedule or deliver a quality project. Likewise, this structure presents a risk that less attention may be paid to performance bonds or warranty obligations, increasing the risk of delays and compromised project quality. Finally, because no payments must be made to the contractor from the sovereign's balance sheet, and given the absence of multiple funding parties that will be repaid from the long-term revenues of the project (e.g., senior lenders), there is an increased risk that a project's economics and long-term viability (including social and economic impacts) will not be as thoroughly diligenced.

The number of projects which are financed using this model is no longer significant, with natural resource companies instead opting to choose the developer financing model. As described below, in such cases, the natural resource company (acting as the developer) would provide the financing for the relevant power project in order to enable its underlying natural resources project to operate stably.

The diagram that appears below provides an example of how resource-based infrastructure project financing is structured.



Resource-based Infrastructure Financing

Strengths:

- Fewer coordination challenges
- Shorter time frame from concept to operations
- No cash is required from the government

Weaknesses:

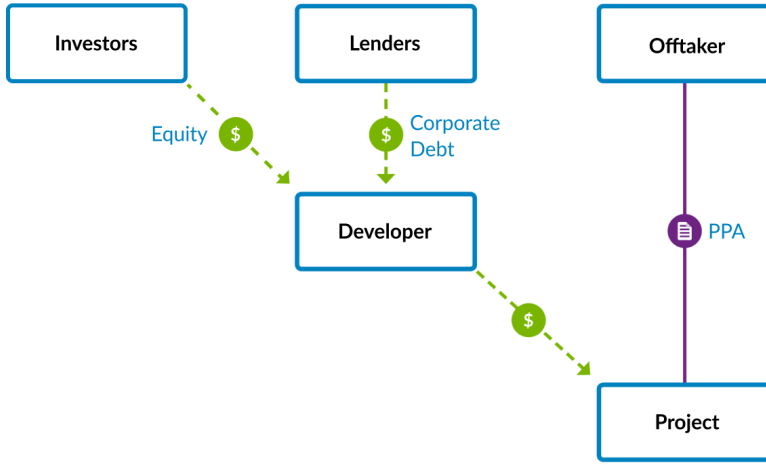
- Actual costs to the host country are not known for several years
- Mortgages natural resources of future generations
- Difficult to monitor and enforce performance and warranty obligations of contractor

6.4 Developer Financing

Some large multinational corporations, including international oil and gas companies, mining companies, and some developers, can use the strength of their balance sheets to fund a project by contributing all of the funds that are required by the project company or an unincorporated joint venture to develop the project. These funds may be derived from retained earnings or may be borrowed by the developer(s) from lenders or raised through the issuance of corporate bonds.

Developer financing limits the number of funding parties which must be coordinated and avoids the complexity that is often associated with project finance. Similar to host government financing, developer financing forces a developer to forgo other uses of its funds or its ability to borrow in order to finance a project. In most cases, a developer will not have the financial capacity to fund a sizeable project using developer financing alone. In practice, few utility-scale projects are funded using only developer financing.

The diagram that appears below graphically depicts a developer financing structure:



Developer Financing Structure

If a developer is unwilling to assume all of the risk involved in a particular project due to the size of the project, the use of unproven technologies in the project, or other considerations, a developer may team up with other developers to spread or mitigate those risks. Developers team up to develop a project by entering into a joint development agreement, joint venture agreement, partnership agreement, or if the developers agree to establish a special purpose vehicle to develop the project, a shareholders agreement in relation to that special purpose vehicle.

Strengths:

- ➔ No cash is required from the government (unless the government is a shareholder/investor)
- ➔ May involve fewer coordination challenges

➔ Thorough project due diligence mitigates the risk of project unsustainability

Weaknesses:

➔ A limited number of developers have a strong enough balance sheet and the appetite for this structure

6.5 Project Finance

As mentioned above, project finance remains the most prevalent finance structure for power projects in Africa and around the world. In project finance structures, the sovereign (or a government offtaker) grants the right, and the obligation, to develop, finance, construct, own, operate, and maintain a project to a special purpose company whose sole business is to develop, finance, construct, own, operate, and maintain the project. The project company contracts with third parties to perform some of these obligations, such as the engineering, procurement, and construction of the project, and the operation and maintenance of the project.

The project company finances the project using:

➔ funds injected by the developers as equity investments or shareholder loans (funds borrowed from the shareholders that are subordinated to the senior lenders);

➔ debt provided by capital providers such as commercial banks, bondholders, private credit funds, export credit agencies, development finance institutions, multilateral development banks, export-import banks; and

➔ funds, in some cases, made available by the sovereign or by donor parties either as concessionary loans or grants.

Project finance is also known as limited or non-recourse financing. As the terminology suggests, in limited recourse financing, the shareholders have limited liability for the debts and obligat-

ions of the project company, and in non-recourse financing, they have no liability for the debts and obligations of the project company. The level of recourse required depends on the risks inherent in the project, arising from such elements as the risk allocation under the project agreements, technology, complexity of construction, and operation of the assets.

Due to the degree of the debt providers' reliance on the successful implementation of the project, they will undertake a very comprehensive project due diligence and risk assessment exercise to identify risks related to the project. Please refer to *Chapter 3 (Financing Considerations)* for an overview of the key risks. These risks will need to be mitigated to the satisfaction of the debt providers in order for them to agree to lend.

To ensure the affordability of the electricity generated by the project, the project company will try to secure debt with as long a tenor as possible. The longer the debt repayment period, the lower each scheduled debt repayment will be. If the debt tenors a lender can provide are restricted due to a particular country or project risk, credit enhancement such as that provided by ECAs may enable the lender to provide longer tenors as discussed further below.

Structuring power deals as project finance transactions facilitates the apportionment of various risks to those best placed, willing and able to assume them. For example, investors with a larger risk appetite (e.g., project shareholders who are focused on emerging markets and/or have development mandates) may be willing to invest during the development phase of a project when it is perceived to be riskiest. On the other hand, a risk-averse investor, such as a pension fund, may prefer to invest in a power project at a later stage (after the commercial operations date) or in a lower-risk tranche of debt.

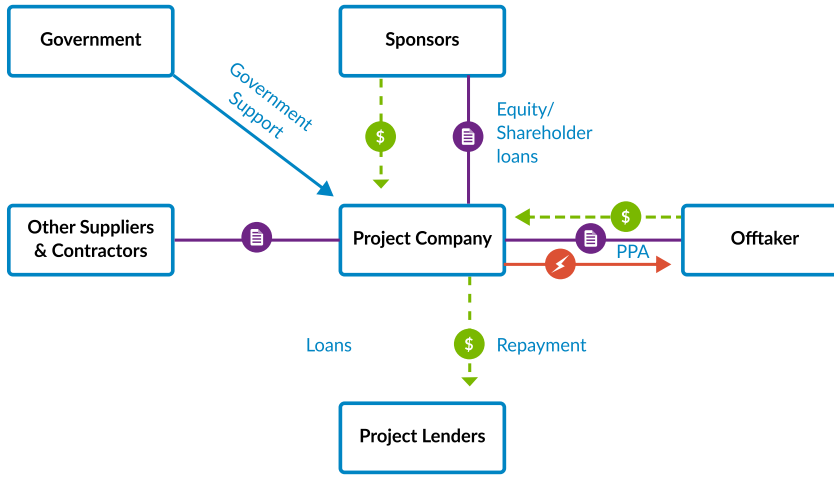
Project finance may be more affordable or more expensive than financing a project on the host country's balance sheet. This is dependent on four factors: (i) the government's cost of capital, (ii)

tenor, (iii) the availability of financing, and (iv) the amount of equity in the project. For example, if a government is funding a project from the proceeds of a bond issuance, it is possible that the coupon rate of the bond issuance may be higher than the rate available to a project company in a project-financed transaction. If a government funds a project using concessional financing, it is possible that the rate may be lower. It is also possible that the funding sources available to the government may have shorter or longer tenors (which would impact the timing of the burden on the government).

Project finance transactions generally result in higher up-front costs due to the multiple parties and their advisors, financing documents and other legal documents involved, as well as extensive due diligence required. There are costs associated with the multiple arrangers who structure the deal, legal fees associated with the various project agreements and financing documents, agent fees for the coordination of payments, parties and the holding of the security, and other related costs.

Project finance adds layers of complexity to a transaction relative to balance sheet financing, whether by a corporate or government. This complexity often requires significant coordination of parties. This coordination can often cause delays and increase costs. The upfront investment in both time and resources for a project finance transaction may be higher than certain of the previously mentioned alternatives but is structured to efficiently and equitably mitigate many of the risks identified in *Chapter 3 (Financing Considerations)* to the parties willing and best able to bear such risks.

The diagram below illustrates a typical project financing structure. It is focused on the financing arrangements rather than the entire project structure.



Project Financing Structure

Strengths:

- ➔ No cash is required from the government (unless the government is a shareholder/investor)
- ➔ Project risk is efficiently and equitably allocated to parties willing and able to bear the risks
- ➔ Thorough project due diligence mitigates the risk of project unsustainability
- ➔ This may result in longer tenors and lower costs of funds than other financing mechanisms, which reduces tariffs

Weaknesses:

- ➔ Complex coordination
- ➔ Projects may take more time to develop

Project Finance Parties

Project Company

The project company is a new, legally distinct, and ring-fenced entity established specifically to own, construct, and operate a project. This entity is often referred to as a special purpose company, special purpose vehicle, or special purpose entity since it was created for a specific purpose. Creating a separate project company ensures that the borrower's ability to repay the debt obligations will not be affected by lines of business that are unrelated to the project but will instead be affected only by the performance of the project.

Equity Providers

Please refer to *Chapter 5 (Source of Capital)* for an overview of the potential sources of equity for the project, which will include the project developers.

Debt Providers

The lender group in a project financing may consist of a combination of commercial banks (local and international), MDBs/DFIs, ECAs, pension funds, and others, with different tranches of debt having different repayment profiles, tenors, pricing and ranking in terms of repayment and security. Please refer to *Chapter 5 (Source of Capital)* for an overview of potential lenders.

Security Agent and Facility Agent

The lenders would require certain security to be in place before funds are disbursed. Where there are multiple lenders, the security will be shared amongst the lenders and, depending on the jurisdiction, is either held in a separate legal entity (security project company) or held in a security trust. One or multiple security agents are usually appointed to manage the security granted (both onshore and offshore) by the project company and

coordinate requests between the lenders and the project company with respect to any attempt by the lender(s) to enforce their rights under the financing documents.

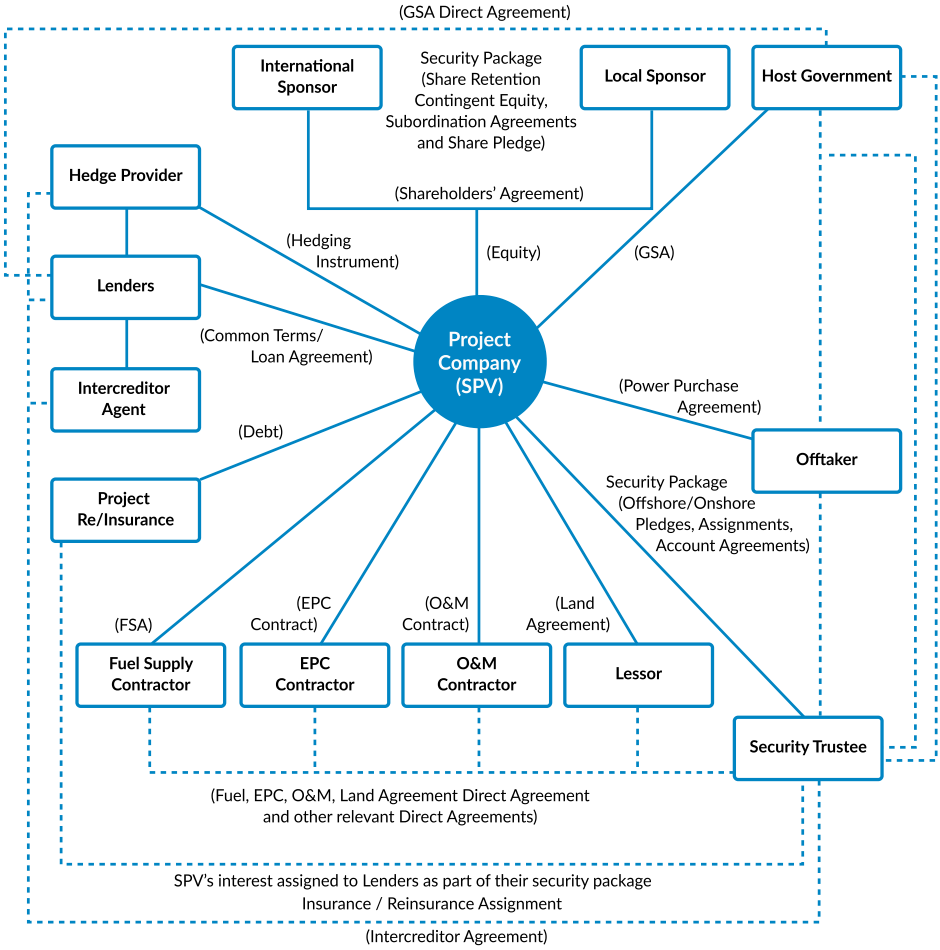
In a transaction with multiple lenders, the role of the facility agent is to coordinate activities on behalf of the lenders, including requests for disbursement, repayments, compliance with financial covenants and other undertakings and general communication between lenders and the project company.

Transaction Advisors and Arrangers

Determining the optimum blend of equity and debt funding required for a project may be quite complex. Financial advisors assist the sponsors in optimising the capital structure and developing financial models reflecting the most appropriate funding structure. Financial advisors and debt arrangers may assist in sourcing and negotiating the most appropriate funding and coordinating the due diligence.

Lenders engage an independent technical advisor/engineer, environmental and social (E&S) advisor, insurance advisor, model auditor and, if relevant, market advisor to assist with their diligence of the proposed project financing.

Legal advisors are typically engaged by sponsors, project developers, lenders, and project agreement counterparties and play a significant role in the diligence, structuring, negotiation, documentation, and closing of financing.



All parties (including Host Government) will need to provide legal opinions in relation to capacity, authority, and enforceability

Project Finance Lenders Requirements

Lender Rights Protection

To reflect the limited recourse nature of project financing, the debt providers benefit from security over all of the assets of the project company, including its contractual rights under the project agreements, and also a pledge over the shares in the project company. This enables the debt providers to enforce their security and take over the project if the project company defaults on its debt payment obligations. For more information on security agreements, see *Chapter 7 (Transaction Documents)*.

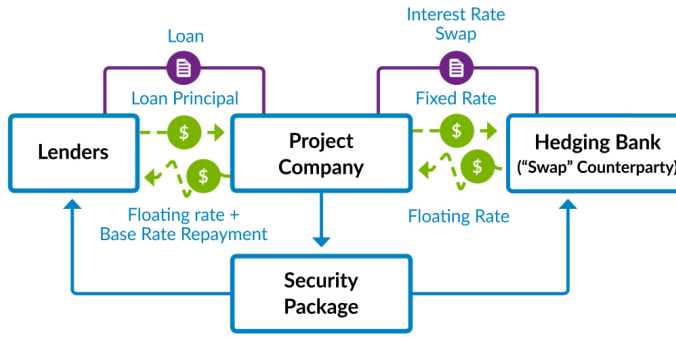
The lenders will also require direct agreements in respect of the key project agreements in order to have a right to step into the shoes of the project company and cure any default. This is necessary because lenders, who are not party to the project agreements, depend on the suite of project agreements and the parties' performance thereunder for their credit assessment and risk mitigation strategy for a project and therefore need to ensure the preservation of such agreements. The government and all relevant SOEs will be required to enter into direct agreements in respect of all of the project agreements to which they are party. For more information on direct agreements, see *Chapter 7 (Transaction Documents)*.

Hedging

Hedging is used by the project developer or project company to protect it against movements in currency exchange rates and interest rates and often, commodity price fluctuations for non-renewable power project financing. While hedging instruments can be highly complex, in a project financing or third-party developer financing structure context they are usually kept relatively simple in form. Typically, the financial institutions providing the hedging instruments are themselves senior lenders to the project developer or project company, as applicable.

- **Foreign Exchange Hedging:** A typical foreign exchange hedging agreement is where the project developer or project company agrees to purchase on a future date a fixed amount of one currency in exchange for another currency, at a prior agreed rate of exchange. This mitigates the risk of currency fluctuations for a period of time (depending on the currency) during the term of the project; this is crucial where there are costs and/or revenues in multiple currencies.
- **Commodity Price Hedging:** In a power project where the project company or project developer will be purchasing a commodity such as heavy fuel oil, or gas, and where the price is not fixed in advance under a fuel supply agreement, the project company or project developer may enter into a forward sale agreement under which it agrees to buy a fixed quantity of the fuel on a fixed future date, at a prior agreed price. In project financing, this gives both the project company and the lenders certainty as to the project company's expenditure on fuel or another such commodity.
- **Interest Rate Hedging:** Lenders may offer loans to the project company or project developer with either fixed interest rates or floating interest rates. Where rates are floating, lenders may charge a fixed rate over and above a fluctuating or floating base rate, such as the Secured Overnight Financing Rate (SOFR) for a particular currency. This base rate is essentially the rate that banks lend to each other. Because an underlying rate like SOFR can change over time, leading to potential uncertainty as to the project company's or the project developer's financing costs over the life of the loan, lenders and the project company or project developer alike may prefer to fix these floating rates by having the project company or project developer enter into long-term interest rate swaps. If floating rates rise, the project company or project developer knows that it will always have funds available to it to make the floating rate payments to lenders (as it is receiving those funds from the hedging banks) while knowing that it never has to pay

more than the fixed rate to the hedging banks. The project company, therefore, caps its exposure to interest rate increases.



Interest rate swap

Accounts and Payment Waterfall

Given the limited recourse nature of project financing, the lenders are entirely reliant on the project cash flows for the repayment of their debt. They will therefore seek to closely control the project company's cash flow by stipulating the order in which payments from loan disbursements and project revenue can be made. This is commonly termed the 'payment waterfall'. Lenders will also stipulate the accounts structure through which such waterfall must flow and this is likely to involve a large number of both onshore and offshore accounts. Each account serves a different purpose and segregation of different funds between different accounts is necessary to mitigate certain project risks. It is therefore essential that the project company receives approval to open all of the various accounts required by the lenders.

Security over all of these accounts will be granted in favour of the lenders to serve as collateral security for the loan. The movement

of funds between these accounts is regulated in the onshore and offshore Accounts Agreements, as applicable.

Depending on the project, a typical accounts structure will contemplate the following accounts for the specified purposes:

Purpose	Designated Account(s)
Loan Disbursement Proceeds	Offshore Proceeds Account Onshore Proceeds Account
Project Revenues	Onshore Revenue Account Offshore Revenue Account
Project Construction and O&M Costs	Offshore Operating Account Onshore Operating Account
Accrual and Payment of Debt Service	Offshore Debt Service Payment Account
Accrual of Debt Service Reserves	Offshore Debt Service Reserve Account
Major Maintenance Reserves*	Offshore Maintenance Reserve Account Onshore Maintenance Reserve Account
Working Capital Reserves*	Offshore Working Capital Reserves Onshore Working Capital Reserves*
Proceeds of Insurance, Liquidated Damages, Indemnities, Termination Payments	Offshore Special Proceeds Account Onshore Special Proceeds Account
Distribution of Shareholder Dividends	Offshore Distribution Account Onshore Distribution Account

*The account may be located only offshore or onshore depending on lender requirements.

Refinancing Structures

As a project matures and becomes less risky, a project company may refinance its debt. Typically, refinancing implies replacing the original debt with new debt that has more favourable terms. A

proportionately larger component of project risk is attributable to the construction period leading up to the successful commissioning of the plant. Once a project is built and operating successfully, this element of risk is effectively removed. Project companies at this stage may seek to capitalise on this de-risking by seeking refinancing of the remaining outstanding debt at potentially better rates and/or terms.

