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ASIFMA–ICMA
Guide to Infrastructure Financing in Asia

August 2016

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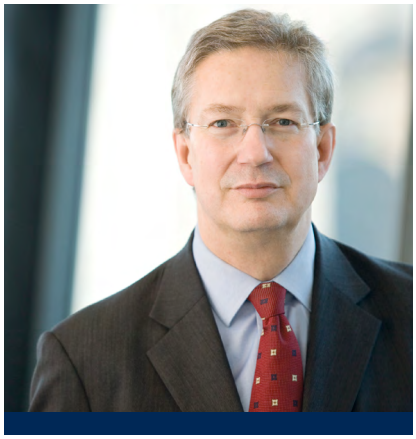
Foreword

On behalf of ASIFMA and ICMA, we are delighted to introduce this *Guide to Infrastructure Financing in Asia*. This Guide is addressed to public authorities, project sponsors, project promoters and issuers seeking to raise finance for Asia Pacific infrastructure projects. It is designed to provide practical guidance on raising debt finance through banks and the capital markets, taking account of planning and procurement issues on the transaction process.

The Guide also provides key considerations and emphasises that Asia Pacific infrastructure investments are long term investments which require consistent and transparent regulatory policy from regulators and public sector authorities.

We would like to thank the members of both the ASIFMA Infrastructure Working Group and the ICMA-AFME infrastructure Working Group, comprising banks, investors, law firms, rating agencies and other market participants, for the time and effort they have devoted to creating this Guide, as well as the many public sector organisations who have contributed their views and advice.

Mark Austen
Chief Executive Officer
Asia Securities Industry & Financial Markets Association



Martin Scheck
Chief Executive
International Capital Market Association

1. Introduction and executive summary

This Guide aims to unlock the potential for infrastructure financing in Asia by informing public sector authorities – as grantors of various types of public concessions/contracts – first time sponsors and project companies interested in raising debt for infrastructure projects in Asia. In particular, it focuses on the debt component of financing, rather than equity (which is outside of the scope of this Guide), and describes the relative merits of the bond markets and bank financing and particular considerations to be taken into account by public procurement authorities and private sector entities, as well as considerations relevant to procurement and planning. While not primarily written for investors, this Guide also sets out key credit considerations for project bond investors.

The Asian Industry & Financial Markets Association (ASIFMA)[1] and the International Capital Market Association (ICMA)[2], each of which represents a variety of capital market participants, are committed to supporting the expansion of capital markets financing for all types of infrastructure projects, in line with the European Commission's goal of bolstering economic growth through long-term financing[3] and in Asia, aligns with various endeavours to provide and promote capital markets solutions for infrastructure financing, as more specifically described herein. It is with these goals in mind that ASIFMA and ICMA have produced this Guide.

1.1 Five key considerations

Underlying this Guide are five key considerations that should be taken into account early in the financing and planning process. The potential assessment and impact of these considerations should ease the path to efficient and competitive financing, while balancing the interests of the relevant parties - vital if the full potential of competitive private sector financing is to be realised:

a. <u>Tailoring of financing choice to project needs</u>: **The debt component of infrastructure projects may be financed in a variety of ways, including by way of the bank loan market, the debt private placement market and the public institutional investor capital markets**. As each market has different inherent features, they may be more or less suitable for any particular infrastructure project. However, no one particular market is necessarily optimal for financing infrastructure projects while fulfilling all the project's requirements, so consideration of the relative merits, and priority weighting, should be given to a variety of influential factors. These include the flexibility to accommodate changes to circumstances over the life of the project, the degree to which the tenors and interest rate structures offered by each type of financing best suit the requirements of the project's revenues and debt profile, the nature of the transaction risk and the risk appetite of the target investors, confidentiality, all-in cost effectiveness and economics of the method chosen and consequent value-for-money, all of which are explored further in this Guide.

   For instance, a loan from a small group of relationship banks or a private placement with a small number of investors may offer flexibility in terms of drawdown schedules, confidentiality and a simple process for amendments and waivers to the financing terms. A debt private placement or public markets transaction might offer a longer tenor than a bank loan and, therefore, lower refinancing risk, which could improve the overall economics. The broad investor base and the visibility offered by a public markets transaction may offer better value-for-money, although it is potentially more burdensome to make amendments to terms during the life of the transaction.

b. <u>Anticipate likely credit enhancement and any ratings required by lenders or investors</u>: **An investment grade rating helps to broaden the investor base, as many institutional investors have a mandate to invest in investment grade assets. Public guarantees and/or credit enhancement - partial or full - may be used to upgrade the rating of a transaction that might otherwise be less acceptable to investors**

1 See further www.asifma.org
2 See further www.icmagroup.org
3 http://www.icmagroup.org/assets/documents/Regulatory/Infrastructure-Financing/AFME-ICMA-Guide-to-Infrastructure-Financing-June-2015.pdf

from a credit risk perspective. However, a balance needs to be struck between using guarantees and/or credit enhancement to improve the quality of projects that are already investment grade, and deterring or 'crowding-out' potential bond investors who prefer the additional yield of an un-enhanced debt product. Credit enhancement, for example through the Construction Period Guarantee (CPG)[4], of the Credit Guarantee and Investment Facility (CGIF), can be helpful for projects that face challenges in long-term financing, or might otherwise not be financeable at all. CPG is also useful for large projects where liquidity may be an issue, and to possibly lower the cost of financing for the project, thereby enhancing value-for-money.

c. **Anticipate the need for usage guarantees**: **Some transactions are financeable if the usage or demand risks are either short-term in nature, or alternatively, quantifiable, well-proven and appropriately assessed and measured**. While not guaranteeing the success of a project per se, some transactions may not be financeable without some level of public sector usage guarantee. If a public authority is unwilling to retain some level of volume or usage risk – on a new toll road for example – financing the project is likely to be more difficult. A fairlybalanced risk sharing mechanism will encourage investors who may be willing to take some risks between an agreed minimum or maximum level of usage, but are unlikely to be prepared to take all of the risk.

d. **Consider any adverse impact of post-closing changes in law and regulations, including tariff reductions, and the appropriate compensation mechanisms in the case of any such changes**: **Regulators and public sector authorities should maintain transparency as well as consistency with regards to tariff-setting, monitoring regulatory controls and/or relevant laws post-financial close of a transaction**. For example, a review of regulators' and public sector authorities' past practice of tariff reviews, including retrospective changes to tariffs against a variety of asset classes/projects, and appropriate compensation in the case of regulatory or contractual changes, could help to assuage investors' concerns over certain regulatory and legal risk associated with the underlying revenues of the project.

e. **Consider the FX risk of the project**: Loans or bonds can be issued, in USD or local currency, to fund the infrastructure project, which may leave issuers and investors exposed to FX risk. Issuers and investors will have to be comfortable with the currency risk or hedge the exposure. The cost of hedging can be important, especially if the market is not liquid enough. Some features, such as a guaranteed FX rate in the concession agreement or availability style payment, would make it easier for an investor to bear the FX risk.

1.2 Scope of the Guide

This Guide focuses on project finance loans and bonds, defined as financings based on single project assets typically structured as Public Private Partnerships (PPPs). PPPs are transactions where a public sector entity contracts with the private sector through concession contracts of various types, or service contracts where a significant portion of financing is provided by the private sector. Such financings are generally without recourse - or with very limited recourse - to the sponsors and shareholders.

1.3 Differentiating between loans and bonds

How sponsors or procurement authorities choose the most efficient financing depends on a variety of factors. Deciding whether a bank loan, debt private placement or project bond finance in the capital markets is more attractive for a specific project depends on factors such as: the size of the transaction, its complexity, the type of the transaction, bank and capital market conditions at the relevant time, issuance and swap costs, the need for special terms such as any non-standard covenants, the time available for the marketing, preparation of the financial documentation, strategic considerations such as investor diversification and public visibility and whether staged drawdowns of funds

4 See Appendix F

are available and if not, the expected costs of negative carry.

The financing implementation processes for bank loan and bond market finance differ in certain respects. These can include: the participants, the issuance process and timing, the transaction pricing process, credit review processes, documentation and key terms (including covenants), all-in costs, and the use of official credit support programmes.