Lenders are aware of this and may build early prepayment penalties into their loan agreements to discourage refinancing. On the other hand, some lenders may be satisfied that they have received adequately priced returns during the riskiest phase of a project and be pleased that capital is freed up for investment in other projects. This is particularly true for commercial banks which have a particular focus on re-allocating capital.

Loan agreements may contain built-in incentives for refinancing where interest rates ratchet up after the first few years of operations to encourage the project company to refinance the project and pay lenders out. Equally, the project company may negotiate downward ratchets of margins at a predetermined point during the operations period, meaning the interest rates will lower as the project continues to operate. Lenders will want to ensure that, if they agree to this, their total recovery over the life of the loan remains at a level commensurate with the risk profile for the given period (which may mean higher pricing during the early years of operation).

Tenor Extensions

Certain lenders, particularly commercial banks, may have limits on the tenors of the loans which they are able to provide. These can be because of credit or regulatory risk restrictions on-lending for more than a certain number of years to a particular country or counterparty, typically applying to cross-border lenders in USD, or because of liquidity constraints when lending domestically in local currency.

Lending limitations can sometimes be dealt with by ECA or PRI cover (see *Chapter 9 (Third-Party Credit Support and Risk Mitigation)*). In the case of domestic lending, projects can be structured so that other finance parties (such as MDBs, DFIs or specialist guarantee providers) "buy" or guarantee the repayment of the existing debt at a point in time (e.g., at a date close to the bank's maximum lending tenor for liquidity purposes) at a predetermined price. This effectively shortens the contractual lending period for the commercial bank, while retaining some flexibility on further extensions of tenor at the point of refinancing. This refinancing can often be at the project company's request (so that it can test the market at the time to see if other options are available).

When relying on local banks as lenders, however, the refinancing triggers often need to be mandatory as part of the financing, such that it implies a shorter contractual lending period for purposes of balance sheet constraints and regulatory restrictions on term borrowings.

6.6 Carbon Credits

The ambition of this Handbook is to provide the reader with a broad view of the sources and tools available in today's market to finance power projects and the practical strategies that can be deployed to attract that capital into a given market. This subsection takes a departure from our practical review of well-established sources and structures of financing to look forward towards emerging options in this space.

Carbon-Linked Financing

It is important to start this discussion with an acknowledgement that carbon-linked financing is a rapidly shifting space due to evolving policy considerations and emerging technology solut-

ions. Readers are encouraged to consider the explanation and examples detailed in this chapter as indicative of current practices rather than best practices to be adopted on a more permanent basis. It is advisable to seek expert advice from practitioners in the climate-linked structuring space for both government officials seeking to facilitate the introduction of carbon financing into their market and private developers seeking to qualify a project for the use of carbon capital.

Overview

Since COP26 in Glasgow in 2021, the carbon financing landscape has seen significant progress as countries, institutions, and the private sector work to meet ambitious climate targets. The demand for carbon credits, the creation of new climate financing funds, and ongoing challenges in adaptation financing have shaped this evolving landscape. The relevance to power project financing is significant given that the rapid deployment of renewable energy to accelerate the current energy transition represents one of the most significant opportunities to link carbon reduction with the deployment of capital. In short, the convergence of economic, environmental, and strategic interests at the nexus of climate finance has increased the importance of this source of capital in power market development.

What is a Carbon Credit?

For clarity, it is important to acknowledge that 'carbon credit' is an emerging asset class rather than a commoditised financial product. It is helpful to break the term into its components:

- **Carbon:** The reduction of an emission of carbon has been identified and quantified using approved methodologies and according to a set of criteria.
- **Credit:** A certificate is assigned to the carbon emission reduction, commonly expressed in metric tons CO2 equivalent, that equivalent can be transferred between parties, usually within

an agreed registry. A party may also choose to retire that credit and, by doing so, offset against a similar quantity of carbon emissions.

This naturally leads to an understanding that the formation of a carbon credit requires a system for recording carbon emissions (i.e., monitoring) and some form of price discovery to value that emission (i.e., a market). There are numerous permutations of this formula, such as:

- A regulatorily mandated calculation of emissions (usually called allowances) is paired with a domestic or regional trading platform that determines a value for that allowance through an auctioning process. One example is the European Union Emissions Trading System.
- Credits issued in the voluntary carbon market, verified under a privately managed auditing process under the governance of a carbon standard, paired with an agreement between private parties for the transfer of the right to account for that mitigation at a negotiated price, are usually recorded within the standard's registry.
- A carbon mitigation outcome is determined and accounted for under the current United Nations guidance, and aligned with the rules, modalities, and procedures for a governing agreement between sovereign parties to transfer the recognition of that credit from one jurisdiction to the other. Also known as a Mitigation Outcome transfer under Article 6.2 of the Paris Agreement.

For this Handbook, we will limit our investigation of carbon credits to the latter of these examples since it currently represents the most standardised form of carbon credit that is transferred between sovereigns through cooperation agreements.

Tracking Emissions via Nationally Determined Contributions

Nationally Determined Contributions (NDCs) are U.N. commitments made by countries to reduce their greenhouse gas emiss-

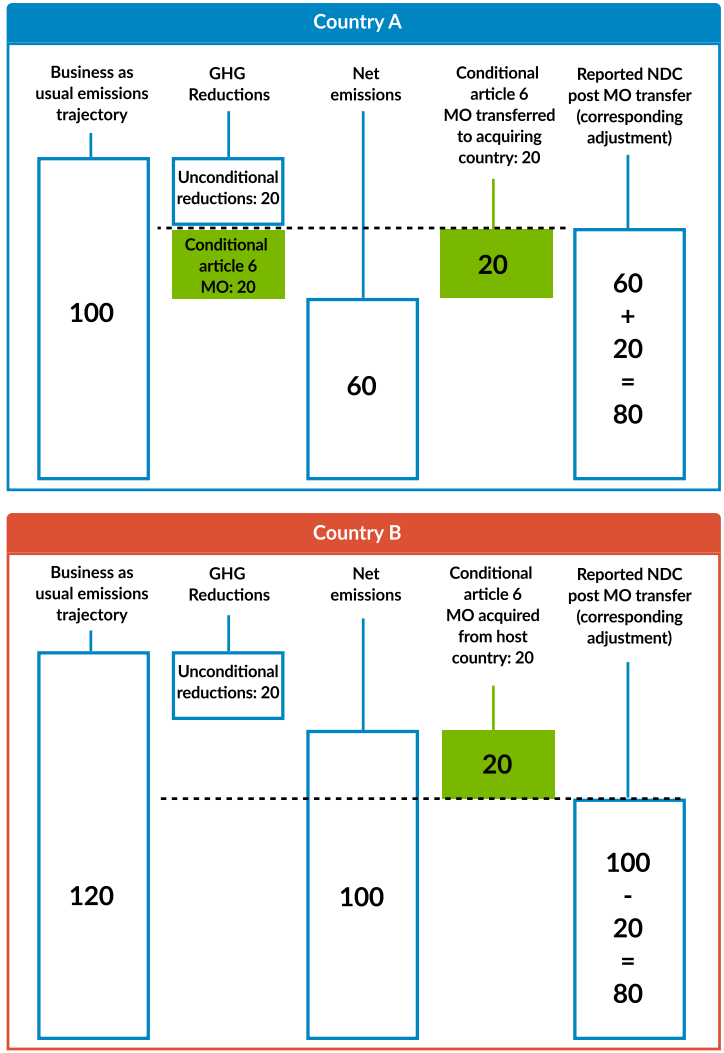
ions. The NDC framework was established under the United Nations Framework Convention on Climate Change (UNFCCC), the framework that produced the 1997 Kyoto Protocol and the 2016 Paris Agreement. Each country submits its own NDC, outlining the specific actions it will take to achieve its emissions reduction targets. These targets are based on the country's current and projected emissions levels, as well as its economic development stage. In their NDCs, countries report emissions reduction commitments against a business-as-usual scenario (i.e., emission levels without NDC reductions) in two forms:

- **Unconditional:** for projects that will be financed by the country without the support of carbon credits in the form of Mitigation Outcome.
- **Conditional:** for projects that require the monetisation of carbon credits in the form of Mitigation Outcome to be financially viable.

Marketing Carbon Credits

Currently, the most common pathway for the marketing of carbon credits is through the framework established in Article 6 of the Paris Agreement, particularly subsection 6.2's creation of Internationally Transferred Mitigation Outcomes (ITMOs). An ITMO represents the reduction of 1 metric ton of CO2 equivalent emissions in the atmosphere, achieved through the implementation of a specific project or activity. Countries can then exchange ITMOs under a cooperation agreement at a negotiated price.

To satisfy the latest high integrity requirements implicit in Article 6.2, carbon credits should be used for hard-to-abate sectors or projects with challenging financing thresholds and where the sale of the ITMO makes the project economically viable. Under the cooperation agreement, the carbon reduction impact of a renewable energy generation project in the host country is transferred to the acquiring country through reporting to the UNFCCC secretariat. It is then reflected in both countries' NDCs as per the following illustration.



Country A was able to reduce GHG emissions and transfer a portion to country B, resulting in both countries able to meet their NDC

At the time of the publication of this Handbook, 51 cooperation agreements have been signed between LDC and developed countries, covering 141 projects/activities within the framework of those bilateral agreements, spanning various sectors, including energy. Buying countries can enter into these agreements for a variety of reasons, including mitigation of their own NDC targets; supporting other domestic policies; and contributing to global carbon reduction. With the linkage between carbon mitigation and renewable energy, the marketing of ITMOs represents an opportunity to simultaneously increase a future stream of revenues linked to the project development, while accelerating climate change mitigation.

Photovoltaic Systems, Vanuatu

In 2023, the Swiss Federal Office for the Environment and the Government of Vanuatu approved one of the pioneering initiatives under the Article 6.2 cooperative approach, utilising internationally transferred mitigation outcomes (ITMOs). This project seeks to reduce carbon emissions while fostering sustainable development by providing solar-powered electrification to Vanuatu's rural communities, where 80% of the population currently lacks access to electricity. The programme aims to directly reduce total greenhouse gas emissions by 97,217 tCO2e over 8.7 years through the deployment of reliable, low-cost solar systems, delivering sustainable energy to underserved rural areas across Vanuatu.

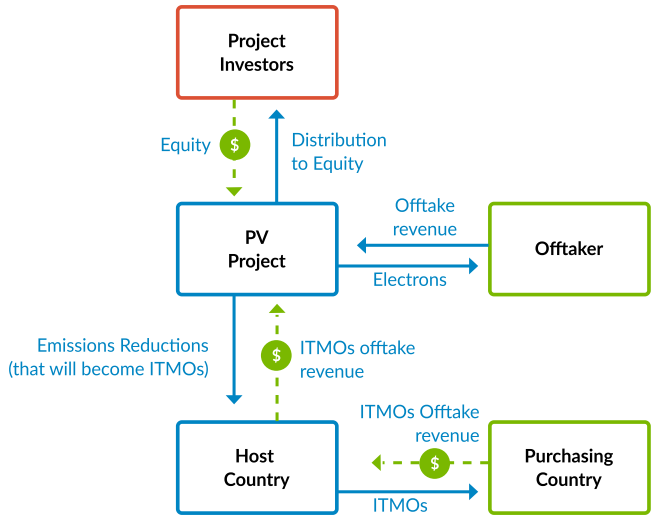
The Focus on High Integrity

The value of carbon is directly linked to its representation of a unit of carbon mitigation. Confidence in the accounting system under which the credit was created establishes the integrity of that credit for the prospective buyer. The considerations that

inform a buyer's view on the high integrity of a carbon credit are broad and are beyond the brief overview of carbon credits in this Handbook. That list of key considerations includes among others: *additionality*, *permanence*, and a*voidance of double counting*. For additional insight into the integrity of carbon credits, we direct the reader to the additional sources at the end of this Handbook.

Funding Power Projects With Carbon Credits

Structures allowing the monetisation of emissions reductions (ER) via Article 6.2 cooperation can improve the economic viability of a power project. The diagram below illustrates how the carbon mitigation linked to the construction of a solar PV project can be monetised as an ITMO, the sale of which generates additional capital that flows back to the project.



Debt for Climate Swaps

Another emerging source of carbon-linked capital is the Debt-for-Climate swap. These swaps are premised on the commitment of one country to restructure debts they are owed in exchange for commitments to finance the development climate positive projects, such as renewable energy projects. In effect, the target country is injecting capital into its domestic power market and offsetting the cost of that capital injection through a reduction in its sovereign debt obligations.

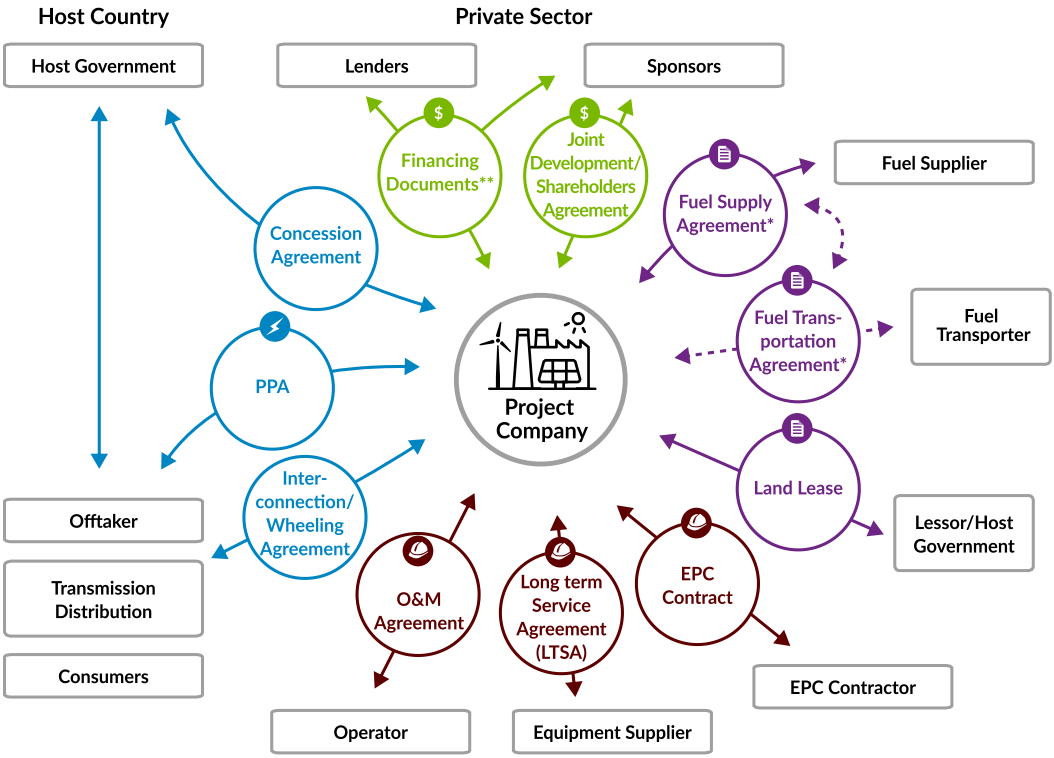
One example is the debt-for-climate swap between Germany and Kenya. The Kenyan government is directly investing the equivalent of 60 million euros over several years in renewable energy projects identified in a bilateral agreement with Germany's Federal Ministry of Economic Cooperation and Development. Once the projects have been successfully implemented, an equivalent amount of the debt obligation from Kenya to Germany will be retired. One example of a power project financed under this arrangement is the Bogoria-Silali Block geothermal field and associated grid upgrades, the benefits of which are both the generation of renewable energy and more stable access to power for rural households.

Chapter 7: Transaction Documents

7.1 Introduction

This chapter provides an overview of the key transaction documents that will formalise the terms and conditions agreed upon between the numerous parties involved in the construction, operation, and financing of a power project. It will only highlight the most relevant aspects to the financing of a project and should not be considered an exhaustive discussion of the documents. For a more detailed explanation of the legal structuring of power projects, please refer to the 2nd edition of the *Understanding Power Project Agreements*.

This graphic is an example of the various transaction documents, but readers should keep in mind that there will be significant variations in the number, form, and content of the transaction documents across different projects.



* Not relevant for renewable projects
**In the case of project financing, the lenders will require direct agreements with all the counterparts of the Project Company (other than the Sponsors)

7.2 Financing Documents

The finance agreements regulate the flow of capital into the project (loans, equity) and out of the project (interest payments, dividends) and the associated rights and responsibilities. Some of these agreements are covered in the *Understanding Power Project Agreements* handbook and are revisited below from a lender's point of view.

Common Agreements

The following documents will be required in most financing structures.

Loan/Credit Facility Agreement

The specific terms and conditions applicable to a loan facility, such as the pricing, tenor, repayment profile, and specific policy requirements, are set out in the loan/facility agreement between the project company/borrower and (each) lender. This agreement typically also contains provisions related to funding conditions, financial covenants, events of default, representations and warranties, and other undertakings.

Common Terms Agreement

If there is more than one loan facility, the lenders will be required to execute a common terms agreement (CTA). This agreement will contain all the financing terms common to all the project's loan facilities. The common terms agreement is likely to be a lengthy document with several schedules and annexures. It is the key finance document between the project company and the finance parties.

Credit Support

Debt providers may require credit support depending on the borrower's creditworthiness. In a third-party developer financing

or project financing structure, credit support may include, among others, a parent company guarantee.

Security Documents

Lenders may require collateral security as a condition of lending. Security packages depend on the nature of the type of financing (third-party developer financing or project financing) and jurisdictions involved (onshore and offshore). In project financing, the security package would usually include security over the shares in the project company, all moveable and immovable assets of the project (including project accounts) and overall project agreements and rights under project agreements, insurance and reinsurance policies, and shareholder loan agreements. Security documents include mortgages, pledges, debentures, assignments, charges, and liens. Depending on the jurisdictions, third parties (such as government entities, project agreement counterparties and project insurers and reinsurers) may need to be notified of, and in some cases acknowledge or consent to, the granting of security by the project company.

Hedging Documents

Lenders often require borrowers to hedge risks relating to foreign exchange and interest rates, particularly in the context of project financing of non-renewable power projects and commodity price movements. This can be documented in a number of ways, such as via swaps or other types of hedging instruments. The providers of these instruments are very often the same financial institutions providing senior debt.

Legal Opinions

In third-party developer financing and project financing, lenders will require legal opinions confirming (i) the counterparties to the financing agreements have the requisite capacity and authority to enter into and perform their obligations under the financing agreements and (ii) the financing agreements are legal, valid, binding, and enforceable against such counterparties. Given

project finance lenders' reliance on the project for repayment of the loan rather than the balance sheet of a corporate developer, these lenders will receive legal opinions covering these matters in relation to the project agreements. In the context of a project agreement pursuant to which the government is a counterparty (acting through one or multiple ministries or otherwise), project finance lenders will require a legal opinion from the attorney general or similar authority, depending on the jurisdiction.

Documents Specific to Project Finance

The following documents are specific to project financing structures.

Accounts Agreements

Lenders will seek to control the project company's cash flow by stipulating the order in which payments from loan disbursements and project revenue can be made. This is commonly termed the 'payment waterfall'. Lenders also require that certain bank accounts be opened and that funds be moved between accounts in accordance with this waterfall. This movement of funds is regulated in the onshore and offshore Accounts Agreements, as applicable.

Lenders will require an accounts structure that contemplates multiple onshore and offshore project accounts that will serve as collateral security for the loan. Segregated accounts are necessary to mitigate certain project risks. Each account serves a different purpose in the accounts structure and is subject to different lender controls pursuant to the payments waterfall under the onshore and offshore Accounts Agreements.

The payment waterfall will be specified in the onshore and offshore Accounts Agreements and ensures that there is a priority of payments established from inception to ensure (i) the project pays its construction and operating expenses, such as salaries and taxes so that it can continue to operate; (ii) the

lenders are paid back their debt; (iii) there are sufficient project maintenance, working capital and debt service reserves; and (iv) controls over the release of distributions to the project sponsors as dividends or repayments of shareholder loans. Payment waterfalls can have up to ten or more cascade levels before dividends or restricted payments are allowed to be released to the project shareholders.

Intercreditor Agreements

The Intercreditor Agreement is an agreement amongst lenders and agents that governs the relationship between the lenders and regulates voting rights and decision-making by lenders, as well as the giving of instructions to and actions of the facility and security agents. It will also deal with how security enforcement proceeds are apportioned amongst the various finance parties.

Financial institutions tend to have differing objectives. DFIs may be more concerned with environmental, social, and other policy objectives. ECAs may be concerned about matters that affect the spending on equipment or other costs from their respective country. Commercial lenders may take a more conservative view on project company defaults. Mezzanine or subordinated lenders may have limited decision-making and/or security rights. Hedging banks will wish to ensure that in the event of an early termination of the project, they receive amounts due to them from the project company out of any sums available to creditors.

In financing involving multiple classes of lenders with their respective commercial and policy objectives, the decision-making approach under an Intercreditor Agreement must contemplate such specific considerations. For this reason, the Intercreditor Agreement tends to be a bespoke document for each project financing transaction.

Direct Agreements

As the lenders are not parties to the key project agreements that the project company enters into, they do not have contractual

relationships with the counterparties to such agreements but depend on the parties' performance under the project agreements for their credit assessment of the project. To acknowledge the lenders' rights and interests in the project, lenders require direct agreements between themselves and the parties to project agreements such as the government concession agreement(s), offtake/PPA agreement, government support agreement, fuel supply agreement, EPC contract, and O&M contract before lending to a project.

Direct Agreements enhance a lender's security over a project by preserving the rights of the parties to the project agreements. The parties to a Direct Agreement consist of (i) the project company, (ii) the counterparty to the Project Agreement that is the subject of the Direct Agreement (e.g., the offtaker in the case of a PPA, the host government in the case of a GSA, EPC contractor in the case of an EPC contract, the fuel supplier in the case of a fuel supply agreement, etc.), and (iii) the lenders, or a security agent appointed by the lenders). In general, lenders require a direct agreement for each of the key project agreements.

A typical Direct Agreement includes:

- ➔ confirmation by the parties that no defaults have occurred and are continuing under the project agreement;
- ➔ an acknowledgement by the counterparty of the security taken by the lenders over the project company's rights in and to the relevant contract;
- ➔ an agreement by the counterparty not to terminate or suspend performance under the relevant project agreement without giving prior notice to the lenders and an opportunity for the lenders to cure the default by the project company during an agreed period of time known as the standstill period;
- ➔ an agreement to novate the project agreement to a substitute (a newly formed project company) if the lenders are not able to

cure the project company's default under the project agreement;

- ➔ where project agreements have been signed before lenders have had the opportunity to comment or review, clarifications or amendments required by lenders to the underlying relevant project agreement;
- ➔ an agreement by the parties to the project agreement not to amend the project agreement; and
- ➔ a dispute resolution mechanism acceptable to lenders (typically binding arbitration under international arbitration rules and with a seat and venue acceptable to lenders).

There are benefits to both lenders and counterparties in respect of each direct agreement. From a lender's perspective, a direct agreement provides a clear route to step into the project company's position if the project company defaults under a project agreement so that the lender can either preserve or attempt to preserve the project, which will enable the project company to continue or resume servicing its debts. From a counterparty's perspective, a direct agreement provides a deadline by which a lender that has stepped in must either (i) cure any defaults by the project company or (ii) permit the counterparty to exercise its rights under the project agreement regarding the default.

Share retention, contingent equity and subordination agreements

The lenders may require as a condition of the loan that the shareholders and the project company enter into one or more agreements to address the lender's requirements in terms of changes of ownership or control of the project company, shareholder contingent equity and other project credit support obligations (e.g., project cost overruns), and subordination of any shareholder loans to the loans provided by the lenders. Depending on the creditworthiness of the project shareholders, the lenders may

require some of these obligations to be backstopped by credit support (e.g., letters of credit or a corporate guarantee from a creditworthy sponsor).

7.3 Project Agreements

Government Support Agreement(s)

Given the pivotal role the government plays in the successful implementation of a project, particularly where the offtaker is a state-owned entity (SOE), it is often necessary for the government to provide certain undertakings in relation to the project. The document(s) in which such undertakings are contained may be called Government Support Agreement, Concession Agreement or Implementation Agreement. In this section, the term Government Support Agreement or GSA encompasses any combination of these.

The GSA is key to the commercial viability of the project as it will address a number of risks that are within the direct control of the government and are very difficult for other parties to mitigate. The term of the GSA should match the term of the PPA to ensure protection throughout the project's life.

The GSA should address matters such as:

- the project company's right to develop, finance, construct, and operate the power plant;
- the regulatory environment and permitting aspects of the project, which may mitigate any deficiencies in the enabling environment;
- foreign currency availability, convertibility, and transferability;
- expropriation;
- change in law (including change in tax);

- payment default by the offtaker and short-term credit enhancement (if applicable);
- breach by any governmental counterparty to a project agreement that increases costs to the project or causes termination of any project agreement (other than the concession agreement);
- acknowledgement that third-party lenders may require an assignment of the project company's rights under the concession agreement;
- acknowledgement that a direct agreement may be required by third-party lenders and agreement to enter into a direct agreement;
- waiver of sovereign immunity as required to permit effective recourse in the event of a breach, and survival provisions such that any obligation incurred before termination of the concession agreement survives until the fulfilment of such obligation; and
- sovereign guarantee or support provisions if a separate government guarantee or support agreement is not entered into (for more information, see *Chapter 8 (Sovereign Support)*).

It is worth noting that beyond the GSA itself, lenders will also require that any disputes that result in an international arbitral award be recognised and enforced in the host country.

Power Purchase Agreement (PPA)

In typical power project financing, the only financial return to lenders is the repayment of the project debt and the payment of interest (along with certain agreed fees). However, since debt providers have large capital outlays at risk and depend exclusively on revenues from the project for repayment, the lenders will insist that the project sponsors and documents are robust enough for the project to reach commercial operations. The lenders, among all parties, want to avoid a scenario where the

project fails, especially during the construction phase. Even after operation commences, there remains an overarching concern that revenues are adequate to service the debt.

The following considerations, if not appropriately addressed, may impact a project's ability to raise capital:

- **Term:** The term of the PPA should be long enough to allow the debt to be fully repaid, and if the debt is not fully amortised (in other words, if there will be a principal amount outstanding at maturity), the term of the PPA should be long enough to support a refinancing of the remaining debt.
- **Tariff**: Lenders will require certainty with respect to the tariff payable under the PPA.
- **Changes in law and tax:** Lenders typically have a limited appetite for risk associated with changes in laws or taxes during the project's lifespan.
- **Offtaker creditworthiness:** If the offtaker is not sufficiently creditworthy, lenders will require other broad forms of credit support that may require additional financial structuring.
- **Sponsor quality:** The lender and offtaker will consider the experience, reputation, and financial strength of the ultimate owners of the project company.
- **Billing and payment:** The billing period from the offtaker to the producer should be frequent (monthly or even bi-weekly) to minimise the level of unpaid energy and ensure that the schedule of debt service payments is adhered to. It also alerts the lenders to potential payment/liquidity issues.
- **Currency/Calculation:** PPA payments and calculations are most often made in the same currency needed to repay the debt. If not, there must be a plan for foreign exchange hedging and/or exchange rate indexation and a true-up mechanism. In addition, if there are any convertibility issues with the payment currency, the lenders may require payment to be

made in a different currency, or the offtaker or the host government will need to guarantee the convertibility of the currency at an acceptable exchange rate.

- **Termination:** Lenders do not want the offtaker to be able to escape the long-term purchase obligation under the PPA since this would leave the project without any revenue to service the project debt. Lenders will pay particular attention to ensure that seller events of default and force majeure events do not allow the offtaker to prematurely terminate the project. If termination does occur after applicable cure periods (including as extended pursuant to a direct agreement with lenders), lenders will want assurances that the project debt will be satisfied.
- **Remedies upon Buyer Events of Default:** In particular, lenders need the seller to have the ability to exercise certain rights, even up to PPA termination, if the offtaker fails to make payments or fails to deliver the required payment security.
- **Lenders' rights:** Lenders will typically request the inclusion of a provision acknowledging the lenders' security interest and requirement for a direct agreement.

PPAs provide significant comfort to generators and lenders by setting forth predictable revenue and promising a reliable supply to offtakers. It is worth noting that a PPA may not be required when a project can be developed based on independent market studies demonstrating sufficient revenue from the spot market demand and long-term price forecasts. In that scenario, once the project is completed, the plant will simply sell into an existing spot market. However, there is still no example of this in African markets, and a conventionally bankable PPA remains an essential tool in developing country energy markets.

Grid Connection Agreement

This is an agreement between the project company and the transmission system operator (TSO) of the transmission system to which the project connects, which governs the technical requirements of the physical connection. If the project's point of interconnection is not at the boundary of the project site, the project company may be expected to finance and construct the relevant interconnection works. Funders will focus on how the agreement covers grid access and availability risks as well as technical performance risks. The scope of any interconnection works must be passed through to the EPC Contract.

Engineering, Procurement, and Construction Agreement (EPC Contract)

The EPC Contract governs the terms and conditions for a power plant's design, procurement, and construction. Many projects use a "turnkey" approach, which transfers completion risk to the EPC Contractor. Sponsors opting for a turnkey EPC solution must ensure the scope of work meets the offtaker's and sponsors' performance standards. The EPC Contract and the PPA must be aligned since failure to satisfy the agreed technical specification or completion schedule in the PPA may result in liquidated damages passing through to the EPC Contractor.

Engineering, Procurement, and Construction Management Contract (EPCM Contract)

If construction obligations are divided among multiple contractors, these risks may be managed under an Engineering, Procurement, and Construction Management (EPCM) contract with the EPCM Contractor acting as an agent for the project company. The EPCM Contractor is responsible for the design of the project, as well as the management of the construction of the

project, and will source and manage the relevant subcontractors. However, those contractors will be employed by the project company, not the EPCM Contractor.

The EPCM structure offers several advantages, including a potentially earlier commencement date for construction. Given that no single subcontractor is required to accept full construction risk, the EPCM package generally provides a lower cost than an EPC Contract. This approach also dilutes the risk of contractor insolvency, making it an attractive option for power projects. However, it introduces substantial interface risk and requires more complex documentation. Lenders will scrutinise the level of risk retained by the project company and any limitation of rights against the EPCM Contractor.

Operations and Maintenance Agreement (O&M Agreement)

The terms and conditions outlined in an Operations and Maintenance (O&M) Agreement will dictate how a specific entity, often referred to as the Operator, will manage, operate, and maintain the power project.

The O&M Agreement outlines the Operator's responsibility for day-to-day operations, regular and preventative maintenance, and inspections to ensure the facility's reliability and longevity. Performance metrics will be established to measure the Operator's effectiveness in delivering these services. The O&M Agreement may also include provisions for warranties, which the Operator should administer in line with the EPC contract.

The compensation structure for the Operator can take various forms, including a fixed-price model that may be adjusted to reflect changes in spare parts or consumable costs. Lenders often prefer a fixed-price structure, as it provides a project company with certainty regarding its fixed costs. However, Operators may incorporate a premium to build in a buffer, given the largely fixed

nature of this structure. Alternatively, sponsors and lenders may opt for a cost-plus model, where the Operator is paid for costs incurred alongside a fixed fee, which may be lower than the fixed-price structure. With a cost-plus model, lenders will raise concerns about the risk of cost overruns.

Finally, the O&M Agreement will typically outline the duration of the contract, which may not align with the debt tenor. However, a shorter-term duration can provide efficiencies by leveraging technological advancements, particularly in renewable projects. Termination provisions are also essential to define the conditions under which either party can end the relationship.

Long-Term Service Agreement (LTSA)

If the project involves equipment that requires maintenance by the manufacturer or specialised companies, the LTSA will provide servicing for the relevant equipment at regular intervals during the operation of the project. Funders will focus on how the LTSA covers service provider risk, cost escalation risk, and technology risk and how it interacts with the O&M Agreement.

Joint Development Agreement/Shareholders Agreement

A joint development agreement (JDA) governs the relationship between multiple project sponsors during the development stage of a project. In a JDA, the sponsors would typically set out how they will:

- ➔ cooperate to develop the underlying project (for example, by way of managing construction and negotiations with relevant stakeholders); and
- ➔ share responsibilities, benefits, expenses, and liabilities arising in the context of the underlying project.

Essentially, the JDA charts how the sponsors will (or intend to) manage, fund, and structure the project. In terms of funding, it will document the capital contributions of the sponsors during the development phase and how such contributions may be funded (e.g., upon the achievement of certain milestones or dates and pursuant to subscriptions or shareholder loans). These contributions may also be made through services, such as technical services or equipment supply.

Once the project is sufficiently advanced and the sponsors incorporate the project company, they will enter into a shareholders agreement to govern their ongoing relationship, including how decisions will be made.

Agreements Unique to Non-Sovereign Offtake Structures

Power Supply Agreement (PSA)
In contrast to a PPA, which is an agreement between a generator and an offtaker (a consumer or a trader), a PSA is an agreement between a non-generator seller (generally a trader) and a consumer. In simple back-to-back bilateral transactions, the PSA may be linked to a specific PPA in terms of the volume of power to be delivered, disruptions to power supply, and other factors, such that the consumer takes an indirect risk on a specific generator. In contrast, under an aggregate/trader model, there will be no direct attribution of any particular source of supply to a particular consumer, such that the PSA is a standalone document, and the trader bears the risk of being able to meet the power demand profile agreed with the consumer. PSAs typically allow the seller to sell energy to an alternative purchaser if the original consumer cannot accept energy or fails to pay.

Use of System Agreement/Wheeling Agreement
This agreement governs the use of a third-party transmission network to deliver power from a seller to a buyer and is entered

into between the TSO and the party wishing to use the network. The nature of the wheeling commitment on the TSO may vary—either firm or non-firm. Firm wheeling is a firm commitment by the TSO to make transmission capacity available. With non-firm wheeling, the obligation on the TSO to wheel depends on whether transmission capacity is available. Firm wheeling is, therefore, more expensive than non-firm wheeling. With non-firm wheeling, the network user takes the risk of whether there will be capacity when it needs it.

When allocating available transmission capacity, firm contracts take priority over non-firm contracts; older contracts generally take priority over newer contracts and longer-term contracts may also be given priority. For example, under the recently enacted open access regulations in Zambia, long-term use of system agreements (5 years or more) take priority over shorter-term arrangements.

Other Project Agreements

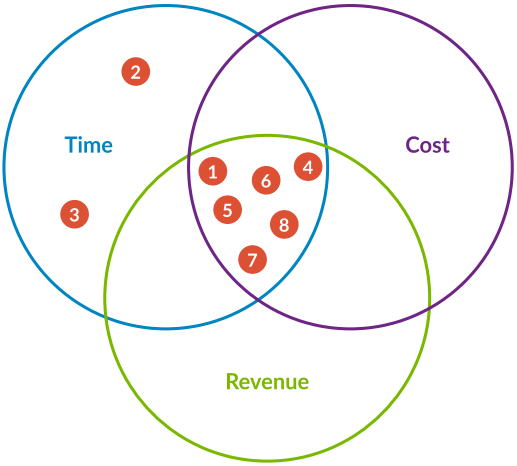
Land Lease Agreement or Land Concession Agreement: Governs the lease/concession of the land where the power plant is located. Funders will focus on how the agreement covers land title and lease\concession termination risks.

Fuel Supply Agreements (FSA)/Bulk Supply Agreement: Where applicable, an FSA should, as far as practicable, guarantee the project a steady, uninterrupted supply of the project's entire fuel requirements at fixed or predictable prices for the life of the project. It is not always possible to achieve each of these objectives. Where the fuel supply chain is uncertain (e.g., in some biomass structures), commercial viability may be decided based on a fuel portfolio covering long-term, short-term, and spot fuel supply. Where relevant, supply represents one of the project's key risks that should be matched against offtake risk.

Fuel Transportation Agreement: Covers transporting the fuel from the fuel supplier to the power plant. Funders will focus on how the agreement covers price, logistics, and termination risks.

It is usually the case that the fuel transportation agreement is between the fuel supplier and transporter only. Therefore, the project company should seek to be a beneficiary under such contracts, have the right to receive notices if an event of default arises, and have the right to cure such default.

The diagram below provides a high level summary of the risk allocation and the reliefs provided under the Project Documents, from the point of view of the Project Company.



1. Political Force Majeure Event affecting Project Company
2. Force Majeure Event affecting Offtaker
3. Force Majeure Event affecting Project Company
4. Offtaker delay / default during construction
5. Offtaker delay / default during testing / commisioning
6. Grid Connection Facilities unavailability / curtailment
7. Change in Law
8. Non-delivery of Fuel caused by Political Force Majeure Event

Chapter 8: Sovereign Support

8.1 Introduction

Sovereign support takes many forms, including legislative support, regulation, licensing, oversight, and ancillary market functions such as transmission and/or fuel supply. Governments are relied upon to create an enabling environment, facilitate project finance structures, and allocate and price risks according to generally accepted project financing principles, all to help stimulate and support private power projects. While a great deal of time and effort is involved in such endeavours, by adopting these approaches, a government can increase the likelihood of reaping the benefits of project financing an IPP project, namely that the up-front cost of the project is provided through private sector-led financing and not from the sovereign's balance sheet.

The perceived benefits inherent in these structures, practices, and methods take time to develop and materialise into mature power markets. Macroeconomic events, both external and internal to the host country, can diminish the positive impacts of such approaches. Therefore, even in scenarios where a government has (i) fully embraced project financing, (ii) adopted the various practices recommended by the international finance community, and (iii) agreed to a classic allocation of risks among the various IPP stakeholders. The private investors' perception of the host country's risks may not make the project attractive enough at the agreed price.

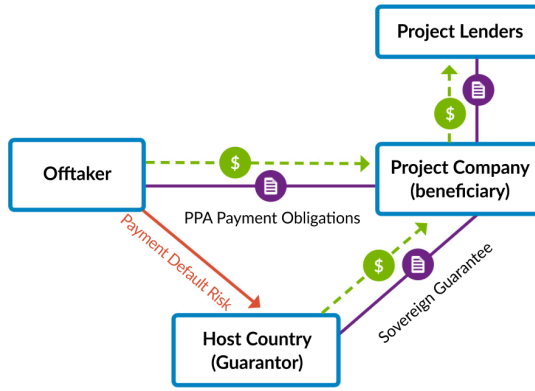
One means of remedying this situation is through more robust pricing of the deal to reflect the perceived risk. However, this may not be viable in light of the impact on the offtaker or the offtaker's ability to pass it through to end-users. In these instances, the private sector lenders and investors may look to the sovereign and its balance sheet for additional support of the project to address material unmitigated risks through credit enhancements.

A host country might agree to provide an IPP with credit enhancement and a number of instruments through which a host country might provide this support. This chapter seeks to identify and describe these reasons and instruments, as well as how a host country might account for the credit enhancement it has provided and the challenges a host country might face in providing such support.

Sovereign Guarantees for Payment Obligations of a State-Owned Offtaker

Credit support from the sovereign may be required to address both continuing payment risks and the ability to satisfy termination payments. If both risks are present in a project, project investors and lenders may require a broader guarantee from the host country, typically a sovereign guarantee, that covers routine payments, termination payments and other offtaker obligations under the PPA.

As noted in the illustration below, the sovereign guarantee is a direct obligation from the host government to the project company and by extension, to the lenders. It should be noted that the sovereign guarantee is not a guarantee of the debt obligations owed to lenders by the project company. Instead, it guarantees the offtaker's obligations under the PPA.