For project bond issuances, this Guide also illustrates the various considerations applying to the two basic categories of infrastructure projects:

a. greenfield (ground-breaking and construction), and
b. brownfield or operational

However, within the so-called brownfield category, there may be a further distinction to the extent that a project requires significant improvements, upgrades or expansion – any of which could negate or diminish the underlying revenue stream (also called "yellowfield" assets). Within these categories, transactions can be further analysed based on the type of credit enhancement provided and investors' exposure to volume/usage and other risks. It is important to note that many large project financing transactions include both commercial bank facilities and project bond financing. In fact, all greenfield projects are likely to need some basic commercial bank debt facilities (e.g. working capital finance). This multi-source approach may be used for a variety of reasons, including the diversification of financing sources, the use of bank financing as a temporary bridge while awaiting optimal capital market financing conditions and the need for revolving working capital finance, which realistically can only be provided by banks.

1.4 Marketing

In addition, this Guide focuses on the project bond marketing process, profiling different investors and their capacities for investing in particular types of project bonds or loans.

1.5 Appendices

For reference purposes, the Appendices include: examples of transactions completed, indicative implementation timetable, documentation requirements, sample credit review checklists, details of support schemes and guarantees and a glossary of terms and further resources available.

1.6 ASIFMA Project Bonds Fact sheet

ASIFMA has also published a useful factsheet on project bonds for Asian infrastructure outlining considerations for attracting foreign investors.[5]

5 www.asifma.org/uploadedFiles/ASIFMA Infrastructure Project Bonds Factsheet Final version.pdf

2. Overview of the bank loan and project bond markets

In Asia, dominant lenders for infrastructure projects are governments, multi-lateral institutions and banks, however, the infrastructure investment need in Asia is estimated to be USD 8 trillion between 2010 and 2020[6], which is beyond the funding capabilities of those entities. Sources of infrastructure finance are changing. While the aforementioned remain the dominant lenders to infrastructure projects, capital markets investors are starting to make significant inroads into the marketplace as pension and insurance monies look for long-dated investments backed by stable cash flow characteristics. Over time, this trend is expected to continue, giving sponsors a greater diversity of finance sources.

Project companies, like any businesses, require equity financing to, *inter alia*, provide first loss support to debt investors. However, project companies are normally highly leveraged and, while there is no strict rule, they generally require only around 25% of total capital to be in the form of equity, with the balance of the total capital requirement coming from various debt instruments. The deleveraging and shrinking of many banks' balance sheets – together with changes in banks' lending policies as a result of regulations (including the Basel III requirements for increased bank capital and liquidity) –have led some global banks to reduce project finance lending commitments. At the same time, capital market investors such as insurers, specialist fund managers, pension funds and sovereign wealth funds have increased their capacity to invest in project bonds and equity. Insurance companies and pension funds are, in fact, 'natural' investors in infrastructure assets, since the long maturity and fixed rate nature of project bonds are a good match to their long-term liabilities.

There is a need to diversify infrastructure funding through capital markets, possibly through project bonds, which would help to provide an additional source of liquidity for projects, either by funding greenfield projects or more likely, by providing a refinancing option for projects after construction (i.e brownfield projects), thereby enabling bank lenders and/or governments / multilateral institutions to recycle their capital into new projects. Given the significant gap in infrastructure financing, capital markets can play a particularly important role in providing a source of long term local currency financing needed for developing essential infrastructure in emerging markets.

Some Asian countries seem more prepared than others to develop a strong project bond market. It is quite possible that we will see some infrastructure project bonds in Philippines, Indonesia or China in the coming years. However, it is also possible that investors would prefer other forms of financing such as infrastructure project loans or hybrid bonds which might better fit investors' needs.

The form of investment can affect its appeal to investors due to regulatory or commercial restrictions contained in their mandates regarding, for example, listing, credit ratings and security. Project bonds can either be listed on a stock exchange, or issued on an unlisted basis. Listing and public credit ratings have the advantage of potentially expanding a transaction's investor base and enhancing liquidity, but at the cost of requiring the issuer (which may be the project company, or a sister company which issues the bonds and on-lends the proceeds to the project company) to comply with various listing-related regulations and information requirements. That said, this may be seen as an advantage, given that the transaction then benefits from the confirmation that the disclosure has complied with the relevant listing rules or rating agency requirements. A "public" transaction is almost always likely to require a listing and a credit rating, while a privately placed transaction can be listed or unlisted, and while a public credit rating is often preferred, it may not always be required.

Project bonds represent a valuable, diverse source of additional liquidity and also offer longer tenors than many banks can generally provide, including tenors that may match the length of the concession period.

To attract foreign investors, an infrastructure project bond in Asia requires a developed, liquid government and credit capital market as well as capability to fulfil a client's need in terms of risk, guarantee, framework, market, bond structure, credit enhancement and type of financing. A project bond, less risky, and as close as possible to a vanilla product, with clear concession agreement, investment grade, without significant political or construction risk and with the bond taking out (at least in part) the bank/government/multi-lateral funding, is more likely to be funded. Key factors which may encourage investment in a project bond include bankability, optimal legal & regulatory framework, credit enhancement, risk managed project (FX, construction, default, revenue, inflation …), rating, and capability of being securitized.

6 Source: ADB

It is envisaged that Multilateral Development Banks (MDBs) such as ADB, AIIB and IFC (each as described further upon in section 3) could play a significant role in providing credit enhancement, risk mitigation, co-lending or other types of support and participation in infrastructure projects for them to become attractive to bond investors.

2.1 Growth in the project bond market

As the following tables illustrate, while bank loan finance remains the predominant form of project financing, bond financing increased between 2013 and 2014 globally, from 19% to 20%, before dropping to 11% in 2015. In 2015, bond financing in Asia comprised 6.5% of total project finance debt issuance by value (USD 5.2 billion), 6.5% or USD 4.95 billion in 2014 and 4.5% or USD 2.99 billion in 2013 – substantially higher than just 1.4% in 2008 (source: PFI Thomson Reuters). On a global basis, Asian project bonds accounted for approximately 15% of global project bond issuance in 2015 as against 10% in 2014 and 6% in 2013.

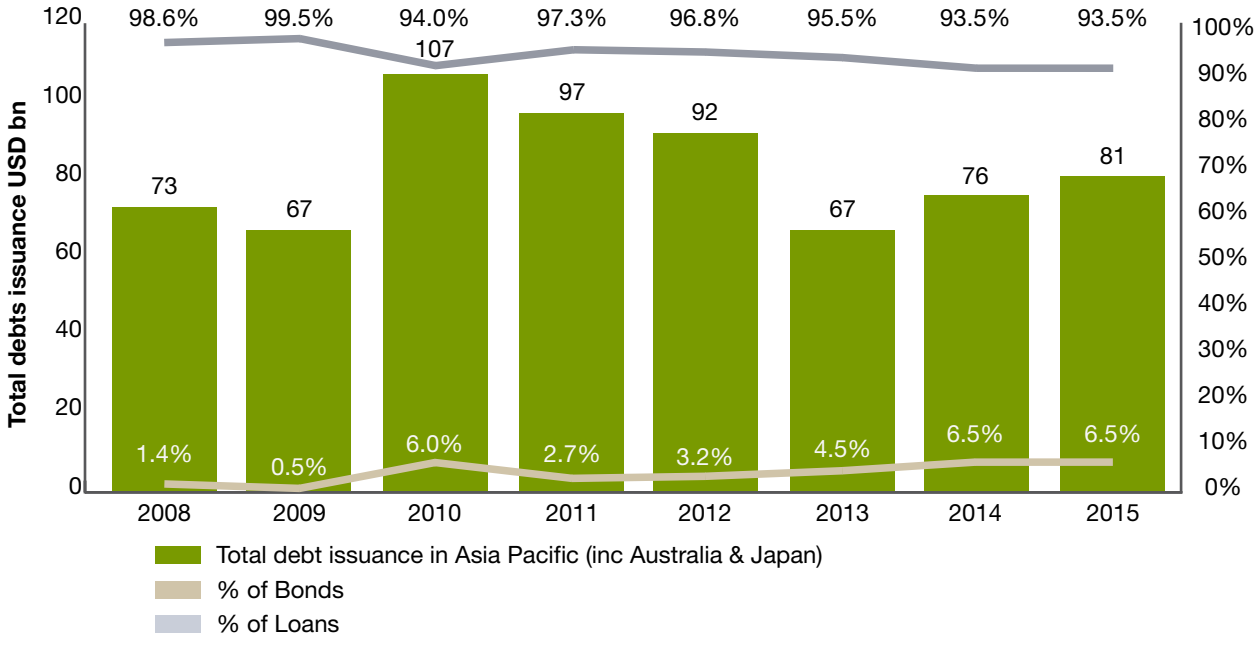
Figure 1: Global and Asia Pacific issuance of project bonds and loans

Global			
(in USD million)	2013	2014	2015
Loans	205,423	259,285	277,174
Bonds	49,255	50,322	35,760
% Bonds	19%	16%	11%
Total	**254,678**	**309,617**	**312,934**

Asia Pacific (inc Australia & Japan)			
(in USD million)	2013	2014	2015
Loans	63,726	71,004	75,438
Bonds	2,986	4,951	5,284
% Bonds	4.5%	6.5%	6.5%
% APAC Bonds in Global Bonds	6%	10%	15%
Total	**66,712**	**75,955**	**80,722**

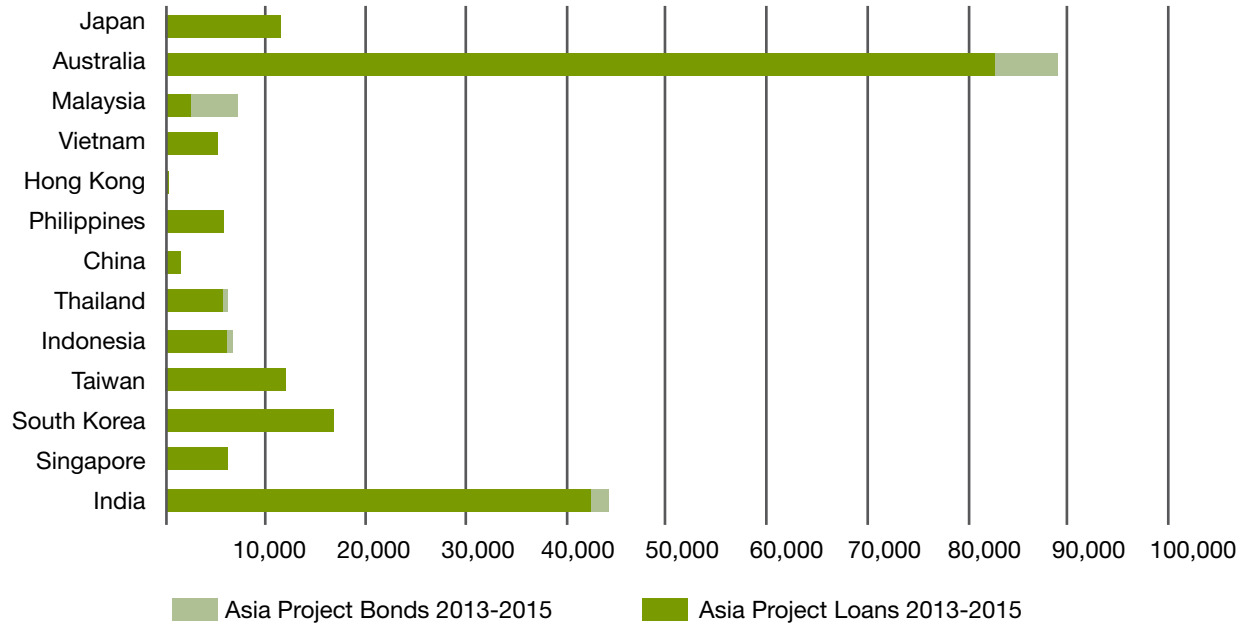
Source: PFI, Thomson Reuters

Figure 2: Asia Pacific bonds and loans issuance



Source: PFI, Thomson Reuters

Figure 3: Asia Pacific bonds and loans issuance per country (in USD million)



Source: PFI, Thomson Reuters[7]

Figure 4: Regional composition of project finance

	Loans			Bonds			% Bonds vs Loans		
(in USD million)	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**
Americas	53,431	93,742	92,691	26,563	24,807	19,728	33.2%	20.9%	17.5%
EMEA	88,266	94,539	109,046	19,706	20,574	10,748	18.3%	17.9%	9.0%
Asia Pacific	63,726	71,004	75,438	2,986	4,951	5,284	4.5%	6.5%	6.5%
Total	**205,423**	**259,285**	**277,174**	**49,255**	**50,332**	**35,760**	**19.3%**	**16.3%**	**11.4%**

Source: PFI, Thomson Reuters

7 The data in these tables, published by Thomson Reuters/PFI, is compiled from submissions sent in from commercial banks and financial advisers. Only transactions that are limited or non-recourse are included. The data includes issuance of syndicated and bilateral loans, and public bond transactions as well as private. Data was converted from actual local/host currency to USD with the currency rate as of end of each fiscal year.

Figure 5: Sector composition of projects financed by bonds – global in 2015

Sector	USD(m)	# of Deals	%
Oil & Gas	2,975	3	3%
Infrastructure	14,507	39	38%
Power	15,409	46	44%
Social Infrastructure	2,265	13	13%
Petrochemicals	210	1	1%
Telecoms	394	2	2%
Total	**35,760**	**104**	

Source: PFI, Thomson Reuters

2.2 The Asia Pacific (including Australia & Japan) PPP Market

Public Private Partnership (PPP) transactions are described in paragraph 1.2 and in section 4 below. In 2015, Asia Pacific (including Australia & Japan) PPP transactions represented an aggregate value of USD 18.3 billion across 12 transactions compared to USD 70.1 billion for 30 transactions in 2014 and USD 27.3 billion for 38 transactions in 2013. The vast majority of the PPP transactions occurred in the transport sector (86%).

Figure 6: Asia Pacific (inc Australia & Japan) PPP market

	2008	2009	2010	2011	2012	2013	2014	2015
Aggregate value of PPP transactions (USD million)	56,553	136,097	84,234	26,484	48,067	27,333	70,114	18,334
Number of transactions	23	21	40	50	38	38	30	12

Source: PFI, Thomson Reuters

Figure 7: Sector composition of PPP volumes in Asia Pacific (USD million)

Sector	2014	2015
Transportation	64,606	15,735
Water & Sewerage	3,532	-
Power	1,185	465
Leisure & Property	762	2,134
Waste & Recycling	29	-
Total	**70,114**	**18,334**

Source: PFI, Thomson Reuters

3. Highlights of ADB, AIIB and IFC

In Asia, MDBs play a very important role in infrastructure financing. Governments willing to build infrastructure or private infrastructure projects may not have enough funding or have a poor credit rating which might prevent them from securing their project.

Partnering up with an MDB will help to develop the infrastructure project, by providing funding, helping strengthening the project through credit enhancement, providing guarantees to the project, all of which will help to reduce the risks of the project.

Some of the key players in the Asian infrastructure market are ADB, AIIB and IFC, all as further described below.

3.1 The Asian Development Bank

3.1.1 Introduction

The Asian Development Bank (ADB) was conceived in the early 1960s as a financial institution that would be Asian in character and would foster economic growth and co-operation in the regions. ADB is composed of 67 members, 48 of which are from the Asia Pacific region.

As an MDB, ADB provides loans, technical assistance and grants to shareholders and private enterprises of developing member countries through equity investments and loans. ADB also help to facilitate policy dialogues, provide advisory services, and mobilise financial resources through co-financing operations that tap official, commercial, and export credit sources

ADB raises funds through bond issues on global capital markets and members' contributions, retained earnings from lending operations, and the repayment of loans. ADB also provide loans and grants from a number of special funds.

3.1.2 ADB's private sector operations

As a catalyst for private investments, ADB provides direct financial assistance to private sector projects. While ADB's participation is usually limited, it leverages a large amount of funds from commercial sources to finance these projects.

Projects must also have clear development impacts and/or demonstration effects that go beyond the benefits captured in the financial rate of return.

ADB's private sector focus areas include private sector participation in infrastructure and capital market development, broadening of country and sector reach, wider use of credit enhancement and other instruments, and strategic alliances with other development agencies.

ADB approved a record $2.6 billion of new financing and investments for the private sector in 2015, a 37% increase from a year earlier and 62% higher than in 2013. As a result of this expansion, ADB's private sector investment portfolio has increased to over $8 billion, and its private sector operations are now targeted to double from current levels by 2020.

3.2 The Asia Infrastructure Investment Bank

3.2.1 Introduction

Formed in October 2014, the Asian Infrastructure Investment Bank (AIIB), based in Beijing, is the newest major MDB. AIIB's 57 prospective founding members are developing its core philosophy, principles, policies, value system and operating platform, based on those of existing MDBs and the private sector.