Sovereign Guarantee Structure

Suitability of a Sovereign Guarantee

In determining whether the guarantee should be provided, the parties to the project should consider the cascade of options available. If it is determined that sovereign credit support is needed, the host government should model the risk factors to assess the extent of exposure to such risk and undertake a quantitative analysis of the cost of bearing that risk against the economic stimulus benefits of the power that would be delivered by the project. Therein lies the complexity of determining whether a sovereign payment guarantee should or could be furnished for a given project.

Structure and Value of a Sovereign Guarantee

A sovereign guarantee will create a contingent liability on the host government's balance sheet and should require a detailed assessment of:

- any regulatory hurdles the government may need to overcome to provide such a guarantee;

- ➔ the impact of the guarantee on the sustainability of its overall public debt levels and its impact on various financial covenants the government has undertaken to uphold under its various domestic and international debt obligations; and
- ➔ the policy framework on projects for which such guarantees will be provided to ensure fair and equitable treatment of all independent power producers investing in power generation in the host country.

For the project lenders and the project company requesting a guarantee, the value of the guarantee must be pragmatically assessed. The credit quality of the host government may influence the value of the guarantee. The value may also be constrained by a sovereign debt ceiling. Prudent project lenders and project companies should, in all circumstances, evaluate the requirement and practical consideration of obtaining guarantees, especially in light of alternative risk mitigation products available in the market, which will be discussed later in this Handbook.

Term of the Sovereign Guarantee

A sovereign guarantee sometimes expires when the debt outstanding to the project lenders has been reduced to zero or when the offtaker's creditworthiness meets a defined threshold. The rationale is that the risks would have been assessed and priced by the project company and the lenders in the financial model during this period, and what remains should be a risk that the project company can mitigate without seeking any further sovereign payment guarantee or support.

Other Entities Whose Obligations May Be Covered by Sovereign Guarantees

Depending on the technology of the power plant and the fuel source, a power plant supplying electricity to the national grid will be intrinsically linked to the transmission network and/or the fuel transportation infrastructure. Where a state-owned entity,

local government authority, or state-owned utility owns such infrastructure and is responsible for connecting the infrastructure (from the grid or the fuel transportation system) to the power plant, the sovereign guarantee may need to cover the risk of delays in completion and delivery. This is typically covered contractually under the PPA, where such delay would constitute a compensation event entitling the project company to claim deemed availability and/or deemed energy payments. A similar approach may also need to be taken with respect to grid failure or fuel supply constraints. In each case, non-payment of the deemed capacity and energy payments (after exhausting all the default and remediation provisions under the PPA) will trigger a call on the guarantee.

8.2 Letters of Comfort and Letters of Support

How comforting is a letter of comfort? How supportive is a letter of support? Are these types of letters legally enforceable? What value do such instruments provide to the offtaker as credit enhancement?

A *letter of comfort* is a letter from a host country whereby it promises to facilitate a project by offering certain assurances to the project developer. Unlike a sovereign guarantee, which establishes legally binding obligations on the sovereign, a letter of comfort may be a simple reflection of the willingness and intent of the sovereign to support the development of the project. Since the objective of a letter of comfort may not necessarily be to create legally binding obligations, the letter may rather seek to demonstrate the host country's commitment to the project and offer soft comfort that the host country will support the project, the project company and its sponsors.

This support may include facilitating approvals required for project implementation, providing general support to its offtaker, and providing fiscal incentives. Compared to a sovereign guarantee, letters of comfort, particularly if drafted in a manner that is not legally binding, do not provide the same level of credit enhancement from an investor or lender perspective. This is primarily due to the reality that if the host government does not honour its commitments as specified in a letter of comfort, it may, in the worst case, result in reputational damage to the host country but without any further legal or financial recourse by the investors against it.

The primary criticism of letters of comfort is that they put the government in a position where it is expected to backstop the obligations of an offtaker without enjoying the full reduction in the credit risk of the offtaker and, by extension, without granting the full cost savings of a lower cost of capital or improved probability of project implementation that would otherwise be afforded by a sovereign guarantee. However, in Botswana, which has the strongest credit rating in Africa, the government has, as a matter of policy, decided not to issue guarantees to support PPAs and has instead issued letters of support. These have proved acceptable to lenders, in part because of the history of the government supporting SOEs despite the absence of guarantees and also because of the relatively strong credit rating of the Botswana Power Corporation (BPC) itself, into which implied government support has been factored.

Enhanced Letters of Comfort/Letters of Support

Sometimes letters of comfort are enhanced in that they contain firm undertakings rather than a simple demonstration of support for the project. An enhanced letter of comfort may use the same language as a sovereign guarantee, even stating that the government shall undertake certain obligations and go so far as to define notice and arbitration provisions. These types of undertaki-

ngs, whether in a letter or an agreement, will typically be legally binding on the sovereign (even if the name of the document is a letter of comfort). The key is always to look at the enforceability of the obligations contained in the letter of comfort (including taking advice from lawyers from the attorney or solicitor general for the government and from local or international counsel for sponsors and their lenders). Ultimately, however, even if the obligations are enforceable (and all parties receive advice or legal opinions that confirm this is the case), for the investor or its lenders to benefit from the enhanced letter of comfort, they may need to enforce their rights against the government in court or arbitration, whereas, under a government guarantee, the route for demanding payment may be more straightforward, particularly if this obligation is back-stopped by an external financial institution.

In certain jurisdictions, these enhanced letters of comfort are called *letters of support.* In those jurisdictions, the letters of support contain enforceable obligations, which, while falling short of financial guarantee obligations, nonetheless provide additional and binding comfort for investors and lenders in relation to a range of risks. These can include political and other types of force majeure, such as changes in tax, changes in law, and compensation on termination/transfer. Letters of support are akin to implementation or government support agreements but fall short of granting government guarantees.

In many cases, the reason that letters of comfort or letters of support are given is that guarantees require (i) parliamentary or constitutional approval and (ii), as noted in Section 8.7 below, the granting of guarantees may impact debt sustainability levels of the sovereign, which could impact further borrowing from external institutions.

8.3 Put and Call Option Agreements

In contrast to a sovereign guarantee, which guarantees payment of certain (or all) financial obligations to the power project, a Put Call Option Agreement (PCOA) establishes direct contractual obligations between a host country and the project shareholders. Specifically, a PCOA establishes two contractual obligations:

- ➔ the first is a put option in favour of the project shareholders to require the purchase of the assets of the power project company by the government; and
- ➔ the second is a call option in favour of the host country to require the project shareholder to sell the assets of the power project.

The PCOA also defines under which conditions the options can be exercised and defines the formula for how payments under the PCOA are to be calculated.

The Put Option

Under a PCOA, the put option is a contractual right, but not an obligation, held by the project shareholders that requires the host country to choose to either (i) purchase the plant and assets of the project company or (ii) purchase all of the shares of the project company that are held by the private shareholders, in each case in exchange for a pre-agreed purchase price, which differs depending on the trigger event.

The put option held by the project shareholders is subject to certain conditions defined under the PCOA, which would typically include either the termination of the PPA following certain defined trigger events or the expropriation of some or all of the project's assets.

The Call Option

Similar to the put option, the call option under a PCOA is a contractual right rather than an obligation. In the case of the call option, the right rests with the government and requires the project shareholders to either (i) sell the plant and assets of the project company to the host country or (ii) sell all of the shares in the project company. The call option is also subject to certain conditions precedent, such as terminating the PPA or other defined conditions.

Trigger Events

As noted above, the put and call options under a PCOA are subject to strictly defined conditions or triggers that must be satisfied before exercising the option. This constrained nature of the PCOA is important since this type of sovereign credit support is, in essence, a 'last-resort' option rather than a guarantee of actions or payments in the regular course of business for a power project. For example, in the case of default due to non-payment by the offtaker, the project shareholders may be required to first draw under a standing letter of credit (which may or may not be part of a partial risk guarantee arrangement) or from an escrow account, before exercising its put option under the PCOA. Similarly, in the case of default due to the seller's failure to maintain the power plant, the government may be required to allow time for the project shareholders to correct the operational issue or for a lender to step in and appoint a new project operator before the government exercises the call option under the PCOA. Even when it comes to eventually exercising the put or call option under the PCOA, due to the gravity of the situation (i.e., a permanent end to the power generation business by the IPP), the agreement may yet provide for a final consultation period for the parties, with time to remedy the situation and increase the probability of recovering value for all parties (i.e., through mutually agreed restructuring of the financing), before either of these options can be exercised.

For additional detail on default triggers and their operation under a PCOA, please review the chapter titled Default and Termination in *Understanding Power Purchase Agreements, 2nd Edition*.

Defined Purchase Prices

Similar to the list of trigger events under a PCOA, the purchase price of the project assets or of the shares in a project company to be paid as a result of the exercising of an option under a PCOA must also be carefully defined. The formula for the purchase price, also known as the termination payment, will be directly tied to which trigger event has led to the termination of the PPA. For example, in the case of termination of the PPA due to offtaker default, the purchase price will likely include not only the value of the project assets and the outstanding project debt but also the expected return for shareholders in the project over a pre-agreed period. In the case of termination due to seller default, the purchase price may be limited to just the outstanding project debt. The purchase price in the case of termination for force majeure will likely fall somewhere between these two extremes and may depend on who is directly impacted by the force majeure, such as between the offtaker or government and the project company. Examples of the termination price are set out in a table in Section 5.4 above.

For additional detail on the definition of purchase prices under a PCOA, please review the relevant chapter titled Default and Termination in the second edition of *Understanding Power Purchase Agreements*.

Expiration of the Options

If a party to the PCOA does not exercise a put option or call option within an agreed period of time after the termination of the PPA becomes effective, then the option will expire. The expiration period will be defined in the PCOA and may also be subject to

mutual agreement by the parties to extend the period to allow for further negotiations or attempts to resolve the default that resulted in termination.

Put Option Linked to Utility Debt Levels

In Namibia, where no Government Support Agreement is provided to back PPAs or indeed borrowings of the state-owned utility NamPower, the utility has a covenant in its bond prospectus whereby, if its credit rating is downgraded to a certain level and the government ownership falls below a 50% +1 share shareholding, then the bonds are puttable to NamPower, rather than to the government. While this is weaker than a direct obligation of the government, it still provides indirect risk mitigation to creditors against a loss of government support in future. It is worth noting that NamPower has a relatively strong credit rating at the same level as that of the government.

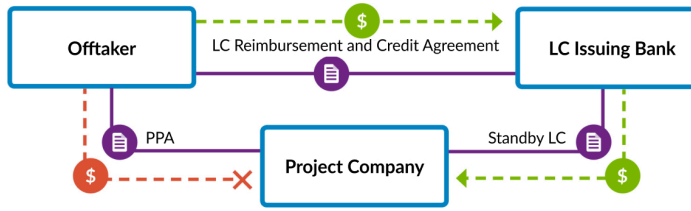
8.4 Liquidity Letters of Credit

As noted in the previous section, a PCOA is a form of government support and is designed to allow investors and lenders to exit a project and recover their investment once a PPA has been terminated, which should only occur following a termination trigger event.

PCOAs are not designed to address the risk that an offtaker may suffer from short-term liquidity problems. In this way, PCOAs are different from sovereign guarantees because a sovereign guarantee is (usually) a guarantee both of an offtaker's obligation to pay ongoing payments, such as capacity payments and energy payments and also to pay the purchase price for a plant following the termination of a PPA. As a result, PCOAs are often combined with credit enhancement tools that are specifically designed to address short-term liquidity problems. A liquidity letter of credit is one such mechanism.

In simple terms, a liquidity letter of credit is a letter of credit posted and maintained by an offtaker that a project company can draw upon if the offtaker fails to pay a capacity payment, energy payment, deemed energy payment, or similar payment that is regularly due from the offtaker within a relatively short period after the payment becomes due. The amount available to be drawn under such a letter of credit is usually equal to a few months' worth of projected payments under the PPA.

If the offtaker fails to make a payment when required under the PPA, then the project company can directly make a demand on this letter of credit. This provides a liquidity buffer enabling the project company to remain solvent with continued operations while being able to meet overheads and service its debt, even if the offtaker fails to pay. The offtaker is usually obliged to replenish such a letter of credit by paying the issuing bank under a document called the reimbursement and credit agreement fairly quickly after a drawing is made.



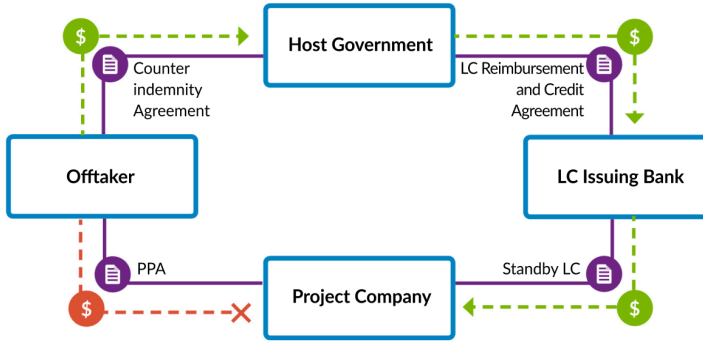
Liquidity Letter of Credit with Offtaker Obligation to Replenish

In exchange for posting and maintaining a liquidity letter of credit, the initial failure by the offtaker to pay a capacity payment, energy payment, or similar payment that is secured by a liquidity letter of credit will typically not constitute an offtaker event of default. Rather, an offtaker event of default will occur if the offtaker subsequently fails to replenish the letter of credit

within a certain period of time or if the offtaker fails to make a required payment under the PPA after the letter of credit is exhausted.

This same structure can be implemented with a demand guarantee governed by the Uniform Rules for Demand Guarantees instead of a letter of credit governed by UCP 600 or ISP 98. In some cases, commercial banks are willing to issue demand guarantees at a cost to offtakers that is lower than the corresponding cost for a similarly-sized letter of credit.

A liquidity letter of credit may be less expensive (or have less opportunity cost) versus using a cash escrow account to cover short-term payment risk. In some cases, by not having the reimbursement obligation covered by a partial risk guarantee, a payment guarantee or a similar DFI product, as discussed below, the liquidity letter of credit will be less expensive, less complex, and less document-intensive than those options.



Liquidity Letter of Credit with Host Government Obligation to Replenish

However, in other circumstances, a freestanding letter of credit may be unavailable or cost-prohibitive. For example, commercial banks that issue letters of credit may be unwilling to take the credit risk of the offtaker as the reimbursing party (or may only

be willing to do so for the first or two IPP projects in a country) or they may only be willing to take such credit risk in return for prohibitively high fees.

In such cases, the host government may agree to take on the obligation to replenish the letter of credit, as shown in the diagram above. In other circumstances, letter of credit-issuing banks may only be willing to take the credit risk of the host government, and the host government may be unwilling to directly take on the reimbursement obligation, in which case the parties will likely need to pursue one of the options discussed in *Chapter 9 (Third-Party Credit Support and Risk Mitigation)*.

A final point to note is that sometimes the offtaker and the project company may engage in negotiations about the credit rating of the issuing bank for the letter of credit. To minimise the risk of the issuing bank not honouring the payment request under a letter of credit, the project company may seek a bank with a high credit rating or a lower-rated bank whose letter of credit has been confirmed by a higher-rated bank. The parties will need to agree on what works for each transaction.

8.5 Liquidity Escrow Accounts

As another option, short-term liquidity risk may be addressed by simply depositing cash into an account (variously referred to as a liquidity account, a reserve account, or an escrow account) held by a deposit bank pursuant to the terms of an escrow agreement.

The offtaker will be required to fund the account in an amount equal to a certain number of projected monthly payments under the PPA, for example, based on the total expected charges for a given number of months or based solely on the capacity charge for that period. The limited use of such escrow accounts is often in addition to, or in combination with, other credit enhancement options since it only addresses short-term payment risk.

If the offtaker fails to make a payment when required under the PPA, then the project company can draw on this escrow account. This provides a buffer so that the project company can continue to operate and pay its debt service, even if the offtaker fails to pay. After any draw on the escrow account, the offtaker must immediately (or after a specified number of days) replenish the account.

Cash escrow accounts have the advantage of being clear, simple, and straightforward. The only third-party that needs to be involved is a deposit bank, so the documentation normally requires minimal transaction costs compared to other credit enhancement options.

However, there are a number of reasons why parties may prefer not to use escrow accounts. Cash escrow accounts are typically only a short-term solution to liquidity/payment risk. Cash is an expensive credit enhancement option since the cash must be placed in a deposit account that will typically earn little to no interest, and in any case, the amount escrowed will earn less interest than the cost of obtaining the capital. Therefore, there is a negative carry on the amounts on deposit. Whether the project company or the offtaker directly pays this cost, it would typically be part of the overall costs that are passed on to the customer through the tariff.

In addition, the lenders to a project may be concerned with the offtaker's ability to replenish the escrow account in the future if it is drawn upon. This concern can be addressed by backstopping the offtaker's obligation, either by the host government (if it is willing and able to take on the replenishment obligation) or by certain MDBs. For example, MDBs can provide a payment guarantee supporting an escrow account arrangement, which functions similarly to the payment guarantee backed by an LC discussed above, but with the escrow account in place of the guaranteed LC structure. Upon a draw on the escrow account by the project company, the offtaker or host government, as applicab-

le, will have an obligation to replenish it. If the escrow account is not replenished, the MDB provider of the payment guarantee backstops the offtaker's or host government's obligation and replenishes it, and the host government provides an indemnity in favour of the MDB as the guarantee provider.

An escrow account arrangement could also be set up as a vanishing fund whereby amounts kept in escrow could progressively revert to the offtaker if it is able to maintain a clean, unbroken payment track record for a pre-agreed period of time.

8.6 Debt Sustainability

How Should a Government Account for a Guarantee or Other Form of Sovereign Credit Support?

International accounting standards address the question of how to deal with government guarantees, quasi-guarantees, or other forms of sovereign credit support on a government's balance sheet. In accounting terms, these types of government support obligations are termed contingent liabilities.

Contingent liabilities are potential future financial obligations whose conversion into an actual financial obligation is dependent on the occurrence (or absence) of one or more future events which may be outside of the government's control. In this chapter, we outline the types of sovereign credit support that are treated as contingent liabilities in accounting terms.

Both the International Accounting Standards and the International Public Sector Accounting Standards deal with this type of contingent liability (in IAS37 and IPSAS19, respectively, titled *Provisions, Contingent Liabilities and Contingent Assets*). Both standards require that entities—which for our purposes means government treasury departments or ministries of

finance—recognise and disclose contingent liabilities in the footnotes to the sovereign's financial reports unless the possibility of those liabilities being called is remote. Both standards state that if a payment is probable, a provision is recorded on the balance sheet, but if a payment is improbable, it is treated as a contingent liability and disclosed (e.g., by way of a footnote) but not recorded on the balance sheet as an actual liability.

Governments typically manage their accounts on either a cash or accruals basis, with an increasing trend for accruals accounting. The move towards accruals accounting is based on the fact that cash accounting may not adequately account for all public sector assets and liabilities. For example, on a cash account basis, governments may not disclose sovereign credit support for power projects as a contingent or unfunded liability, even though this support will crystallise into a liability to be funded if the guarantees or quasi-guarantees are triggered. Under cash accounting guidelines, guarantees are recorded in the fiscal accounts only when the liability is crystallised and a financial obligation is recorded. Under accrual accounting, expected costs are set out in the fiscal accounts at the time a guarantee (or another form of sovereign credit support) is granted.

The issue with reporting on a cash basis is that this gives the illusion of positive financial results in the short-term possibly at the expense of longer-term financial health and fiscal stability. Accrual accounting allows governments to demonstrate an increased desire for both transparency and accountability. It allows better information for decision-making across all sectors of government. A move to accrual accounting may be part of a wider financial sector reform programme that looks to improve government operations across the board as well as contribute to the long-term sustainability of public finances, given the ability for governments to anticipate and react more readily to wider risks or threats to the financial health of a country.

That said, accruals accounting is not the only method to increase transparency. In respect of guarantees and credit support,

arency can also be strengthened by disclosing supplementary information in budget documents, fiscal reports and financial statements.