The AIIB will focus on the development of infrastructure and other productive sectors in Asia, including energy and power, transportation and telecommunications, rural infrastructure and agriculture development, water supply and sanitation, environmental protection, urban development and logistics.

AIIB will complement and cooperate with the existing MDBs to jointly address infrastructure needs in Asia.

3.2.2 How AIIB funds and select projects

Working together with other MDBs, the AIIB expects to sponsor inaugural projects in Pakistan, Tajikistan, Uzbekistan, and Kazakhstan, including, specifically, a highway in Pakistan, an expressway connecting Dushanbe, the Tajik capital, to the Uzbek border, and a peripheral ring road for the city of Almaty in Kazakhstan.

The AIIB expects to approve USD1.2 billion in project financing in 2016, and will likely announce several other projects announced before the end of the year.

AIIB will initially focus on projects led by other MDBs. This will allow AIIB to draw on other MDBs' decades of experience and expertise, and demonstrate its willingness to adhere to the same lending standards. Co-financing will also benefit established MDBs, as they can tap into AIIB's capital (initial paid-in capital of USD20 billion for the first five years, total USD 100 billion).

AIIB and the World Bank also signed the first co-financing framework agreement which outlines the co-financing parameters of World Bank-AIIB investment projects for the two institutions to jointly develop projects in 2016. The World Bank and the AIIB are currently discussing nearly one dozen co-financed projects in sectors that include transport, water and energy in Central Asia, South Asia and East Asia. Under the agreement, the World Bank will prepare and supervise the co-financed projects in accordance with its policies and procedures in areas like procurement, environment and social safeguards.

The establishment of the AIIB is an important development for infrastructure funding in the Asia region which should accelerate financing for a range of projects over the next few years.

3.3 The International Finance Corporation

The international Finance Corporation (IFC), a member of the World Bank Group, is the largest global development institution focused on the private sector in developing countries. Established in 1956, IFC is owned by 184 member countries that govern the institution and provide oversight of its policies.

IFC is a provider of capital, knowledge and partnerships that can help address constraints in areas such as finance, infrastructure, capacity building, and the regulatory environment. IFC can also leverage products and services of other institutions in the World Bank Group.

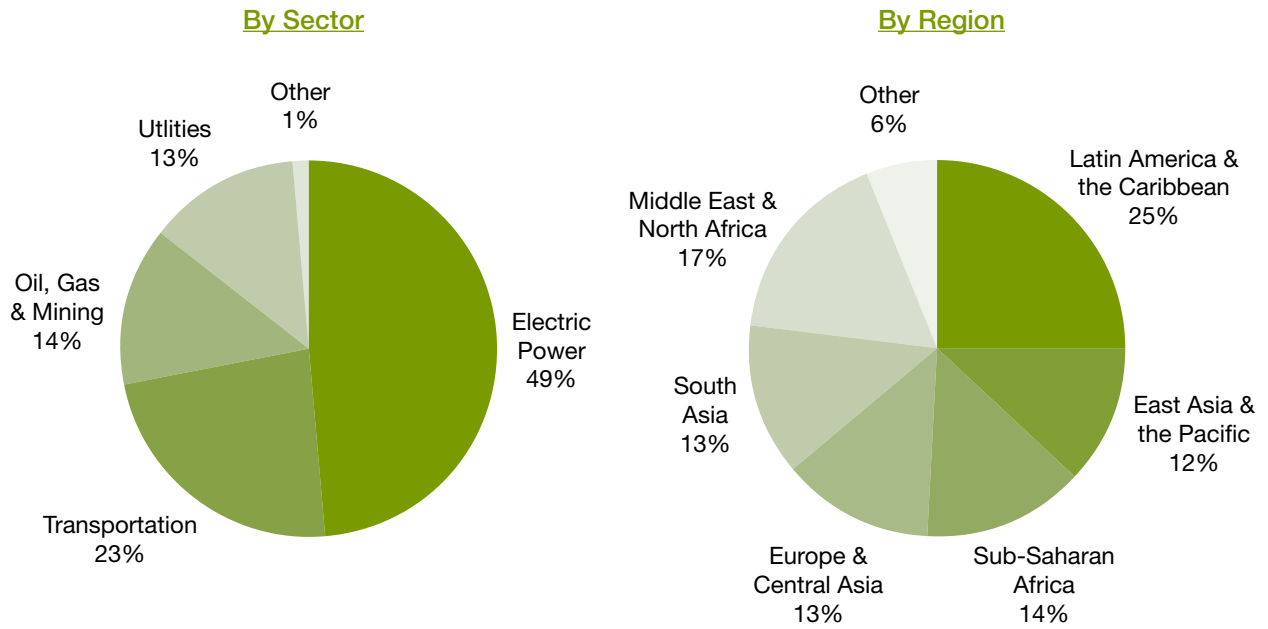
IFC mobilizes third-party resources for emerging markets corporate clients and projects, which creates a development impact beyond its direct resources.

3.3.1 IFC Priorities in Infrastructure

IFC is involved in energy, transportation, and municipal infrastructure development in emerging markets, drawing on its sector and regulatory expertise. IFC provides a range of tailored financing, including loans, equity, quasi-equity, and local currency products. IFC also develops early-stage projects through IFC InfraVentures and mobilizes funding through its syndications programs and IFC's Asset Management Company.

In the past decade, IFC has invested over USD45 billion, including funds mobilized from other investors, in infrastructure and natural resources companies. In the fiscal year 2015, IFC's commitments in such projects reached USD5.8 billion.

Figure 8: FY15 Infrastructure Commitments by Sector and Region



*IFC year-end is June 30th

3.3.2 Capital Market Financing for Infrastructure

IFC is focused on providing capital market solutions for infrastructure companies and projects that can complement equity and loan offerings while crowding in institutional investors into emerging market infrastructure. Given the significant gap in infrastructure financing, capital markets can play a particularly important role in providing a source of long term local currency financing needed for developing essential infrastructure in emerging markets.

IFC facilitates a variety of funded and unfunded capital market solutions for infrastructure ranging from anchor investments to structured products such as credit enhancement, tailored to a company or project's needs. In order to foster institutional investor participation in financing infrastructure, IFC leverages its risk taking and risk assessment capacity while taking advantage of the strength of its own balance sheet for credit enhancement when necessary. IFC has provided local-currency financing solutions in more than 60 currencies through loans, swaps, guarantees, and structured and securitized products.

For example, credit enhancement through IFC can provide the needed rating uplift for a corporate or project bond which may allow for a wider institutional investor participation in a bond. Alternatively, IFC may lead a syndicate of guarantors to wrap the construction risk on a project bond enabling the sponsor to take advantage of long-term capital market financing for a greenfield project. Or, IFC may provide a subordinated loan to a project to facilitate the successful placement of senior debt in the capital markets. Such approaches, when structured appropriately, leverage on institutional investors' comparative advantage in providing longer term financing, and can limit refinancing risks or investors need to engage in active management of construction risks.

IFC and other multilateral institutions can play an important role in catalyzing additional capital market financing for infrastructure financing in Asia through direct and indirect approaches that combine corporate, project and structured finance techniques. This requires financing solutions that reallocate risks and financing roles more efficiently between institutional investors, on one hand, and traditional infrastructure lenders, on the other.

4. Project structures, procurement and planning process

4.1 Procurement of greenfield infrastructure

Projects can be purely private (such as power stations, oil and gas development, pipelines or minerals), may involve a partnership between the public and private sectors (PPPs), or may be built and operated completely in the public sector.

Private projects generally have long-term contracts for their output (for example electricity) and feedstock input (for example gas). Alternatively, they may have some means of linking input and output prices in order to minimise price risk.

Generally, PPPs are long-term contracts (typically 20-35 years) under which the private sector constructs the project's assets (for example, a road) for the public sector, and raises the required finance, usually in a structure that features some or all of the characteristics of a project financing. This model gives the private sector an exclusive right to operate, maintain and provide the necessary investment in a public utility for a given number of years, and the public sector either pays for the availability of the asset (typically called "availability-based" contracts) or the private sector charges end-users to use the asset (typically called "user-pay" concessions or contracts).

Therefore, the project company may receive revenue from the public sector based on the availability of the asset, or the project company may be required to take revenue risk (for example by a toll road concession operator receiving payment from users, or from the public sector (based on usage)). In determining the form of contract, the procurement authority will need, amongst other things, to consider value-for-money, as in all cases, allocation of the risks and the form of finacning chosen have a cost implication for both the public and the private sector.