The challenge of accounting in a more transparent way may be that it puts a country at a disadvantage on a comparative basis against another country which may not reflect their contingent liabilities in the same way and which may be able to attract international financing more readily, as a result.

Why Does the Accounting Treatment Matter?

We start from the premise that guarantees and other forms of credit support are a legitimate form of government backing for power and infrastructure investments, where the government is seen to be the best placed to anticipate, control and minimise certain key risks, which, again, depends in part on the offtake structure.

External lenders to the sovereign (whether MDBs or commercial banks) are likely to examine the quantum of and nature of contingent liabilities in the same manner as actual liabilities, to assess the credit risk of the sovereign (and the terms of the borrowing itself).

The accounting treatment of guarantees matters in light of the long-term sustainability of government programmes. Issues may arise in the context of future government spending as a result of poor accounting and as seen most recently by certain European countries post-financial crisis this can have potentially major fiscal consequences. Both the recent global financial crisis and the European sovereign debt crisis have led to heightened concerns about the size of potential contingent liabilities and associated public debt sustainability. This means that defining and accounting for a contingent liability is now keenly looked at by international institutions, particularly the International Monetary Fund (IMF).

The increasing attention given to this form of contingent liability appears to be driven by three main factors. The first is a possible increase in the adverse implications of macroeconomic risks. Where those risks are not transparent (because they haven't been booked properly), investors will always face uncertainty as to the true extent of a government's financial liabilities. Secondly, the fiscal risks inherent in contingent liabilities may be systemically related—for example, guarantees of an offtaker's financial obligations under a series of PPAs may easily be called at the same time (if, for example, there are serious credit issues within that offtaker). Third and perhaps most importantly, as discussed above, contingent liabilities impose no express budgetary constraint (unlike traditional spending) that can hinder macroeconomic control.

According to the IMF, guarantees expose governments to greater fiscal risks because of: (i) the growing volume and volatility of private capital flows; (ii) the transformation of the government's role from financier to guarantor of services (without the accompanying accounting entry); and (iii) projects and the moral hazard that may result from guaranteeing outcomes to be delivered by the private sector.

Essentially the concern is that this distorts decision-making within private sector institutions because the decision-makers do not anticipate having to absorb the cost of a negative outcome (such as an offtaker default). The implication is that government guarantees or other forms of credit support may in the short run appear attractive because of their hidden nature (their fiscal cost is invisible until they become due), however, they may turn out to be more expensive in the long run, particularly if governments guarantee all, rather than a part of the underlying assets.

Credit-rating agencies and investment banks are accordingly paying more attention to contingent liabilities in assessing sovereign creditworthiness.

How Otherwise Could These Liabilities Be Accounted For?

The main accounting and reporting challenge is that the contingent nature of guarantees makes valuing them difficult. However, a number of analytical techniques are available to value guarantees and forms of credit support. The tools to do this include both simple and more complicated analyses and quantification of the credit risk.

It is certainly the case that contingent liabilities which are likely to be called should be provided for in annual budgets as appropriations.

It has been suggested that governments should take into account the volatility of public financing and the potential impact of large projects on their overall risk exposure. In some cases, it may be better for a government to provide direct budgetary support than a guarantee because of the value of being able to predict public financing requirements.

A reserve fund may also partly reduce the fiscal risks that can result when contingent liabilities fall due.

How Does the IMF Treat Government Guarantees or Other Sovereign Credit Support?

The Bretton Woods institutions, being the IMF, together with the World Bank Group (WBG), look at a country's public sector debt (PSD) for a number of purposes, including monitoring a country's economic and financial development in order to provide it with either policy advice or to provide it with financing and other forms of support.

PSD is used in a country's debt sustainability analysis (DSA) which assesses how a country's level of debt and prospective new borrowing affects its ability to service its debt in the future. A

different DSA framework is used for low-income countries in order to help policymakers strike a balance between achieving development objectives and maintaining debt sustainability.

In collaboration with the WBG, the IMF determines the baseline used to assess debt sustainability and also determines the risk classifications for each country. The assessment includes various aspects such as:

- ➔ calculating current and future debt burden indicators;
- ➔ identifying the country-specific factors to be included in the DSA;
- ➔ comparing external debt burden indicators with appropriate indicative debt thresholds; and
- ➔ important for the power sector to analyse how domestic debt or contingent liabilities affect a country's capacity to service future debt.

The main point to note here is that IMF/WBG guidelines, policies and analysis vary from country to country and over time.

The IMF/WBG debt sustainability analysis classifies countries according to their probability of debt distress. There are four categories: low risk, moderate risk, high risk, and debt distress. Debt sustainability can be assessed based on different debt and debt-service indicators relative to measures of a country's ability to repay. For instance, different risk classifications also take into account other factors such as a country's previous track record in remaining current on its debt-service obligations. The most relevant measure of repayment capacity depends on the constraints that are the most binding for a specific country. Additionally, since external official debt is the dominant source of financing in many low-income countries, the assessment critically considers the country's ability to service external public debt.

The classification of risk distress forms the basis for determining future grant, loan and guarantee allocation by IDA and by other MDBs such as the African Development Fund. The classification affects both the amount and the pricing of such loans.

How Do Government Guarantees or Other Forms of Credit Support Factor Into the IMF's Risk Analysis?

The IMF often sees government-guaranteed private sector external debt as a contingent explicit liability because it is a legal obligation for the government to make payments to an external creditor. For instance, in the event that a large government-guaranteed power project runs into payment difficulties, the government likely will provide public financing to cover such contingencies, with the consequence that these contingent liabilities can lead to large increases in public debt.

Key to the IMF's analysis will always be to look at the entity to which the government owes the obligations (i.e., who is able to call the guarantee). In some cases, the guarantee will be in favour of an external (foreign) investor or lender. In most cases, however, monies under a support agreement or guarantee may technically be owed to a locally incorporated project company. A government may therefore quite fairly consider this not as external debt but rather as debt owed within the country.

It is nonetheless prudent to believe that the IMF would consider guarantees in favour of a local project company as being a contingent legal liability for the government to make payments to an external creditor and therefore classify it as external debt for its DSA. The reason is that the locally incorporated project company is likely to have its actions and accounts controlled by external project finance lenders as part of a security package given to lenders as part of the transaction. The assumption should, theref-

ore, be that the IMF will see sovereign credit support in a power project financing as external debt and, therefore, as an explicit contingent liability.

As part of undertaking a holistic DSA, the relevant teams assess how other factors such as contingent liabilities can affect a country's capacity for servicing future debt service payments. This is viewed at the most general level as a fiscal risk, which may be defined as any potential differences between actual and expected fiscal outcomes (for example, fiscal balances and public sector debt).

It is clear that contingent liabilities, in general, are considered when the IMF assesses a country's debt sustainability. However, as noted above, governments are not required as such to disclose information on their exposure to all types of possible future fiscal liabilities. Therefore, it is not possible to specify to what extent government-guaranteed private sector external debts factor into the IMF's risk analysis. It may be the case that government-guaranteed private-sector debt (that has not become due) is not entirely taken into account in risk analysis because not all government contingencies are disclosed to the relevant teams. When contingent liabilities fall due and become the guarantor's responsibility, they are transparent and taken into account since the government must then pay the amounts due.

Until then, while these contingent liabilities may not appear on a balance sheet or directly restrict government borrowing limits by external lenders, this should not obscure the fact that a financial undertaking by the government remains a valid and enforceable legal obligation with potentially significant financial consequences in the future. It is, therefore, prudent for government departments to continuously monitor and review a government's total borrowings.

8.7 Host Government Considerations

Providing credit enhancement in favour of an IPP can result in a number of potential benefits to a host government, but it also presents significant challenges. Host governments are often unclear as to why their support is needed and what is required. In making decisions about the support needed from the government, all stakeholders should have an appreciation of the various factors the government must balance when weighing the benefits and challenges of granting credit enhancement.

Often the main reason cited for why host government credit enhancement is required is simply "if you don't give the support, the project will not be bankable because lenders will not lend." While there may be some truth to this statement, it does not do justice to the various considerations a host government must decide upon.

Instead, it is perhaps better to highlight some of the substantial benefits to a host government of providing credit enhancement, while acknowledging that there is no one-size-fits-all approach and that providing such credit enhancement presents a number of challenges for the host government.

Active Limitation of Credit Enhancement Scope

One of the benefits of project finance is its potential to reduce the impact of financing an IPP project on a host government's balance sheet. Due to various considerations, however, the private investors who would fund the upfront costs of an IPP may determine that they will not provide funding to the company unless host government credit enhancement is provided. Such credit enhancement may impact the host government's balance sheet, but it may be possible to minimise this impact through

active negotiation with the investor parties. As noted in this section, depending on how a host government accounts for the type of credit enhancement provided, they may only need to book it as a contingent liability on the host government's balance sheet, rather than full encumbrance of its balance sheet. This will depend on their method of accounting and the type of instrument that is selected.

In addition, depending on the risks that the investors to the IPP are seeking to cover, it may be possible to negotiate for credit enhancement that closely tracks the concerns of the investors and does not represent a guarantee of the entire cost of the IPP. However, this will largely depend on the concerns of the investors and in some situations, they may not be satisfied with anything less than a full guarantee from the host government.

Establishing a Brand Through Credit Enhancement

A host government with a nascent power market may be able to use the provision of credit enhancement not only to attract international investors to finance an IPP but also to establish a brand for the country as a good place in which to do business. This is particularly true if multiple IPPs are financed in this manner and the host government and the offtaker are able to demonstrate a reliable track record of payment to the IPP. Once this branding and track record are established, it should become easier for the host government to reduce or do away with the provision of credit enhancement for future IPPs.

Costs of Credit Enhancements Decrease Over Time

The impact of any credit enhancement provided by a host government in support of an IPP's financing should reduce over time as the IPP pays shareholder dividends and repays its debt. Therefore, even if a host government was required to treat 100% of a credit enhancement as an actual liability on its balance sheet, this liability would decrease over time.

Government Control

The risks that credit enhancement is intended to cover often relate to perceived risks that the sovereign is best able to mitigate, such as certain political force majeure events. As such the host government is best positioned to control and potentially diminish these perceived risks. The payment risk of the government offtaker will likely diminish as the power market matures and the offtaker builds up a solid payment track record.

Diversity of Interests Within Government

When dealing with governments, there are multiple government stakeholders involved directly and indirectly in the negotiation of a power project. These could include the offtaker (if it is a state-owned utility), the Ministry of Energy, the Ministry of Finance, the Ministry of Justice, the regulatory agency for the sector, the investment promotion agencies and the Parliament, among others.

A PPA is usually signed by the offtaker and the project company. The other government stakeholders are often not directly involved in the decision-making process but they may significantly influence the process. Ministries of Energy set the policy and will often advocate for private investment in the sector in order to assist them in meeting their goals of providing affordable electricity to the citizens of the host country. Investment promotion agencies are established to encourage private investment and facilitate interactions between investors and government bodies. The regulatory agency primarily seeks to balance the competing interests of the citizens (affordable power) and the project company (reasonable return on investment).

When dealing with issues of credit enhancement, ministries of finance seek to balance the financial needs of the sovereign, ministries of justice seek to protect the legal rights and ensure contracts comply with national legislation, while parliament

seeks to represent the views of the wider citizenry and is often required, by law, to approve certain types of contracts or government obligations.

Having the input of each of these government stakeholders in the process requires significant coordination and a balance of constituent interests with political implications that must be appreciated by all stakeholders.

Concerns Regarding Precedent

Host governments may well be concerned about setting a precedent in giving certain types of credit enhancements. They may fear that if they provide a credit enhancement to one IPP, it may be perceived as market practice and all future IPPs may require this. While it may be challenging to change the perception of the market regarding the availability of credit enhancements, a healthy payment track record for existing IPPs and an established brand for the country, as a good place to do business, will greatly facilitate such discussions.

Debt Sustainability

When offering credit enhancements, host governments should consider the impact this will have on the overall debt sustainability framework. This is discussed in more detail above. The impact of these frameworks is that governments have limited headroom to absorb additional liabilities (contingent or otherwise). All stakeholders should consider the opportunity cost of accepting an additional liability.

Furthermore, many legal frameworks require that any contract that creates a liability or contingent liability for the host country will require parliamentary approval. This approval process can be complex and time-consuming as most parliaments have a complicated committee system and meet sparingly. Parliaments must balance the value of any one credit enhancement against the competing needs of the citizenry.

Multiple Developers Knocking on the Door

A host government may be approached by multiple developers at once. If one of these developers indicates that it will not require any credit enhancement, the host government may be inclined to select that developer over others. However attractive the prospect of limited or no credit enhancement may appear, in all cases the host government should perform full due diligence on all such developers to ensure that they have the ability to deliver on their promises. A key consideration in such due diligence is verification of the track record of the sponsors of such projects and confirmation of whether they have successfully completed projects of similar magnitude in other jurisdictions. Reputational due diligence is also important to avoid exposure to 'vulture' funds that prey on countries under the guise of investments, especially where the sovereign has considerable exposure under a sovereign guarantee.

Financial failure of a project may result in discontinuity or full cessation of its operations, which will be disruptive to the power market. In addition, any such disruption could prove costly to the offtaker who may need to complete the project or cover the shortfall in power production through expensive emergency measures (imports or reserve power) or, worse, through load shedding that translates to a loss of economic output. The government may also have spent a considerable amount on advisors before the projects ended prematurely. One of the ways of limiting this potential downside is to require prospective IPPs to provide development security and performance bonds to support their commitment to driving projects to the conclusion of plant construction and commencement of commercial operations.

Foreign Currency Exchange Concerns

While project financing often leads to increased foreign investment and financing in a country, a key consideration remains that power tariffs are usually denominated in the local currency

of the host country. This is dealt with in greater detail in *Chapter 3 (Financing Considerations)*. It is, therefore, incumbent on the host government as it formulates economic policy to always consider the impact on the broader economy of long-term PPAs that require ongoing foreign currency-indexed payments.

8.8 Summary of Key Points

Governments need to create an enabling environment to facilitate the development of the host country's power sector. The enabling environment may not be sufficient by itself, and therefore, to catalyse the development of IPPs, the host country government may need to offer credit enhancements. Investors are concerned with allocating the risks of continuing payment obligations and termination payments.

Sovereign Guarantees are one of the more comprehensive forms of credit enhancement that the sovereign can offer to investors.

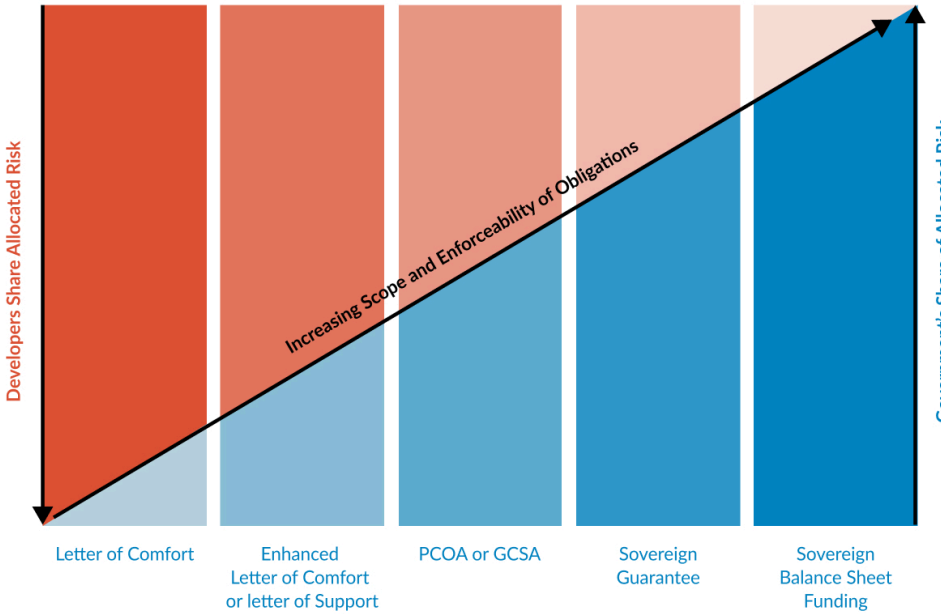
Letters of Comfort and Support provide less support than a full sovereign guarantee but are not uncommon.

Put and Call Option Agreements (PCOA) typically deal with more significant events triggering termination and do not provide enhancements for continuing payment obligations.

Continuing payment obligations can be covered by either Liquidity Letters of Credit or Liquidity Escrow Accounts. These instruments do not provide coverage for termination-related events.

It should be noted that the sovereign guarantee is not a guarantee of the debt obligations owed to lenders by the project company.

Governments should be cognisant of the impact of credit enhancements on their sustainable debt frameworks developed in cooperation with the IMF. Host governments have many factors to consider when determining whether to provide sovereign credit enhancements.



Government Options for Sharing Risk

The diagram above is an illustrative example of the various levels of risk that a government can take when aiming to deliver a power project. It shows that a government fully procuring and paying for a power plant on its own balance sheet is an assumption of a significant portion of risk by the government. Where risks remain with the developer or private sector, these are mitigated, enhanced or otherwise allocated via the various credit enhancement methods described in this Handbook (both by the government and by third parties). The above diagram is indicative and illustrative of only the strength or otherwise of the various government credit enhancement documents and how enforceable they are will be a function of what they actually contain and

will always be subject to drafting and negotiation and are primarily a function of the wider macroeconomic and regulatory environment of a country. Nonetheless, the objective of the diagram is to illustrate in simple terms the allocation of risk between the government and the developer.

Chapter 9: Third-Party Credit Support and Risk Mitigation

9.1 Third-Party Credit Support and Risk Mitigation

Introduction

This section focuses on the different credit enhancement and political risk mitigation products that can be used to mitigate certain types of credit and political risk to structure a bankable power project. Third parties, typically public finance agencies like MDBs and DFIs, offer these products in line with their mandates, which influences the criteria regarding when and how they can be applied.

Credit Enhancement

Credit enhancement products are primarily intended to mitigate credit risk associated with offtake risk or any other source of repayment to a capital provider, reducing their risk of financial loss. This can be achieved either with products (i) providing direct recourse to the third party providing the credit enhancement for all or a portion of outstanding amounts due, or (ii) that reduce the offtaker payment risk by improving the offtaker's ability to meet their contractual payment obligations or (iii) that improve credit quality underpinning SOE and/or government payment obligations, including termination support via a sovereign commitment.

Depending on their application, credit enhancement by third parties can bring significant benefits, including:

- ➔ Widening the financing options available to the project company or borrower
- ➔ Reducing the overall cost of capital
- ➔ Lengthening the tenor of the debt

Sponsors and commercial lenders will also often welcome MDB or DFI participation in a project, whether through direct financial support or via one of their credit enhancement products, because of the general halo effect that MDB or DFI participation can have as a political risk mitigant.

MDB/DFI Guarantees

A range of guarantees can be deployed by MDBs and DFIs to provide credit enhancement and mitigate different types of credit risks. These guarantees are sometimes referred to as Partial Credit Guarantees (PCGs), Partial Risk Guarantees (PRGs), or Project-Based Guarantees. These guarantees can be divided into loan guarantees and payment guarantees, which are described in detail below. DFI guarantees will typically support the most critical financial obligations in a power project, such as the debt service obligations or payment obligations under the PPA and other project agreements.

Governments and MDBs/DFIs work together on a broad portfolio of development initiatives, and therefore host governments have strong incentives for maintaining a positive relationship with these institutions. This incentive will often lead governments to maintain their payment or contractual obligations or direct their state-owned entities to do so in transactions involving MDB and/or DFI support. This is sometimes referred to as the 'halo' effect.

A government or state-owned entity's failure to honour commitments in an MDB-supported project could:

- ➔ Jeopardise the provision of development financing to the country in the future; and
- ➔ Trigger reimbursement obligations under an indemnity agreement or counter-guarantee from the host government (if applicable).