Relative to their counterparts in markets with a longer history of employing the PPP model, procuring authorities in Asia have generally preferred "user pay" concessions to "availability-based" contracts.

4.2 The stages of project finance concession contracts

The process of identifying, creating, building, licensing and (in some cases) negotiating a concession contract to provide services, whether by the public sector or by the private sector, involves the following stages:

1. Project selection
2. Project preparation
3. Procurement
4. Project construction and
5. Project operation

Specifically, procurement authorities planning PPPs must take a risk-based perspective in order to minimise the project's lifetime cost and achieve value-for-money. To achieve this outcome, the procurement authority must bear in mind the risk appetite of the sponsors, contractors and private investors (shareholders, banks and bond holders). By taking this approach, the procurement authority can reduce the 'cost of risk' by allocating it to the party best able to control it, or absorb it within a portfolio of diverse risks. It follows that appropriate risk allocation is one of the key ways to achieve value-for-money.

This forward-looking approach involves procurement authorities and sponsors anticipating possible adverse scenarios and their implications for private sector investors. These risks could range from construction-related issues such as engineering, geological or archaeological risks, to more operational issues such as the economic impact of lower than anticipated project usage, which may, depending on the nature of the asset, cause revenues to the procurement authority or the private sector partner to be lower than projected.

Revenue risk is particularly sensitive, and for projects with high demand risk, the PPP's value-for-money process should include careful consideration of whether the private or public sector should bear this risk, or whether and how it should be shared.

4.3 Procurement issues

Governments across Asia have widely different practices and regulations applicable to the tendering of PPP contracts. It is beyond the scope of this Guide to identify the various different rules that apply in different markets[8], however there are some consistent trends emerging with respect to the regulatory regime in the more developed markets in Asia, which include:

(a) The adoption of specific PPP enabling legislation. Amongst other things, PPP enabling legislation may specify the types of contract that can be entered into by procuring authorities as a PPP (for example, Build-Operate-Transfer or Build – Own – Operate – Transfer), may be used to overcome limitations in the existing legislative regime relating to public procurement regime (for example, limits on the authority of procuring authorities to enter into contracts), may address fiscal or taxation issues and / or may specify the circumstances in which procuring authorities must consider the use of the PPP model for a project;

(b) Prescriptive rules for the conduct of bids, including time limits for public advertisement of requests for expressions of interest, the conditions for bidders to be short-listed, the required technical and financial aspects of complying bids, probity rules and ultimately setting out the acceptable grounds on which winning bidders will be selected; and

(c) The establishment of specialist PPP departments within government, which are centralised resources of PPP expertise that are mandated to assist with the identification of projects that may be appropriate for the PPP model, conducting initial feasibility investigations and structuring projects and / or with procuring and documenting the PPP. In the most developed jurisdictions, these PPP departments fulfil an important role in publicising the PPP framework and the pipeline of upcoming transactions (as described further below).

The competition created through a public bid process is an important driver of value-for-money for a PPP procuring authority. It is not without its challenges, however, as procuring authorities seek to balance prescriptive rules and practices with respect to the conduct of the procurement process with a desire to make bid processes simple, accessible and cost effective for participants. Again, issuers' experience in this regard will vary widely across Asia. Some common concerns with tender processes in the region include:

(i) Tender processes being subject to unpredictable delays, being aborted during the bid phase or the structure, risk allocation or other key terms of the relevant concession being substantially amended during the bid;

(ii) The short-listing of a very large number of potential bidders, resulting in a very significant amount of potential competition for the concession agreement (or alternatively, a perception that the public sector's preferred risk allocation indicates preference towards the public sector, which discourages widespread participation);

(iii) Legal limitations on the extent to which offshore investors are entitled to participate in the tender process;

(iv) Perceived conflicts of interest or lack of confidence in decision-making by procuring authorities; and/or

(v) Inflexible bid rules which encourage the perception of a 'level playing field' but which may discourage innovation by bidders in favour of price competition.

4.4 Brownfield infrastructure

A public bid process may also be relevant in the context of the privatisation of government infrastructure assets, the tendering of long-term operations and maintenance contracts for existing infrastructure assets and where private owners of infrastructure are looking to sell down their interests in an infrastructure asset. In these contexts, the extent of specific regulatory rules may be more limited than those applicable to PPPs, but the principles of the bid process and broadly its structure will often echo those of the more developed PPP tender processes.

4.5 Bond financing for bids

The following describes the issues to be considered by procuring authorities with respect to bond financing, all of which are important factors when it comes to deliverability and value-for-money in a bid context. Given the complications

8 However, see the APAC Guide to Public Private Partnerships accessible at http://www.allenovery.com/expertise/practices/public-law/Pages/public-private-partnerships.aspx

raised by project bond financing for greenfield infrastructure projects, these may be more relevant in the context of brownfield infrastructure than greenfield infrastructure in the short to medium term in Asia.

Understanding bond terms

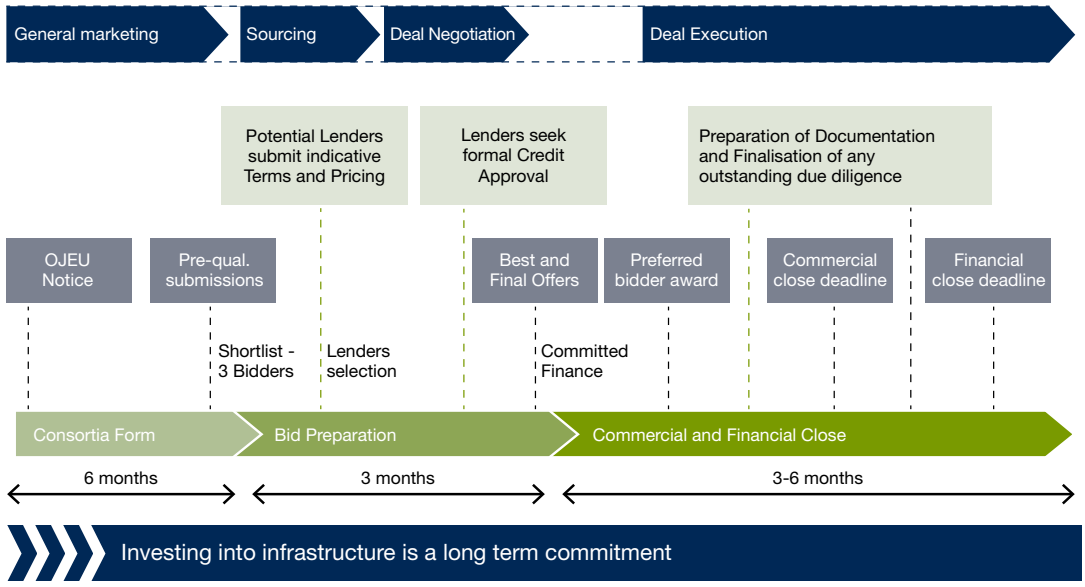
Some procuring authorities are focused on 'execution risk', which includes the risk that a 'preferred bidder' appointed as a result of a tender process may not in the end be able to execute the transaction because of an inability to arrange financing on appropriate terms. This is generally less of a focus in Asian markets than in markets that have a longer history of public bid processes for infrastructure assets, however, even in Asian PPP procurement processes there may be a requirement for some form of evidence of committed financing (or the potential for committed financing). If this is required as part of a complying bid and bidders are proposing to fund their transaction with project bonds, the procuring authorities may have to compare bond proposals from several bidders. They will therefore need to be able to assess differences in placement capability, pricing levels, pricing features and means of managing the pricing risk – a process which is more complicated in bond financing than for simple bank debt as certainty of issuance and the pricing of bonds is only confirmed upon issue (i.e. at financial close).

However, in order to ease the comparison process, a procuring authority may consider, in the tender documents, requiring bidders to submit an explanation of the pricing methodology used for any proposed bond solution (detailing the various pricing components), perhaps by reference to market prices for similar bond issues or baskets of bond issues. When seeking final offers, the procuring authority may consider providing indicative bond pricing data which bidders should use to derive the price of their offer. Such pricing data could break down information according to different rating outcomes and other key features of the financing (e.g. interest structures and maturity).