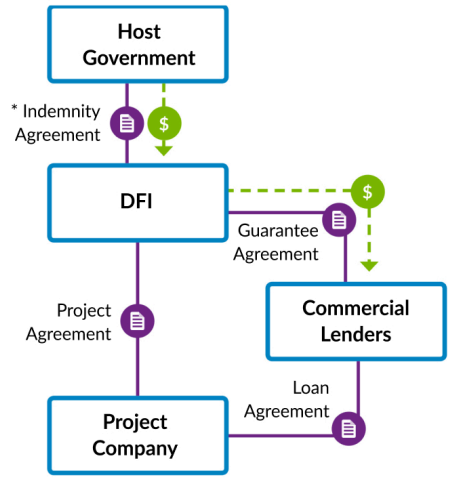
Types of MDB/DFI Guarantees

The two most common MDB/DFI guarantee structures are loan guarantees and, in the case of MDBs, payment guarantees. MDB/DFIs have a wide variety of guarantee products, structures, and loan instruments, not all of which are covered in this Handbook.

Loan Guarantee

The first broad type of MDB/DFI guarantee is the loan guarantee, which mitigates the risk of non-payment by the project company to the project's lenders, commonly referred to as a debt service default, as the result of action or inaction by the government or the state-owned offtaker. The latter condition is a critical feature of the loan guarantee since this ensures that the product does not act as general coverage of the debt payment obligation of the project company to the project lenders. The beneficiaries of the loan guarantee in the IPP context are the project's lenders rather than the project company. It is important to note that if there is a dispute about the government's obligations, payment to the beneficiary under the MDB/DFI guarantee is made only after the dispute has been resolved amicably or through the dispute resolution procedures set out in the project contracts.

The typical structure of a loan guarantee is set out in the diagram below. Certain MDBs/DFIs may offer guarantees without an indemnity agreement, but correspondingly at a higher cost to the project. Instead of an indemnity agreement, certain MDBs/DFIs may have a bilateral or treaty-level agreement with the host government, which may also impact the cost of coverage. Some ECAs are able to provide credit guarantees that guarantee loan repayment to a commercial lender without requiring an indemnity agreement with the government.



* Indemnity Agreement may or may not be required, depending on the DFI

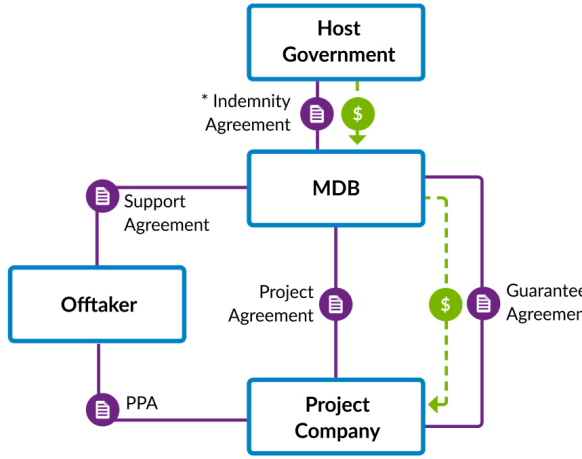
Loan Guarantee Structure

Payment Guarantee

The second broad type of MDB guarantee is the payment guarantee. Unlike the loan guarantee, the payment guarantee is meant to benefit the project company directly and may cover a number of different payment obligations owed to the project company. These payment obligations may include, among other things:

- recurring payments by the offtaker to the project company under a PPA;
- special instances of revenue replacement payments by the government to the project company for obligations for which the government is liable; and
- early termination payments by the government to the project company.

The typical structure of a payment guarantee is set out in the diagram below. Certain MDBs may offer payment guarantees without an indemnity agreement, with similar implications to those set out in the loan guarantees section above.



Payment Guarantee Structure

Contractual Framework for MDB Payment Guarantee Structure
The contractual structure of an MDB payment guarantee can be complex, given the numerous legal obligations that must be established among the host government, the offtaker, the MDB, the commercial lenders, the project company and (if applicable) the Letter of Credit (LC) issuing bank. The key agreements negotiated in a guarantee transaction include:

- **Guarantee Agreement:** the guarantee between the MDB and the beneficiary.
- **Project Agreement:** generally between the MDB and the project company, customarily setting out obligations from the project

parties in favour of the MDB to pay the relevant guarantee fees and undertakings as to the conduct and implementation of the project in accordance with the relevant MDB's guidelines. Breaches of these undertakings may result in termination and/or suspension of the guarantee coverage following notification by the MDB to the issuing bank and an appropriate grace period.

- **Support Agreement:** entered into by (i) the MDB and the offtaker, (ii) the MDB and the government, or (iii) the project company and the offtaker depending on the guarantee structure offered by the MDB. The support agreement customarily sets out the offtaker and government undertakings with respect to the project.
- **Host Government Indemnity Agreement:** entered into by the host government and the MDB, under which the host government agrees to indemnify the MDB if the MDB pays following a demand for payment under the guarantee. This is sometimes referred to as a counter-guarantee. (As noted above, however, certain institutions may offer guarantees without an indemnity agreement but correspondingly at a higher cost to the project, given the lack of a host government indemnity to support the obligation. Instead of an indemnity agreement, certain MDBs may have a bilateral or treaty-level agreement with the host government, which may also impact the cost of coverage).

All of the finance and project documents are required to be in a form acceptable to the MDB providing the guarantee.

General Considerations for MDB/DFI Guarantees

MDB/DFI guarantees are intended to be flexible and can be used for any commercial debt instrument (loans, bonds) provided by any private institution, including debt provided by sponsors in the form of shareholder loans. They can also support other payment obligations to private sector entities, such as payments

to private sector sellers or suppliers under a PPA. The duration of the guarantee is also flexible and will normally correspond to the term of the underlying guaranteed debt investment or obligation.

In determining whether to use an MDB guarantee that requires a host government counter-indemnity, the host government must consider how the guarantee will impact its balance sheet, overall strategy, and country allocations for financing from the applicable MDB. Government balance sheet issues are discussed in *Chapter 8 (Sovereign Support)*.

In the case of MDBs, country allocations are set periodically, keeping in mind that these institutions must allocate their limited resources across their eligible countries. While a guarantee typically has a different impact on an MDB's country allocation than a direct loan, the guarantee still uses up some of the country's available allocation. Whatever the precise impact on the country allocation, this will mean that less resources will be available for the host government's other development priorities.

Partial vs. Full Guarantees

MDB/DFI guarantees may offer full or partial coverage of debt. MDB/DFIs generally or often prefer partial (rather than full) coverage for a number of reasons, including:

- When an MDB/DFI provides full guarantee coverage, the commercial lenders and other parties may not conduct as extensive a due diligence on the underlying risk.
- Partial financing is consistent with a development policy goal of assisting governments or public-sector entities in creating a track record of creditworthiness as borrowers or payers by retaining some unguaranteed payment obligations.
- Partial financing allows the MDB/DFI to catalyse more third-party financing with less of its own funds.

Ultimately, the purpose of these credit enhancements is to mitigate risk and to distribute it more appropriately in a particular project, not to eliminate it or shift it all to one party.

Financial Considerations with MDB/DFI Guarantees

- The guarantee may or may not cover accelerated debt (i.e., full repayment of outstanding debt) in a default situation, depending on the particular MDB/DFI policies. If the guarantee does not cover accelerated debt, the relevant MDB/DFI will typically pay out under the guarantee based on the original amortisation schedule, subject to the MDB/DFI's particular institutional requirements.
- From the time that a payment has been missed by a guaranteed party, the beneficiary of the guarantee must follow a specific course of action to draw on the guarantee. This process could take up to several months or even years, depending on the circumstances of the default and the particular MDB/DFI requirements.
- The guarantee typically provides the MDB/DFI with a right of subrogation so that after the MDB/DFI makes a payment under the guarantee, it can step into the shoes of the beneficiary and recover the amount, if any, that the guaranteed party failed to pay.

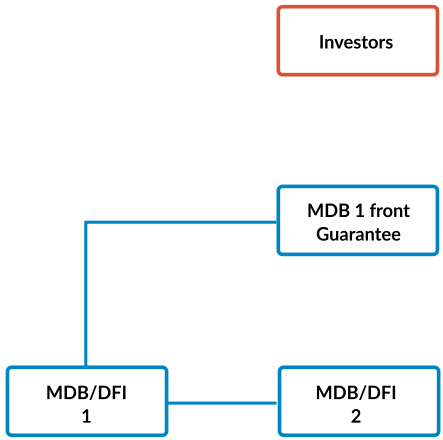
Co-guarantees

Multiple MDBs/DFIs can work together to offer a guarantee, sharing the risks among themselves which can bring the following benefits: (i) increased percentage of guarantee coverage, or (ii) increased guarantee capacity if exposure for any one MDB/DFI is capped because of headroom or single-obligor restrictions.

Front Guarantee vs. Joint Guarantee

When MDBs/DFIs provide a co-guarantee, there are two possible structures: (i) a joint guarantee where both MDBs/DFIs enter into a guarantee with the beneficiary(ies), or (ii) a front guarantee: the lead MDB/DFI enters into a direct guarantee agreement with the beneficiary, while the other MDB/DFI will participate in the guarantee through a participation agreement.

The front guarantee can streamline discussions in case the guarantee is triggered by allowing the capital provider to interface with the lead MDB/DFI.



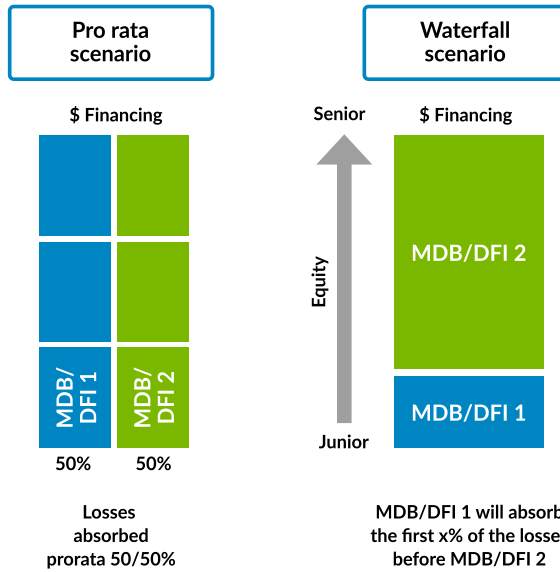
Front Guarantee Diagram

Pro-rata vs. First-Loss Co-guarantees

MDBs/DFIs entering into a co-guarantee agree on whether the MDBs/DFIs respond to losses pro-rata or whether one of the MDBs/DFIs responds to losses first, followed by the other

MDB/DFI. These arrangements have an impact on the price and potential rating of the transaction, as the MDBs/DFIs may not have the same rating.

If the MDBs/DFIs absorb losses pro-rata, the beneficiaries will usually base their investment decision on the rating of the lowest-rated MDB/DFI. If one MDB/DFI absorbs losses first, beneficiaries may base their investment decision on the rating of the MDB/DFI that absorbs losses first.



Loss absorption structure

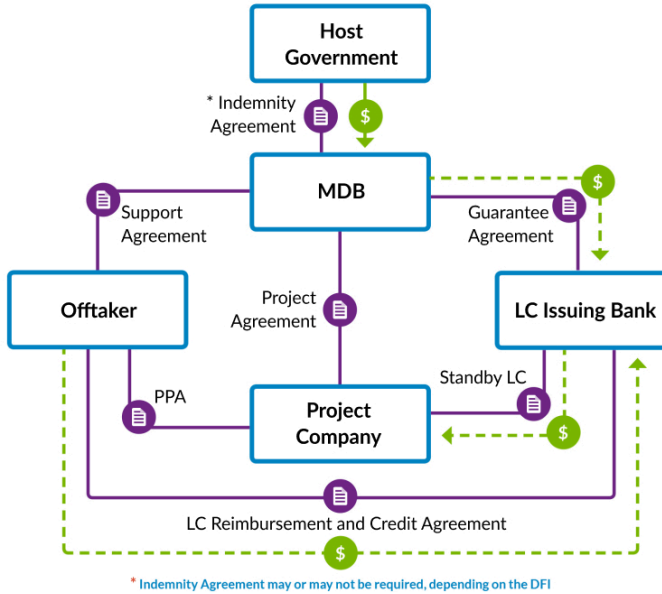
MDB Guaranteed LC Structure

While an MDB guarantee can be used for a variety of purposes, in many cases, there are limitations on the MDB's ability to make payments under the guarantee instrument without a full resolution of disputes and the passing of a specified period of time. Therefore, inserting a standby letter of credit (SBLC) into the

structure is a common way to create liquidity support where the financial position of the state-owned offtaker may be constrained or limited. This guaranteed LC structure, sometimes referred to as a PRG LC, allows the beneficiary to draw from the LC as payment defaults occur rather than seek payment from the MDB for each instance of payment default.

The guaranteed LC structure entails the provision of an SBLC or equivalent instrument by a commercial issuing bank in favour of the project company. The SBLC is typically put in place by the state-owned offtaker to cover the offtaker's payment obligations under the PPA. Issuance of the SBLC will likely be a condition precedent to the effectiveness of the PPA and may also be a pre-condition for the disbursement of senior debt for the construction of the project.

A typical structure for a guaranteed SBLC is set out in the diagram below.



Guaranteed LC Structure

As illustrated in the diagram above, there are three primary financial commitments under the guaranteed LC structure:

- First, if the offtaker fails to make a payment to the project company under the PPA, the project company may draw on the LC to satisfy the non-payment by the offtaker.
- Second, if the project company draws on the LC, the amount drawn constitutes a loan from the issuing bank to the offtaker made under a reimbursement and credit agreement (RCA) between the offtaker and the issuing bank. The general rule is that the offtaker then has an extended period (typically 6-12 months) during which to repay the issuing bank, with interest accruing at the agreed rate during that period.

➔ Third, if the offtaker fails to reimburse the issuing bank under the RCA when repayment is due, the issuing bank may make a demand for payment from the MDB under the guarantee. If this occurs, the MDB will make a payment directly to the issuing bank to satisfy the outstanding payment due from the offtaker.

The ultimate recourse for an MDB under a guaranteed LC is the indemnity agreement with the host government, similar to the general payment and loan guarantees outlined above.

Role of the LC Issuing Bank

Payment is made by the issuing bank against a demand by the project company without further examination of questions of fact (e.g., whether the payment was due under the PPA). This is of fundamental importance to both the generator (because defences available to the offtaker are not available to the issuing bank) and the issuing bank (which is ultimately looking to the credit of the MDB as guarantor (and not to the offtaker or the host government) to cover its exposure). The structure, therefore, provides liquidity support for the offtaker, ensuring a more bankable PPA for the benefit of the project company and the lenders. Issuing banks are not required to investigate the underlying reason for the LC being drawn because letters of credit create independent obligations that are distinct from the underlying business transaction. The independence of these obligations reflects the reality that issuing banks deal with documents alone and are not suited to undertake such enquiries and the law and banking practices that govern letters of credit.

Contractual Framework for Guaranteed LC Structures

The contractual framework of an MDB-guaranteed LC is similar to the contract structure for general MDB payment guarantees described in Section 9.2 above, including a Guarantee Agreement between the MDB and the LC issuing bank as the beneficiary, a Project Agreement between the MDB and the project company, a

Support Agreement between the MDB and the offtaker or host government, and an Indemnity Agreement from the host government.

In addition, the guaranteed LC structure will include:

- **Standby Letter of Credit:** a standby letter of credit, which is an unconditional and irrevocable payment undertaking in favour of the beneficiary from the issuing bank. While such undertakings are generally characterised as irrevocable, the SBLC will contain specific termination and suspension events, including those set out in the MDB guarantee and the PPA termination clause. SBLCs may be governed by standard terms such as the Uniform Customs and Practice for Documentary Credits or the International Standby Practices, and the issuer is obliged to make a payment against a demand that conforms to those standards (including all appropriate supporting documents).
- **Reimbursement and Credit Agreement:** a loan agreement between the applicant/offtaker and the issuing bank which provides that any drawing under the SBLC constitutes a loan from the offtaker to the issuer, generally to be repaid within 6-12 months of the date of a draw under the LC. The RCA will generally include classic covenants, events of default and conditions precedent. The RCA will also describe the circumstances giving rise to a right to substitute the issuing bank. Note that termination or rescission of the guarantee would normally be an event of default under the RCA, entitling the issuing bank to accelerate and exercise its remedies against the offtaker (e.g., cash-collateralise outstanding obligations, declare outstanding advances immediately due and payable, etc.).

All of the finance and project documents are required to be in a form acceptable to the MDB providing the guarantee.

Detailed Considerations for Guaranteed LC Structures

There are a number of more detailed issues to consider when structuring a Guaranteed LC, which include the following:

Tenor of SBLC

The SBLC will generally be required to remain in force for an extended period, generally equivalent to the term of the PPA or the senior debt. Normally, the LC structure is such that there is a fixed maximum amount (e.g., USD 100 million) available under the LC for the full term of its availability (e.g., 15 yrs.). However, SBLCs may sometimes set out lower and/or fluctuating annual sub-limits. This can allow a cost saving for the applicant (where there was no need for the full USD100m in, say, years 1-3 of the PPA, or where sub-limits were appropriate throughout the life of the PPA). However, as a result of Basel III, the issuing bank will now essentially be required to reserve capital based on the maximum amount available to be drawn during the entire term of the LC, irrespective of whether the full maximum amount is capable of being called in during a particular year.

One alternative to save costs for the applicant is to have a sequence of short-term LCs in line with the relevant exposure under the PPA, i.e., adjusting the maximum amount each year, resulting in a one-year tenor. This, however, gives rise to a need for annual replacement and, therefore, replacement risk on the part of the offtaker. Note, in particular, that the guarantee structure does not allow for a drawdown of the SBLC if the offtaker is making timely payments, but there is a replacement gap. Sponsors have, in many cases, taken the view that the long-term certainty of availability outweighed the cost savings and replacement risk, although this may not be the case in every transaction.

Scope of Payments Guaranteed Under the SBLC

The coverage of the LC will be negotiated, but the general principle is that the SBLC will be available for (1) routine

payments under the PPA (capacity and/or energy payments) and (2) lump sum termination compensation. Depending on the underlying transaction, coverage is also possible on other matters (e.g., loss to the producer arising from local events of political force majeure, where that is covered by the government/offtaker in question, e.g., under a separate state guarantee).

MDBs will generally only support payment of undisputed amounts, or amounts disputed which have been settled at the time of making the demand. The beneficiary of the LC will, in its demand, be required to certify that the payment is undisputed and/or that a relevant grace period has passed without notification of a dispute occurring. In some cases, commercial banks have applied different margins to drawings depending on the status of payments as disputed/undisputed (if permitted by the MDB).

Scope for Suspension and Termination Under the Guarantee

The guarantee provided by the MDB is intended to be "unconditional". Where the issuing bank makes a payment under the LC, so long as it is made against a conforming demand (i.e., so long as the issuer does not pay out against non-conforming or inadequate documents or make some equivalent error), the general principle is that the guarantee will apply to that advance.

The MDB may seek to suspend or terminate its obligations under the guarantee under certain circumstances. This may be for breach of the project agreement on the part of the company or offtaker (e.g., sanctionable practices or corruption on the part of the company, unauthorised change of control, insolvency, unapproved privatisation, etc.), or the relevant host country ceasing to be a member in good standing by the relevant MDB.

The guarantee may also be terminated as a result of certain issuer-specific events, including sanctions. There may be a discussion in the RCA around the event of default for guarantee

termination where this is triggered as a result of acts of the issuing bank. Non-payment of fees by the beneficiary/offtaker (as the case may be) will also trigger a termination right.

The general rule, however, is that the guarantee will continue to apply to advances made prior to the suspension/termination.

Political Risk Insurance

Political risk insurance (PRI) offers coverage for political risks not directly covered under the PPA or to backstop those risks that are covered under the PPA. Political risks are associated with government actions which: (i) deny or restrict the right of an investor or lender to use or benefit from the project assets and negatively impact the project revenues; or (ii) reduce the value of the project company. Political risks include war, revolutions, government seizure of property, and actions to restrict the movement of profits or other revenues from within a country. A further definition is contained in *Chapter 3 (Financing Considerations)*.