4.6 Risk of fluctuations in bond pricing

As final public bond pricing is largely market-driven, there is a risk of price fluctuation between final offers and financial close. However, it is important from the point of view of deliverability of funding, as well as to be able to ascertain relative value-for-money, that the procurement authority secures committed financing at final offer stage, which may be a requirement in some jurisdictions. As a result, a risk-sharing mechanism should be discussed at an early stage of the procurement process; depending on the jurisdiction, this will often result in bidders providing a firm upfront commitment, notwithstanding any such potential fluctuations, with the fluctuation risk being assumed by all or a combination of the sponsor, the bidder, the investors and the procurement authority, as agreed.

Figure 9: Typical procurement timeline



Source: Allianz Global Investors

4.7 Ratings/timing issues

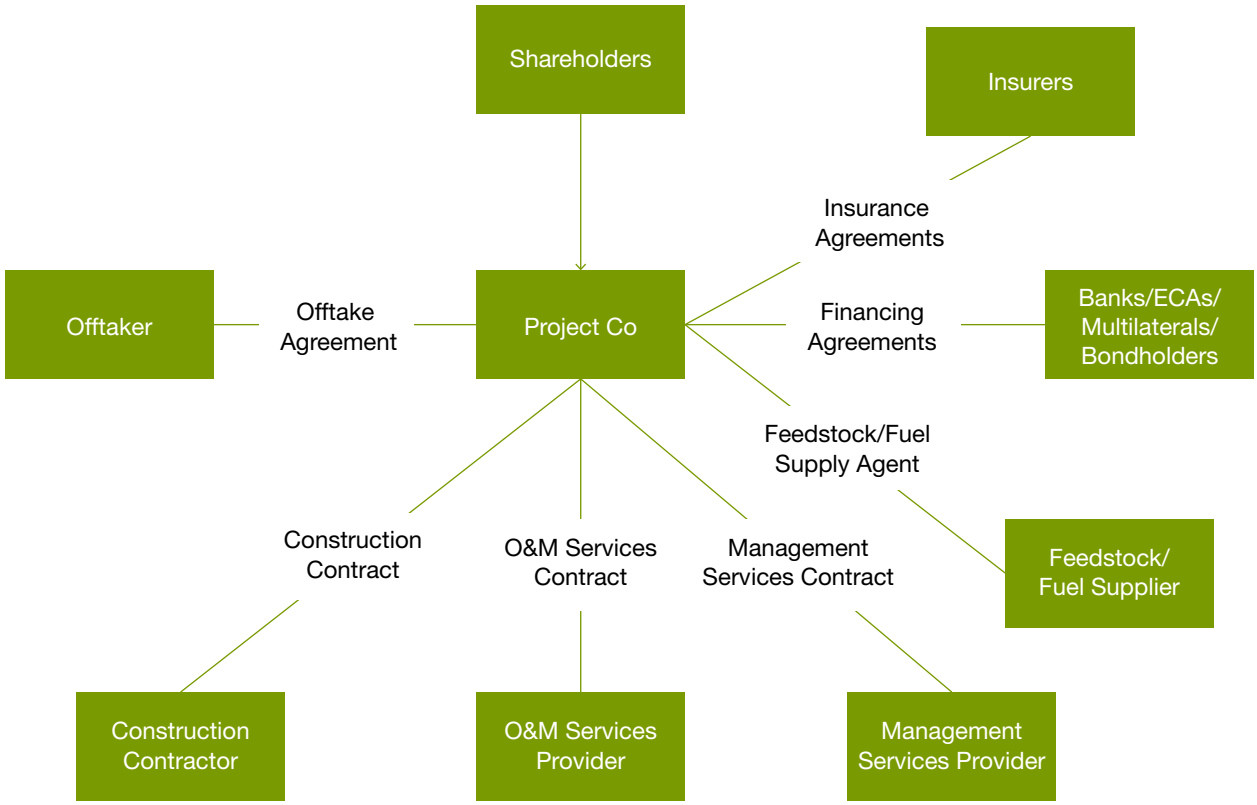
To inform its financing strategy, the project company may hire one or more credit rating agencies to provide indicative ratings, which can be provided in advance of a bid submission. While this will almost always be the case for bond financing, depending on the particular bank, a credit rating agency may be engaged to give a view on the credit even if a bank-only solution is contemplated, or for the purposes of assessing whether a refinancing in the public bond market could be made in the future. If procuring authorities are looking to encourage the use of bond financing for transactions, it would be helpful to ensure that the procurement timetables cater for the credit rating agency process, which can take some time to prepare, as well as factoring in time for preparation of documents, marketing and meeting regulatory requirements, as more fully described further in this Guide.

The preferred bidder/sponsors and the arrangers of the financing (whether bank or bond) undertake appropriate due diligence, which will be updated (by way of "bring-down due diligence") before the financing documentation is finalised.

To have reached this stage, each of the relevant stakeholders has to be satisfied that the various aspects of the proposed venture are sound from the engineering/technical, environmental, legal and economic perspectives, and that the level of risk they are assuming in each of these and other areas of the project is acceptable.

The chart below shows the structure of a typical project financing:

Figure 10: Structure of a typical project financing

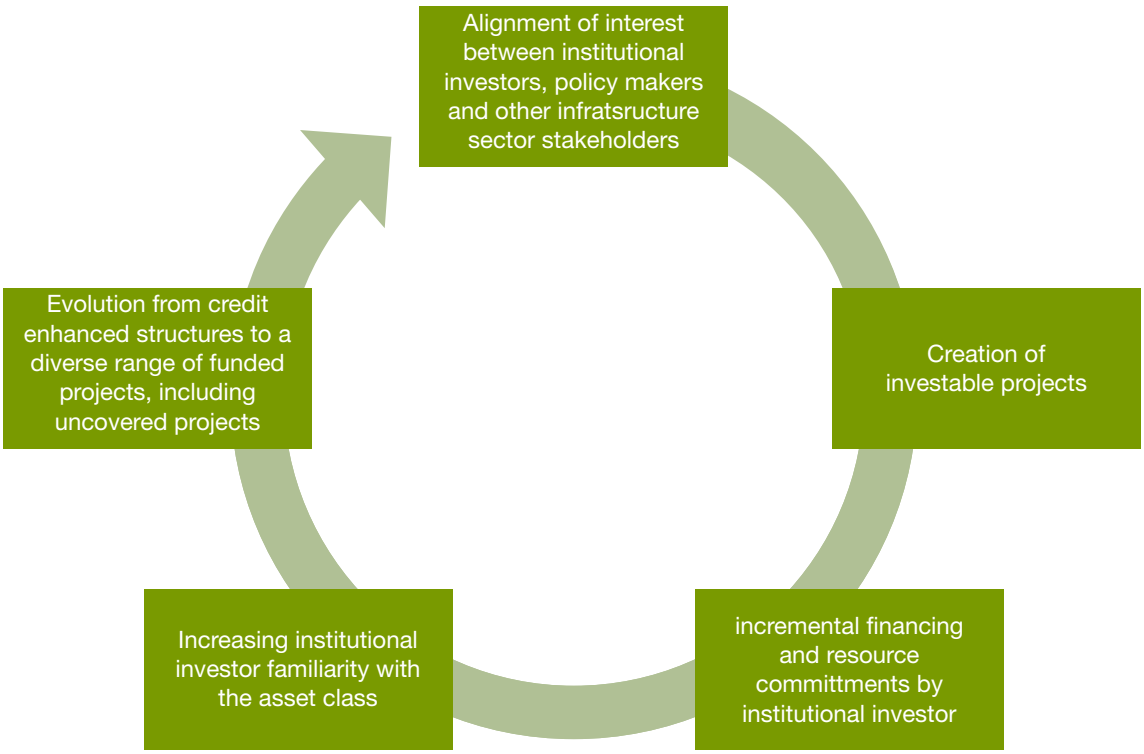


Source: Moody's Default and Recovery Rates for Project Finance Bank Loans 1983-2014, March 2016

4.8 Pipeline

Infrastructure financing requires significant expertise, which is not yet fully developed in Asia. The emergence of an attractive pipeline of projects should encourage institutional investors to commit resources to researching infrastructure investment opportunities. Such a development could in turn create a virtuous circle in which the investors' increased familiarity with the asset class incentivizes them to increase investment in the sector, and the sponsors are therefore encouraged to submit more projects for financing.

Figure 11: Institutional Investor Virtuous Circle for Infrastructure Financing



Source: Moody's Investors Service

This is both a matter of substance and form – that is, to attract international bond investors, jurisdictions will need to have in substance characteristics that support a predictable pipeline of transactions and will need to present that pipeline in a format that is accessible and attractive to potential investors.