Providers

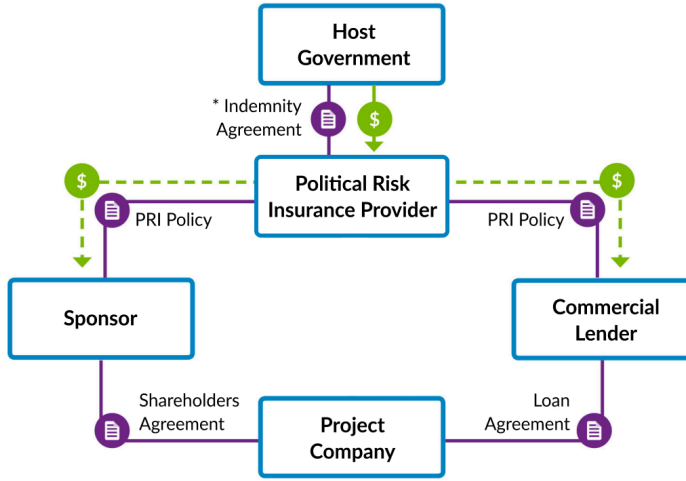
Both public and private insurers can provide PRI. Public insurers include ECAs, DFIs, and MDBs such as MIGA and DFC. These insurers typically have mandates to support the policy goals of their sponsoring government(s) or institution(s), such as fostering development or facilitating exports in certain emerging markets. These mandates may also place restrictions on the types of investments that are eligible for coverage. Such restrictions may address environmental issues, the nationality of the investors, the eligibility of the investment, or other issues derived from the insurers' policy objectives.

Private insurers have greater flexibility in the types of projects and breadth of coverage they can underwrite, but have lower tolerance for risk to provide coverage in high-risk markets or to underwrite risks which cannot be reinsured. They also typically have shorter tenors.

What is Covered?

Traditional PRI policies are insurance contracts that protect against commercial losses that result from asset-backed and trade-related risks. Asset-backed risk includes confiscation, expropriation, nationalisation, deprivation, forced divestiture, forced abandonment, arbitral award default, license/permit cancellation, embargo, war and political violence. Trade-related risks include currency inconvertibility and currency transfer restrictions.

PRI coverage can cover project stakeholders (sponsors or lenders) against losses due to a breach of contractual obligations if the failure or loss is caused by one of the defined political risk events under the PRI. PRI can also cover denial of justice or non-honouring and breach of contract of financial obligations by a host government or state-owned offtaker and as such can serve as additional credit enhancement for the project.



Political Risk Insurance Structure

PRI coverage can be used to supplement commitments provided to a project company by the host government under an implementation or government support agreement (or even the PPA itself, if the offtaker is sufficiently creditworthy). Any government guarantees would stand in front of the insurance cover. For example, while the host government would normally provide an undertaking to ensure the convertibility of currency throughout the term of the project, in the event the host government has insufficient foreign currency reserves to meet its conversion obligations, a PRI policy which covers currency inconvertibility can provide a cover by converting the portion of the currency that was not converted by the government. Note, however, that these policies do not cover the devaluation of a currency.

PRI providers typically subrogate the rights of the investors and lenders covered and require an assignment of the underlying

rights. Depending on the political risk insurance provider, and the type of coverage being sought, a counter indemnity with the host government may also be required.

Considerations

Aside from determining the length of time involved and the cost of seeking PRI coverage, there are many other practical considerations when an investor or lender seeks insurance coverage.

These include:

- **Eligibility:** Does the political risk coverage being sought to meet the insurer's underwriting guidelines, for example, the geographic location of the project, country risk limits, environmental and social requirements, and perception of political and economic instability?
- **Claims coverage:** Coverage for a claim can depend on contract language ambiguities, exclusions and deductions to coverage, gaps in coverage, and/or determination of cause and effect.
- **Timeline/process for payment of claims:** Payment of claims can be subject to waiting periods, require exhaustion of remedies, or resort to international arbitration rulings or other dispute resolution procedures specified under the agreements.
- **Salvage and subrogation:** The clauses require the policyholder to cede ownership of imperiled assets to the insurer in the event of a total loss as well as underlying rights to the project agreements. This feature allows insurers to recoup losses to the extent of their ability to salvage value in the assets or salvage from the host government directly. The ability to transfer these rights may be complicated by existing security that has been granted to the other financing parties in the transaction. The parties may address these issues under a document known as a Claims Cooperation Agreement.

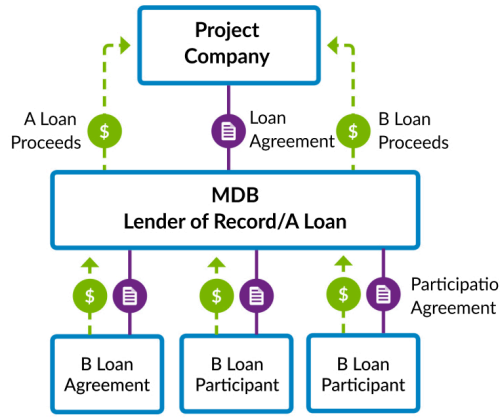
- **Pricing and Syndication:** PRI coverage is market-priced, and insurers may syndicate the risks they cover, increasing the amount of coverage insurers may offer.

A/B Loan Syndication

In addition to the products described earlier in this section, there are other products provided by MDBs, such as A/B Loan facilities, that can help catalyse financing from commercial banks or other private sector lenders.

Under an A/B syndicated loan, the MDB, as lender of record, extends an A loan to the project company from its own resources and a B loan which is funded (under a participation agreement) by commercial banks. The MDB is the lender of record for both the A loan and the B loan. From the project company's perspective, this allows lending to be mobilised through a combination of MDB and commercial lender funds within a single loan structure.

The commercial lenders take a commercial risk on repayment of the loan under the terms of the participation agreement. However, the fact that the MDB is the lender of record brings a number of benefits, which are further described below.



A/B Syndicated Loan Structure

What Are the Advantages of an A/B Syndicated Loan?

Since the MDB is the lender of record, the B loan lenders will benefit from the MDB's preferred creditor status (with respect to currency convertibility and transfer risk) as well as other advantages that may be enjoyed by the MDB, such as exemption from withholding and other taxes and duties.

The fact that the MDB is the lender of record will also bring a wider halo effect and help mitigate commercial lenders' concerns with respect to more general country and political risks. The MDB does not guarantee repayment to the B loan participants, but they will nonetheless take comfort from the wider developmental relationship that the MDB has with the host government and the influence that relationship creates.

B loan participants may also be exempted from the mandatory country risk provisioning requirements that regulatory authorities may impose if these banks lend directly to projects in host countries.

Considerations

There are typically restrictions on eligibility for B loan participants:

- Financial institutions cannot be incorporated, nor can they have their head office in the country where the borrower is incorporated. The B loan participant cannot have an office or branch that is resident in the host country.
- Financial institutions cannot be an official agency such as an ECA or other governmental, quasi-governmental or MDB.

Blended Finance to Mobilise Climate Finance

Introduction

Blended finance involves the strategic use of grants or concessional finance to mobilise additional finance, whether from private or public sources of capital. Blended finance is often used to mobilise capital for projects that deliver positive environmental, social and economic development impacts.

As discussed in *Chapter 5 (Source of Capital)*, concessional funding or grants can be used to (i) reduce the amount of additional capital required to be mobilised, (ii) reduce the cost of capital, and/or (iii) de-risk the probability of financial loss for private capital. These products can be applied as first-loss guarantees or deployed directly into the capital structure as grants, loans, or junior equity.

Many donors and governments have increased the amount of grants and concessional funding available to support the broad objectives of reducing emissions and increasing zero-carbon technology solutions. They mostly channel these resources into climate finance investment vehicles or funds, which can then be (i) used to raise additional funds from commercial or private investors who share the same environmental objectives but have a lower risk appetite, or (ii) deployed directly into projects to

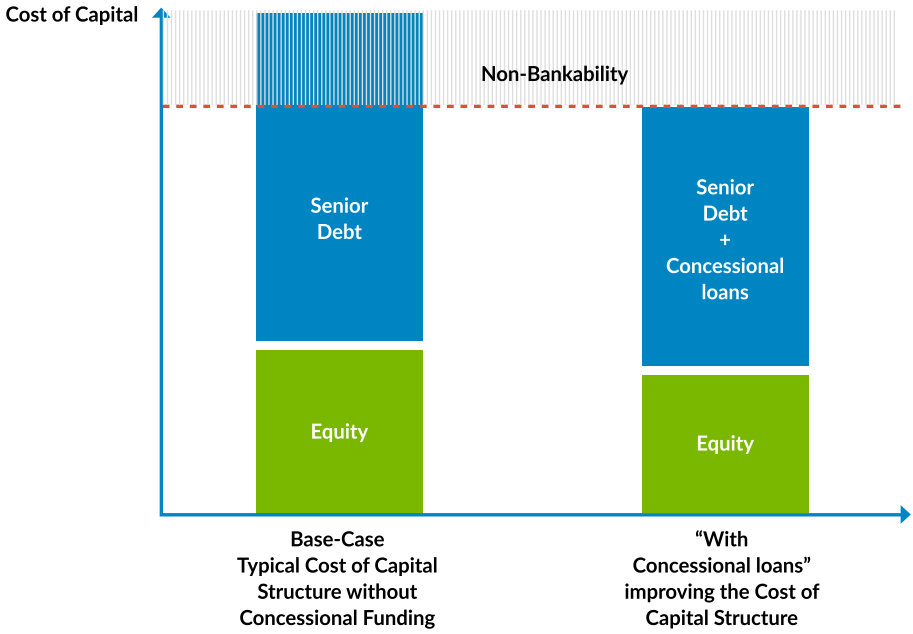
improve bankability. In addition, MDBs/DFIs are able to access climate financing to blend with their own commercial lending to reduce their overall cost of capital or leverage climate financing to structure other climate investment vehicles.

Blended Finance Examples

The following examples highlight some of the ways in which concessional finance can be blended with other sources of commercial or private capital to improve project execution or raise additional investment.

Project Finance Structure

In a project finance structure, concessional finance can achieve specific goals: (i) lowering tariffs for end consumers, (ii) mitigate specific project risks (e.g., high development risks, unproven technologies and/or business models), and (iii) optimise the capital structure by reducing the amount of equity and/or debt to meet financial covenants requirements while ensuring adequate equity returns for investors. The sizing and terms of conditions for the concessional tranche follow the principle of minimum concessionality to minimise market distortions, including overly subsidising investor returns.



Concessional Finance in a Project Finance Structure

Kairouan 100 MW Solar PV project in Tunisia

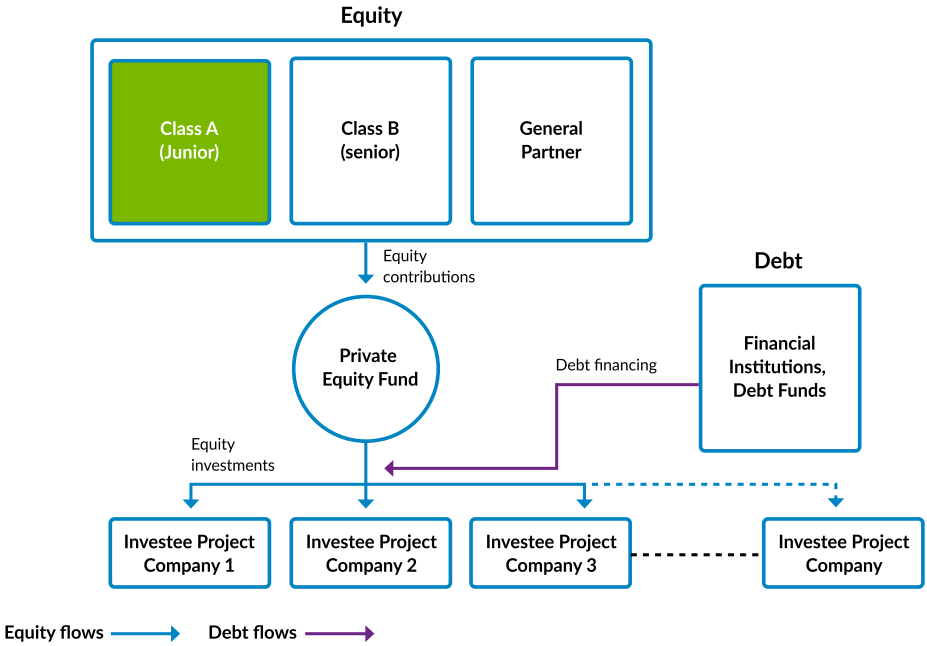
This project represents the first solar IPP in Tunisia, which will develop, construct, and operate 100 MW of solar PV.

The project is a key part of Tunisia's first 500 MW Solar Programme, initiated by the Government to promote sustainable energy. Supported by the African Development Bank and the International Finance Corporation (IFC), the project faced unexpectedly increasing cost pressures due to supply chain disruptions arising from the COVID-19 pandemic and global conflicts.

To address the funding gap, the Sustainable Energy Fund for Africa (SEFA) provided concessional debt through the COVID-19 Independent Power Producer (IPP) Relief Programme to offset the cost escalations. Additional concessional finance from the Climate Investment Funds (CIFs) improved the project's capital structure, reducing the cost of capital.

Private Equity Fund

In an investment vehicle, concessional finance can be used as a first loss tranche or a tranche in the capital structure with capped returns. This tranche, which can be called junior equity, is used to de-risk the capital structure of a fund by enhancing the risk-adjusted returns for private or public investors. When used this way, the junior equity tranche is meant to increase the amount of private investment mobilised, to increase investment in the power sector.



Concessional Finance in a Private Equity Fund

Africa Renewable Energy Fund II (AREF II)

AREF II is a 10-year closed-ended Private Equity Fund, a successor fund to AREF I. AREF II will invest in the development and construction of 800 MW of renewable generation, targeting run-of-river hydro plants, and hybrid/storage opportunities as well as Commercial and Industrial (C&I) business. SEFA and CIF invested in the junior tranche, accepting a capped return, intended to credit enhance returns for the more risk-averse Commercial terms investors. In addition, SEFA is using confessional finance to fund the associated Project Support Facility (PSF), a captive technical assistance facility to support project development activities.

Guarantee Structures

Concessional finance can also be used to offer credit enhancement, similar to guarantee or insurance products, but with fewer conditions than traditional credit enhancement products.

Leveraging Energy Access Finance Framework

AfDB and GCF have approved commitments to support The LEAF (Leveraging Energy Access Finance Framework) investment vehicle. The GCF has provided concessional funding blended with AfDB commercial funding to mobilise commercial investors, including local financial institutions to support local currency financing. LEAF targets investments in Decentralised Renewable Energy (DRE) business growth. This facility will leverage concessional funding to provide partial credit guarantees which can be used to cover loan repayment risk or as a first loss tranche if underlying portfolio companies default.

Considerations

Because concessional funding resources are limited, they have to be used strategically through blended finance structures. These are typically allocated to projects that prioritise sustainable energy and climate-related initiatives, as well as those supported by impact investors and philanthropic organisations.

Additionally, blended finance structures must adhere to and justify compliance with the DFI Principles for the Use of Concessional Finance in Private Sector Operations.

DFI Blended Finance Principles	Principle Description
Additionality	MDB/DFI support of the private sector should create benefits which are either not available in the market or cannot be cost-effectively offered
Crowding-in and minimum concessionality	MDB/DFI support should contribute to catalysing market development and the mobilisation of private sector resources, but should not offer outsized returns
Commercial sustainability	MDB/DFI support of the private sector should contribute towards the commercial viability of projects
Reinforcing markets	Assistance to the private sector should be structured to address market failures and minimise the risk of disrupting or distorting markets
Promoting high standards	MDBs/DFIs should seek to promote adherence to high standards of conduct in relation to, among others, environment and social, transparency and governance.

Glossary

For **A/B Loan products** see Section 7.4

Accounts Agreement is an agreement setting forth the terms for the flow of funds through a project company's accounts. See also Section 3.2.

African Development Bank Group (AfDB) is a multilateral development finance institution established to contribute to the economic development and social progress of African countries. The AfDB was founded in 1964 and comprises three entities: the African Development Bank, the African Development Fund (ADF) and the Nigeria Trust Fund (NTF). The ADF is the concessional window of the AfDB Group. The NTF, established by the Nigerian government is a self-sustaining revolving fund.

Appropriation in budgetary terms means the setting aside of money for a specific purpose. Various sources of government funding should be appropriated each year for government programmes and this should be contained in a government's annual or periodic budget. In business use, an appropriation may also be known as a "capital allocation".

Arbitration is a dispute resolution mechanism where the matter in dispute is referred for determination by an arbitral panel in accordance with a pre-agreed set of rules.

Assignment is a legal term describing the act of transferring the rights, but not obligations, of a party under an agreement to another party. The right of a party to assign its rights under an agreement will be subjected to restrictions and limitations set out in the relevant agreement and may require the prior consent of other parties to the agreement.

Balance Sheet Financing the financing of a project which is provided in full by a sponsor.

Bankable a project or contract is said to be "bankable" if it comprises a level of risk allocation which would be generally acceptable to lenders.

Baseload Power or Capacity generating capacity within a national or regional grid network that the offtaker or grid operator intends to dispatch or utilise on a continuous basis.

Black-outs a total reduction of power supply to electricity consumers.

Brown-outs a partial reduction of power supply to electricity consumers.

Call Option the right of the offtaker (or host country) to purchase the power plant or its shares.

Capacity Payment is a payment for capacity by the offtaker which is based on the ability of the power plant to generate a certain amount. The payment is designed to allow the producer to recover their fixed costs (capital costs and fixed operating costs) and agreed-upon profits. These charges are paid so long as the power plant is made available or deemed available for dispatch, regardless of whether the power plant is actually dispatched.is a generator dedicated to electricity to one buyer, normally a corporate, and normally located on the same site, also known as "embedded generation, behind the meter, or inside the fence".

Climate Finance refers to local, national or transnational financing—drawn from public, private and alternative sources of financing—that seeks to support mitigation and adaptation actions that will address climate change.

Collateral property, contract rights, or other assets in which a borrower grants a security interest to a lender in order to secure the repayment of a loan.

Commercial Operations Date or COD is a key milestone date defined in the PPA when the power plant commences commercial operation, as established by the conclusion of the performance tests and certified by an independent engineer.

Common Terms Agreement agreement among the project company and the lenders that contains all the financing terms

common to all the different loan facilities (for example, conditions to funding, financial covenants, events of default, representations and other undertakings). See also Section 3.2.

Concession is the right granted by the host government to build and operate the power plant and sell electricity in the host country for a number of years. A concession agreement is the agreement by which the concession is granted to the project company. An implementation agreement serves a similar purpose.

Conditions Precedent is a set of conditions that must be fulfilled before a contract or parts of it become effective.

Contingent Liability a liability that has not yet materialised but which may materialise in the future.

Corporate, or Corporate Entity an entity (other than a household or individual consumer) that acts as a buyer of power. The Corporate is normally a limited company.

Corporate and Industrial (CNI) is a generator whose electricity supply is dedicated to one or more Corporates (see Corporate).

Corporate Finance is used to distinguish Project Finance (see below). Corporate finance implies that the lender has recourse to the shareholders of the relevant borrower and/or to assets over and above the asset being financed.

Cost-reflective Tariffs tariffs charged to end consumers which reflect the true cost of generation, transmission, distribution and supply to end consumers.

Credit Enhancement is the provision of guarantees or other forms of support to enhance a payment obligation.

Cure Period is the time period during which a defaulting party has a chance to correct a breach which would otherwise lead to an event of default.

Curtailment is an instruction by the offtaker or grid operator to the power producer of a non-dispatchable power plant to reduce generation. This may be motivated by end-user demand, the availability of alternative generation resources, transmission network capacity and/or grid stability.