At present, national PPP departments/centres often publish lists of upcoming transactions[9] but there is no reliable centralised collection of information about the pipeline of infrastructure transactions Asia-wide. One of the potential initiatives of the G:20 Infrastructure Hub[10] is to address this with the publication of a regional infrastructure pipeline.

9 See for example the pipeline of projects published by the PPP Center of the Philippines accessible at https://ppp.gov.ph/?page_id=26075 and for India at http://www.pppinindia.com/ppp-centre-highways.php

10 http://globalinfrastructurehub.org/

5. Debt financing choices: corporate finance or project finance, loan finance or bond finance

When deciding how to finance the debt component of an infrastructure project, the choice by a sponsor will typically be determined by a number of factors, principally:

- Lowest overall cost, a key consideration particularly in a competitive bidding situation;
- Recourse to sponsor;
- Accompanying risks, such as the need to re-finance or execute additional hedges;
- Certainty and ease of implementation;
- Ongoing flexibility; and
- Covenant and security requirements.

The final choice will be driven by a combination of the sponsors' objectives and the requirements and circumstances of the underlying infrastructure asset to be financed.

5.1 Funding Structures

The primary choice is on the overall type of the financing to be raised; this can either be done on a stand-alone basis, without direct recourse to the sponsors, generally referred to as project finance, or on-balance sheet with full recourse to the sponsors, generally referred to as corporate finance.

5.1.1 Project financing

The underlying nature of infrastructure assets makes the use of project finance particularly suitable due to:

- Long term stable and predictable cash flows;
- Risk profile reducing over time, most notably after the completion of the initial construction;
- It typically taking a group of sponsors with diverse skills to successfully construct and operate an infrastructure project; and
- Off balance sheet / non-recourse financing is often attractive to the sponsors in that the debt is not consolidated if they have a majority stake and if they only have a minority shareholding their corporate borrowing capacity will not be impacted.

Project financing involves the sponsors establishing a special purpose vehicle (SPV) to implement the project and raise the necessary financing. This company will either acquire the underlying infrastructure asset, which involves the privatization of an existing asset, or construct the asset, as is typically the case with a PPP project. The key to a successful project financing is for the SPV to sub-contract or transfer most of the risks to which the project is exposed, leaving the SPV with a limited residual risk profile, which potential lenders will find acceptable on a stand-alone basis, albeit whilst relying upon the performance of the sub-contractors to the SPV. Generally, the lower the level of residual risk remaining in the SPV, the higher the level of financial leverage that can be achieved. As debt is generally a lot cheaper than equity, this makes for an overall more efficient funding structure with a lower weighted average cost of capital (WACC). Low risk projects with a largely fixed availability based income stream can achieve levels of gearing in excess of 90%, whereas more complex projects with income exposed to market risk, such as a toll road, may only be able to achieve gearing of around 60% or less.

One of the main disadvantages of project finance is that it is highly structured and covenanted, leaving little or no ongoing flexibility for the SPV itself. Its activities will be limited to implementing and operating the asset, substantially all its assets will be secured against its borrowings, shareholders will be constrained in disposing of their shares, additional indebtedness and borrowing will be restricted, there will be strict ongoing compliance with hedging policies and ongoing reporting requirements. Lenders will conduct an extensive due diligence exercise covering all major aspects of the project to ensure that the risks and cash flows are thoroughly understood, and the rights and obligations of all parties will be governed by an array of contracts and other legal documents controlling all aspects of the project.

At the centre of any project finance transaction is a detailed financial model covering the entire expected life of the project, typically around 25 to 30 years. The financial model projects a fully integrated set of financial statements over the life of the project, focusing on the cash flows to ensure that there will be sufficient ongoing cash flow to meet the operating and debt service obligations. The model will also have the flexibility to conduct various downside sensitivity analyses to ensure that it will still be able to repay the debt in all reasonable downside scenarios. Finally, the financial model will be subject to independent audit to check its mathematical accuracy and ensure that the input data is in line with the underlying contracts, revenue and cost projections.

5.1.2 Corporate financing

In a corporate financing, the lenders take a general view of the underlying businesses and assets of a company in determining whether the risk of not being able to recover their loan is acceptable. The credit analysis tends to be more retrospective, focusing on the company's recent performance and possibly extrapolating the expected performance over the next few years. The analysis is much less detailed than for a project financing, and the loan documentation is less onerous in terms of how the company can deploy the borrowings and how the company may conduct its operations over the term of the loan because the underlying businesses tend to be more fluid and susceptible to economic cycles. This is also why levels of gearing tend be much lower. Most corporate borrowing tends to be done on an unsecured basis, tenors are generally much shorter than for project finance and levels of leverage are a much lower, generally around the 30% level.

A company acquiring an infrastructure asset and funding it on a corporate finance basis could either take the asset itself onto its own balance sheet or finance it through an SPV subsidiary with a guarantee from the parent company. Funding an infrastructure asset on this basis would require a much larger equity investment from the sponsor, or it would absorb a substantially higher proportion of the holding company's available debt capacity, which could limit its ability to invest in other assets.

Funding an infrastructure asset on a corporate basis becomes a lot more complex where there is more than one investor or sponsors involved, because the risks will be combined and the sponsors will need to agree on how losses are to be shared in the event of there being a default on the loan. If the corporate entity chooses to finance investment in an asset through on-balance sheet corporate financing, the lenders or investors in the relevant financing will have recourse to all the assets of the corporate entity, and not just to the specific asset being financed. Depending on the size of the corporate entity relative to the size of the investment in question, the lenders or investors may be more or less concerned with the asset itself, as compared with the performance of the corporate entity as a whole.

5.2 Funding Instruments

Once a decision has been made on which type of funding to implement, it will then be necessary to consider the alternative funding instruments available and decide which would be most appropriate for funding the infrastructure asset and to best achieve the sponsors' objectives, outlined above. The decision is not always straight-forward, involving both quantitative and qualitative considerations and the exercise of a degree of professional judgment.

5.2.1 Loan finance

Still the most common source of funding for infrastructure assets is loan financing, principally provided by banks, although pension funds and specialist infrastructure debt funds are starting to invest in infrastructure loans. The loans

are generally structured in line with the LMA (Loan Market Association[11]) Standard, and there is a lot of liquidity of infrastructure loans in the bank syndication market.

The main advantage of bank loan funding is its underlying flexibility:

- *Drawdown*: Loans can be drawn as the funds are needed to meet project expenditure, subject to what has been negotiated in the documentation, thereby eliminating the risk of any negative cost of carry; this is a particularly useful feature during the construction phase of the asset, which typically extends over a number of years;
- *Prepayment*: There are generally no limitations or penalties on the early repayment of loans, which allows flexibility to adapt to changing circumstances or to take advantage of changing market conditions and re-finance the loan with a more attractive funding alternative;
- *Waivers*: Banks actively monitor the performance of loans and can therefore show flexibility in granting waivers and releases in respect of minor problems and issues the project may encounter, provided they are still happy with the underlying credit. This is an important consideration on more complex projects because there are invariably instances when things do not go according to plan; and
- *Renegotiation*: If the project is experiencing difficulties it can be possible to renegotiate substantial provisions of the loan documentation or even manage a work-out, although there is no guarantee how much flexibility individual banks will show.

Considering the long term nature of infrastructure assets, with concession periods typically being between 25 and 30 years or even up to 75 or 100 years in the case of some airport privatizations, the principal disadvantage of loan finance is its short tenor. Banks rely mainly on short term customer deposits for their financing, are not natural providers of long term finance and do not generally provide maturities of longer than five or seven years when funding infrastructure assets[12]. This forces the sponsors to assume the risk of being able to re-finance the loans at an acceptable cost before they mature, failing which they will be forced into default. Australia, the most mature market in the region, has a well-established track record with numerous projects being able to successfully refinance themselves over a long period of time. However, in countries with lower credit ratings or no history of successful re-financings, it could be difficult for both borrowers and lenders to get comfortable with being exposed to the re-finance risk. This leads to inefficient financing structures, with the debt having to be fully repaid over a much shorter period and the longer dated cash flows effectively being fully funded by equity, which requires a substantially higher financing cost to the project.

The current changes to banking regulations with the introduction of new Basel guidelines may make it increasingly difficult and costly for banks to provide longer maturities, even in the five to seven year maturity range.