Deemed Capacity is the capacity that a power plant would have been able to make available, but for the occurrence of an event or circumstance for which the offtaker bears the risk.

Deemed Energy Payments are payments made with respect to deemed generation.

Deemed Generation/Energy is the electricity that a power plant would have been able to generate but for the occurrence of an event or circumstance for which the offtaker bears the risk.

Delivery Point is the point to which a producer is responsible for delivering electricity generated by the power plant. The delivery point is typically on the high-voltage side of the step-up transformers. The electricity that is generated by a power plant is measured at the delivery point.

Developer is the party who undertakes the initiation and origination of the project. The developer may not necessarily be the Sponsor, who contributes equity to the project company.

Development Finance Institutions are financial institutions with a mandate to finance projects that achieve development outcomes. They include MDBs. Examples include the World Bank, AfDB, EBRD, ADB, IDB, OPIC, FMO, DEG, CDC, DBSA and Proparco.

Direct Agreements are contracts or agreements between lenders and counterparties of the project company (including the offtaker and, where relevant, the host government), under which the relevant project counterparty acknowledges the security interests granted by the project company to the lenders, and

allows lenders the opportunity to step in to remedy breaches by the project company. Direct Agreements may also be used to clarify/amend the underlying project contract.

Direct Loss is a loss arising directly as a result of a defaulting party's failure to perform its obligations under the agreement.

Dispatch is an instruction by the grid system operator to the power plant to produce electricity.

Dispatchable Plant is a power plant that is capable of responding on demand to the instructions of the transmission company, or, where relevant, any other buyer, to vary its output on short notice. Plants that fall within this category include coal-fired plants, gas-fired plants, and renewable plants with a relatively constant or storable source of energy such as a hydro plant with a reservoir and/or a biomass plant, or any plant with sufficient energy storage.

Drawdown in the context of a loan, means the disbursement of funds from the lender to the borrower.

Embedded Generator is a power supplier physically located on the site of its buyer.

Energy charge rate see Energy payment.

Energy Payment is a payment for electricity by the offtaker which is based on the actual amount of power generated and dispatched. The payment is designed to allow the producer to recover fuel costs and variable operating costs.

Engineering, Procurement and Construction Contract or EPC Contract one or more contracts to be entered into between the EPC contractor and the project company for the purpose of setting out terms and conditions for the design, engineering, procurement of materials and equipment, the construction and commissioning of the power plant.

Environmental Remediation is the action which needs to be taken to remedy environmental contamination of a power plant site following the termination of a PPA.

Equity money invested by the sponsors in the project that is not borrowed by the project company. The term 'Equity' may sometimes be used to include shareholder-subordinated debt (which is finance made available to the project company by the sponsors or shareholders of the project company, which is subordinated to debt made available by the lenders).

Escrow Account see Section 8.5.

Event of Default a default that the parties to a contract agree is a material default. The occurrence of an Event of Default usually grants the non-defaulting party the right to terminate the contract if such default is not cured within any applicable cure period.

Export Credit Agencies are public agencies and entities that provide government-backed loans, guarantees and insurance to corporates from their home country that seek to do business overseas in developing markets.

Facility Agent agent on behalf of any debt facility.

Feasibility Study a technical and financial study of the viability of the proposed power project.

Financial Closing (Financial close) either (i) the execution of the Financing Documents, or (ii) the execution of the Financing Documents and the satisfaction of all of the conditions for disbursement of the project loans.

Financial Investor is a financial institution, fund or insurance company which invests in a power project.

Financing Documents are the set of contracts and agreements other than the project documents (including the Loan

Agreements, Direct Agreements, and Security Agreements), that define the rights and obligations of the lenders and the project company in relation to the financing of the power plant.

Force Majeure Event is an event beyond the control of the affected party that prevents it from performing one or more of its obligations under the relevant contract. Events constituting force majeure are generally further classified into Political Force Majeure Events and Non-Political Force Majeure Events, with different financial and contractual consequences to the contracting parties. Natural Force Majeure falls within the latter category.

Fuel Supplier a supplier of fuel used to generate electricity.

Fuel Supply Contract/Agreement the agreement between the project company and the fuel supplier (in the case of a conventional PPA), or between the offtaker and the fuel supplier (in the case of a tolling agreement or energy conversion agreement), under which the fuel supplier supplies fuel to the project company.

Generator see Seller.

Government Support Agreement agreement between the host government and the project company, under which the host government agrees to certain undertakings with respect to the project. This agreement typically goes beyond the customary provisions of an Implementation Agreement and may include an explicit guarantee of the performance obligations of a governmental entity, such as an offtaker or fuel supplier.

Grid is a system of high-tension cables by which electrical power is distributed throughout a region.

Greenfield Investment/Greenfield Power Generation refers to projects that are built from scratch and do not adapt existing projects.

Hedging Instruments Instruments used by project stakeholders to protect against movements in currency exchange rates, interest rates and commodity price fluctuations.

Host Country refers to the country of which a power plant is located.

Host Government the government of the country in which the power plant is located.

Implementation Agreement agreement providing for direct contractual obligations and undertakings between the host government and the project company to support the project, including, among other things, undertakings from the host government with respect to taxes and cooperation in obtaining necessary permits and approvals for the project and undertakings by the project company to comply with its contractual obligations with its counterparts that are state-owned entities and compliance with other requirements.

Independent Power Producer is a privately owned producer of electricity.

Initial Public Offering First sale of equity interest, or stock, by a private company to the public.

Insolvency is the inability of an entity to pay its debts when or as they become due.

Interconnection is the point at which the transmission system and the power plant interconnect.

Interconnection Agreement an agreement between the project company and the transmission system operator providing for the connecting of the power plant to the transmission system.

Intercreditor Agreement agreement among the lender groups providing financing to a project, or among the agents or other representatives on behalf of each lender group.

Internal Rate of Return or IRR is the annualised effective compounded rate of return earned on an investment over a period of time.

Investor is a term for shareholders in the project company, which may include the developer, the sponsor and financial investors.

Lenders are the providers of loan financing to the project company.

Letter of Comfort letter from a host government whereby the host government promises to facilitate a project by offering certain assurances to the project developer. See also Section 8.2.

Limited Recourse Financing see non-recourse project financing.

Liquidity is the availability of cash and cash equivalents to cover a party's short-term financial obligations.

Load-shedding partial or full reduction of power supply to electricity consumers, often known as black-outs or brown-outs.

Loan Agreement creates the commitment of the lender to make a loan to the producer to finance the power project, and the obligations of the producer/borrower to repay the loan with interest and to comply with various covenants set forth in the loan agreement.

Merit Order describes the order of preference in which power plants will be dispatched by a transmission system operator.

Mezzanine Debt finance is provided by lenders which ranks below senior debt and above subordinated debt and equity.

Mid-merit a mid-merit power plant is one that sits between baseload and peaking power plants in the merit order.

Monoline Insurer is an insurance company that guarantees the repayment of bonds.

Multilateral Development Banks an institution, formed, owned and controlled by their member countries, that provides

financing and advisory services for the purpose of development. Examples include the World Bank (IBRD and IDA), AfDB, and MIGA.

Net Electrical Output the net electrical energy, typically expressed in MWh, that is generated by a power plant and delivered to the delivery point, as measured by the metering system located at the delivery point.

Non-dispatchable Plant a power plant that is not capable of responding to instructions from a transmission system operator to vary its output due to the intermittent nature of the energy resource base being used such as wind or solar.

Non-Political Force Majeure Events a force majeure event that is not a Political Force Majeure Event.

Non-Recourse Financing is financing that will be repaid solely the cash flow proceeds of a project structured as a special-purpose vehicle. The obligations of the shareholders in the special-purpose vehicle are usually limited to their obligation to contribute capital and, in some cases, to provide other limited and well-defined support to the special-purpose vehicle.

Offtaker is the party to a PPA whose obligation is to purchase the capacity made available and the electricity generated by the power plant, subject to the terms and conditions of the PPA. Can also be referred to as the Buyer.

Operating and Maintenance Agreement or O&M Agreement the agreement between the project company and a plant facilities operator under which the operator operates and maintains the power plant and associated facilities.

Partial Credit Guarantee see Section 9.1.

Partial Risk Guarantee see Section 9.1.

Pass-Through in relation to a cost, a mechanism under which the producer passes such cost on to the offtaker by operation of the tariff.

Peaking refers to a power plant that is only dispatched to meet peak electricity demand.

Political Force Majeure Event a force majeure event that is political in nature. Typically these would include any act of war, conflict, act of foreign enemy, blockade, embargo, or revolution, strikes of a nationwide or politically motivated character, changes in law, and the revocation or non-issuance of concessions or other authorisations.

Political Risk Insurance see Section 9.1.

Power Africa a U.S. government-led initiative, launched by President Obama in June 2013, comprised of numerous public and private sector partners working together to double access to electricity in sub-Saharan Africa by adding 30,000 MW of cleaner, more efficient electricity generation and 60 million connections in sub-Saharan Africa by 2030.

Power Pool is a mechanism for interchange of power between two and more utilities which provide or generate electricity, which is managed by interchange agreements in order to exchange power.

Power Purchase Agreement or PPA is a contract between two parties, one of which produces or generates power for sale (the seller/producer) and one of which purchases power (the buyer/offtaker). This contract is sometimes referred to as an "offtake" agreement.

Producer see Seller.

Project Bonds debt instruments issued in the capital markets to finance or refinance a power project.

Project Company See Seller.

Project Documents the contracts or agreements required for the construction, operation and maintenance of the power plant.

Typically this will include the Power Purchase Agreement, the EPC Contract, Fuel Supply Agreement, Operations and Maintenance Agreement, and the Interconnection Agreement.

Project Finance see Non-Recourse Financing.

Project Loan a loan from one or more lenders to the project company, made for the purpose of financing a power project.

Public Private Partnerships arrangements between the public and private sectors whereby a service or piece of infrastructure that is ordinarily provided by the public sector is provided by the private sector, with clear agreement on the allocation of associated risks and responsibilities.

Power Sale Agreement is an agreement between a consumer of power with an aggregator of power such as a TSO, utility or trader, sometimes called vesting contracts.

Put Option the right of the project company to require the offtaker (or host country) to purchase the power plant or its shares.

Quasi-Sovereign Bond see Section 3.3.

Regulator competent authority of the host government having the statutory right to regulate agencies and entities participating in the sector, including the Project Company.

Reimbursement and Credit Agreement see Section 7.3.

Resource-based Infrastructure Financing grants rights to extract natural resources in the host country in exchange for an agreement by the holder of the extraction rights to design, construct, and implement a project.

Security Agent agent on behalf of any debt facility with respect to security and collateral matters. See also Section 3.2.

Security Documents are the documents that grant the security interests, mortgages, pledges and other security rights that

secure the repayment of the project loans in favour of the lenders.

Self-dispatched a power plant which delivers electrical power directly into the grid without being dispatched by a transmission system operator.

Seller is the entity which is selling power under the PPA. Can also be referred to as the Project Company, Power Producer or Generator.

Senior Debt is finance provided by lenders which ranks ahead of mezzanine and subordinated debt.

Shareholders Agreement organisational agreement among the shareholders to a project company, establishing the governance structure of the project company and the rights among the shareholders.

Site (project) the land upon which the power plant is located.

Sovereign Bond debt instruments issued by host governments in the capital markets.

Special-Purpose Vehicle a corporate entity established specifically for the purpose of pursuing a specific project and is prohibited from undertaking any activity beyond the project in question. Often called the project company for the purposes of this Handbook.

Sponsor a shareholder or other parties affiliated with the shareholders of the project company, is typically (but not always) the developer, but is seen as the entity guiding the project.

Spot Market in the context of the supply of electricity, the wholesale electricity market into which the project company can sell electricity other than under a long-term PPA. In the context of a fuel supply arrangement, the market from which the project company can acquire fuel without entering into long-term fuel purchase obligations.

Standby Letter of Credit see Section 7.3.

Step-in Rights are the rights granted to the lenders under a Direct Agreement to step-in and cure a default by the project company, under a project agreement, before the counterparty to the project company may take any action to enforce the contract against the counterparty or terminate the contract.

Stranded Asset is a power plant which has no power purchase agreement with an offtaker and no other means of monetising its generating capacity.

Sub-sovereign Bond is a debt instrument issued by a region, province, state, municipality or state-owned enterprise.

Take-or-Pay (Fuel), in the context of a PPA, is the obligation of the offtaker to pay for an agreed quantity of fuel over a given period of time and will be liable to pay for this quantity regardless of whether it actually accepts delivery of the fuel.

Tenor see Term.

Term is the period of time during which a contract will remain in force, unless terminated earlier by either party in accordance with the terms and conditions of the contract. The term of a PPA is usually expressed to run until a date falling a fixed number of years after COD.

Transmission System Operator party responsible for managing the day-to-day operations of the transmission grid which is usually, but not always, the transmission company and often part of the State utility

Volts (voltage) a derived unit for electrical potential.

Wheeling the transmission of power by one or more third-party transmission line operators between a power producer and a buyer of electrical power.

World Bank International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA).

World Bank Group collectively, the International Bank for Reconstruction and Development (IBRD), the International Development Association (IDA), the International Finance Corporation (IFC), the Multilateral Investment Guarantee Agency (MIGA), and the International Centre for Settlement of Investment Disputes (ICSID).

Yield co is a holding company that a developer/sponsor may form, comprised of its interest in a project company or companies that have reached COD and are earning revenues.

Online Resources

The following is a non-exhaustive list of additional online resources:

Understanding Series

- Understanding Series: *https://cldp.doc.gov/Understanding*
- Understanding Power Purchase Agreements (Second Edition): *https://tinyurl.com/bcserfed*

Country Risk Classifications

- Standard & Poor's Risk Ratings: *http://www.spratings.com*
- Moody's Country Risk Ratings: *http://goo.gl/QVUG8n*
- Fitch Ratings Sovereigns: *https://tinyurl.com/9jk9m62f*
- OECD Country Risk Classification: *https://tinyurl.com/23tfb2es*

Climate Finance Funds

- Green Climate Fund: *https://www.greenclimate.fund/*
- Climate Investment Funds (CIF): *https://www.cif.org/*
- Global Environment Facility (GEF): *https://www.thegef.org/*
- Sustainable Energy Fund for Africa: *https://tinyurl.com/3za9a52m*

Environment and Social

- African Development Bank's Integrated Safeguard System: *https://tinyurl.com/yymyzjpk*
- Equator Principles: *http://www.equator-principles.com*
- Global Green Growth Institute (GGGI): *https://gggi.org/*
- IFC Environmental and Social Performance Standards: *http://goo.gl/pNaCOv*

- Integrity Council for the Voluntary Carbon Markets: *https://icvcm.org/*
- Voluntary Carbon Markets Integrity Initiative: *https://vcmintegrity.org/*

Debt Sustainability

- Government Finance Statistics Manual 2014 (IMF): *http://goo.gl/iuxirn*
- IMF Debt Sustainability Analysis: *http://goo.gl/3eCSGz*
- Quarterly External Debt Statistics (World Bank): *http://goo.gl/RhYYp0*
- World Bank-IMF Debt Sustainability Framework: *http://goo.gl/nsLcEa*

Development Finance Institutions

- Africa Finance Corporation: *http://www.africafc.org*
- African Development Bank Group: *http://www.afdb.org*
- Agence française de développement: *http://goo.gl/c8wNXY*
- Asian Development Bank: *http://www.adb.org*
- Commonwealth Development Corporation (CDC): *http://www.cdcgroup.com*
- DEG German Investment Company: *https://tinyurl.com/ce3f6wsn*
- Development Bank of Southern Africa: *http://www.dbsa.org*
- European Bank for Reconstruction and Development: *http://www.ebrd.com*
- European Investment Bank: *http://www.eib.org*
- FMO Netherlands Development Finance Company: https://*www.fmo.nl*
- International Finance Corporation: *http://www.ifc.org*
- Islamic Development Bank: *http://www.isdb.org*
- KfW Entwicklungsbank: *http://goo.gl/gUuUzD*

- Proparco Investment and Promotions Company for Economic Cooperation: *http://www.proparco.fr*
- Swedish International Development Corporation (SIDA): *http://www.sida.se/English/*
- UK Department for International Development: *https://goo.gl/yTqt8R*
- U.S. International Development Finance Corporation: *https://www.dfc.gov/*
- World Bank Group: *http://www.worldbank.org*

Export Credit Agencies

- CESCE (Spain): *https://www.cesce.es/es/*
- COFACE (France): *http://www.coface.com*
- Delcrede Ducroire (Belgium): *https://finance.belgium.be/en/iefa/topics/bilateral/export_credit_insurance*
- EDC (Canada): *http://www.edc.ca*
- EKF (Denmark): *https://www.eifo.dk/en/*
- ExIm (USA): *http://www.exim.gov*
- FEC (Finland): *http://www.finnvera.fi/eng*
- Hermes (Germany): *http://www.eulerhermes.com*
- JBIC (Japan): *http://www.jbic.go.jp/en*
- KEXIM (Korea): *https://www.koreaexim.go.kr/index*
- NEXI (Japan): *https://www.nexi.go.jp/en/*
- SACE (Italy): *http://www.sace.it/en*
- UK Export Finance (United Kingdom): *http://www.ukexportfinance.gov.uk*

Guarantees

- African Development Bank: Partial Risk Guarantees: *http://goo.gl/kRVCFl*
- World Bank: Guarantees: *http://goo.gl/RXm2Tn*

Negotiation Support

- African Legal Support Facility: *http://goo.gl/hux9Va*

Political Risk Insurance

- Africa Trade Insurance Political Risk Insurance: *https://www.ati-aca.org/*
- MIGA Political Risk Insurance: *http://goo.gl/8rBvwe*

Project Finance

- Harvard Business School Project Finance Portal: *http://goo.gl/HQuffo*
- Project Finance Key Concepts (PPPIRC): *http://goo.gl/xlTpFN*

Public Private Partnerships

- Infrastructure Consortium for Africa: *http://www.icafrica.org*
- World Bank Public Private Partnership in Infrastructure Resource Center: *http://www.worldbank.org/pppirc*

Acronyms

ADB — African Development Bank

ADF — African Development Fund

AfDB — African Development Bank Group

CDC — Commonwealth Development Corporation

COD — Commercial Operations Date

DBSA — Development Bank of Southern Africa

DEG — Deutsche Investitions und Entwicklungsgesellschaft, German Investment Corporation

DFI — Development Finance Institution

DSA — Debt Sustainability Analysis

EAPP — East African Power Pool

ECA — Export Credit Agency

EIB — European Investment Bank

EPC — Engineering, Procurement and Construction

FMO — Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden

NV — Netherlands Development Finance Company

IAS — International Accounting Standards

IBRD — International Bank for Reconstruction and Development

ICSID — International Centre for Settlement of Investment Disputes

IDA — International Development Association

IFC — International Finance Corporation

IMF — International Monetary Fund

ISP — International Standby Practices

IPP — Independent Power Producer

IPO — Initial Public Offering

IPSAS — Independent Public Sector Accounting Standards

IRR — Internal Rate of Return

LIBOR — London Interbank Offered Rate

LC — Letter of Credit

MDB — Multilateral Development Bank

MIGA — Multilateral Investment Guarantee Agency

MLA — Mandated Lead Arranger

KWh — Kilowatt Hour

MWh — Megawatt Hour

O&M — Operations and Maintenance

OPIC — Overseas Private Investment Corporation

PCOA — Put and Call Option Agreement

PCG — Partial Credit Guarantee

PPA — Power Purchase Agreement

PPP — Public-Private Partnership

PRI — Partial Risk Insurance

PRG — Partial Risk Guarantee

PPA — Power Purchase Agreement

PSD — Public Sector Debt

RCA — Reimbursement and Credit Agreement

SBLC — Standby Letter of Credit

SDG — Sustainable Development Goals

SAPP — South African Power Pool

UCP — Uniform Customs and Practice

WBG — World Bank Group

WAPP — West African Power Pool

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