Bank debt is mostly floating rate, quoted as margin over a common reference rate such as LIBOR (in the case of USD funding) or BBSW (in the case of AUD funding). The risk of fluctuations in interest rates then has to be managed by entering into fixed interest rate swaps, which the banks are able to provide. However, this can also create difficulties if there is a subsequent drop in interest rates leaving the borrower to manage mark-to-market costs if it subsequently wants to break or replace the interest rate swaps. Not all currencies have liquid swap markets, particularly when it comes to longer maturities (typically in excess of 10 years) and this can also constrain the debt tenors that banks will be willing to offer or necessitate an additional cushion to be able to absorb increased interest rates.

The situation is even more complex in some markets, such as India, where there is no common reference interest rate used by banks and each bank sets its own internal reference rate that will apply to all its customers. This not only leaves the borrower in the awkward position of having to manage multiple variable rates, but it has also impeded the development of an interest rate swap market and the only fixed interest rate swaps available are referenced to the USD cross currency swap market. Borrowers using this to hedge their interest rate risk will be exposed to basis risk, in that there is not a perfect correlation between the Indian bank reference rates and the USD cross currency swap market.

11 http://www.lma.eu.com/#&panel1-1
12 A notable exception to this general rule is that European banks regularly finance infrastructure assets in their home market with debt tenors of up to 27 or 28 years.

5.2.2 Bond finance

Bond finance offers a number of advantages over bank loan finance in the financing of infrastructure assets. The main investors in the project bond markets are the long term insurers and pension funds who have long dated liabilities and are seeking to match these with secure long dated assets. The stable long term nature of an infrastructure asset's cash flows make infrastructure debt an attractive investment opportunity for bond investors.

The advantage of bond financing over bank loan financing is that bond markets are able to offer longer tenor debt at fixed interest rates, thereby reducing or possibly even avoiding the risks associated with refinancing shorter tenor debt and the necessity of having to enter into long term interest rate swaps to manage the risk of interest rate fluctuation.

The principal disadvantage of bond financing lies in its lack of flexibility. This is particularly applicable during the construction or development stage as the full value of the bond will need to be placed at financial close and the borrower will be liable for the interest cost on the full amount of the debt from the date of issue. Although surplus funds can be invested until they are needed, the generally lower re-investment rate leads to a significant cost of 'negative carry' over the drawdown or investment period. It is sometimes possible to negotiate a staged drawdown for a bond issue, but this will not be as flexible as bank drawdowns and likely result in additional cost via a higher yield.

Bond investors also tend to focus more on credit ratings and yields. Terms and conditions of bond issues are usually negotiated by the arrangers and underwriters so bond investors do not develop the close relationships with borrowers to the same extent that banks do. This makes it difficult to negotiate waivers or variations if the project experiences difficulty. Finally, if the borrower wants to repay the debt early, refinance it to take advantage of changed project circumstances or better market conditions, there are likely to be early repayment penalties or prohibitions.

In Asia Pacific, however, the real issue with bond financing is the lack of a sophisticated developed bond market in most countries. Even the Australian domestic bond market has only limited appetite for funding infrastructure assets, preferring instead to focus on local sovereign and higher rated corporate issuers.

Globally, the most liquid and developed bond markets are in North America and Europe, which have pioneered project bond development. In the USA there are effectively two distinct markets:

- the public-style / 144a market, which typically caters for larger liquid issues of at least USD 1.0 billion, which are traded on the open market to Qualified Institutional Buyers (QIBs); and
- the Private Placement (PP) market where bonds are offered to a relatively small group of select investors who accept that the issue is not going to be liquid and generally expect to hold the bond until maturity.

Bond issues in the 144a market are offered by way of prospectus and investors have limited opportunity to structure or negotiate the terms of an issue. Accordingly investors in the 144a market typically operate rely on the secondary market to manage down their exposure if they do like the way the project is progressing. It can often be difficult to identify the investors once the paper has been trading for a while, and even more difficult to obtain investor agreement on waivers and other amendments to bond terms.

In the PP market, however, investors are very hands-on in structuring the transaction, perform their own diligence much like banks do, go on site visits, interact with technical and market consultants and meet management. In the PP market, investors are generally from the buy-and-hold category, there is not much secondary liquidity. It is not unusual for issuers to hold annual informational meetings attended by bond investors.

The PP market is ideally suited to developed jurisdictions like Australia, as PP investors have little appetite for emerging market risk leaving issuers in emerging markets to rely more on 144a issuances.

Although a number of infrastructure issuers in the Asia Pacific market have accessed the international bond market, it has been limited to large high profile issuers such as major international airports and ports. Even for these issuers there is the added complication of having to secure matching long dated cross-currency swaps, unless they have a natural hedge in the form of USD based revenue streams (often the case with international airports and ports).

Bond markets are not as stable as bank markets and it is not uncommon for bond markets to close during periods of financial instability when bond investors do not have appetite for investing in new issues. Banks, on the other hand, tend to be more robust and though some banks may stop making new advances during periods of substantial market disruption, it is very unusual for the bank market to be totally closed to new business.

ASIFMA has published a useful factsheet on project bonds for Asian infrastructure outlining considerations for attracting foreign investors[13].

5.2.3 Conclusion

Most infrastructure projects tend to be financed on a project finance basis because of the substantially higher levels of gearing that can be achieved, compared to corporate financing, which drives a lower average cost of funding. This also helps preserve the sponsors' overall debt capacity and enables them to invest in more projects before being forced to raise additional capital or divest investments to re-cycle capital.

The flexibility associated with bank loan financing is much more useful over the initial construction or investment period, where potential difficulties or variations are more likely to arise and the negative carry associated with bond financing is avoided. Once the construction has been completed and the operational phase of the project has stabilized, the overall risk profile of the project is substantially reduced and many infrastructure projects are re-financed. At this stage, the focus is more on securing stable, long term financing to match the underlying term of the project and quite often re-financings are done in the capital markets, where there is a liquid bond market for borrowers to access.

A variation on this theme is so called 'bridge-to-bond' financing, often employed on infrastructure asset privatizations. In this case the sponsors raise short term bank financing, typically with a maturity of between six months and two years, with a view to re-financing in the bond market shortly after taking ownership of the asset. This approach gives the potential buyer more flexibility over the bidding period and gives the seller comfort that the buyer has access to the necessary funds to purchase the asset. It would not be practical for a potential buyer to raise bond financing before they know that they have secured the asset and sellers are unlikely to take the risk that the buyer will not be able to subsequently raise the funds to pay for the asset.

The FX risk, currency of issue and cost of hedging all have to be taken into account when considering Infrastructure financing. The "ASIFMA Asian Infrastructure Project Bond Factsheet: Attracting Foreign Investors" treats these points more extensively.[14]

13 www.asifma.org/uploadedFiles/ASIFMA Infrastructure Project Bonds Factsheet Final version.pdf
14 www.asifma.org/uploadedFiles/ASIFMA Infrastructure Project Bonds Factsheet Final version.pdf

6. Mechanics of issuance of debt – parties, roles and tasks

While the time taken between making a debt financing decision and receiving funds varies, typically raising a project finance loan or issuing a bond can take between three to four months, which is included as part of the overall longer transaction timeframe of 12-15 months or more. The exact timing depends on a range of issues and due diligence requirements, such as how long the bank's in-house credit assessment team takes to evaluate the credit risk (if relevant), the time required for credit review by rating agencies and investors, preparation of disclosure documents such as an offering memorandum or prospectus, the listing process, the opening of bank accounts, planning and implementation of a roadshow marketing process and preparation of final transaction documentation.

However, notwithstanding the financing element, it is difficult to specify the exact time needed for the overall transaction. Some greenfield projects can take up to two years to arrange (or even more in certain countries), from the point when the tender process starts. By contrast, the process of acquiring brownfield assets might be completed in just three months from the point of award of preferred bidder status.

6.1 Public bond issuance process – summary

Public bonds may be issued either by the project company, or by a separate (usually sister) company incorporated to issue the bonds and on-lend the proceeds to the project company, on the basis that the obligations of the sister company are guaranteed by the project company. For the avoidance of doubt, in this section and in section 7 below, a reference to the "issuer" is to the project company as the issuer of the bonds, or its sister company incorporated for such purposes.

When issuing, the first steps are to check compliance with the issuer's constitutional documents, obtain all relevant and required internal and external authorisations, and check compliance with local regulations. After the decision to proceed has been made, the issuance process can broadly be described in five steps:

1. Selecting transaction participants, agreeing on a timeline and preparing an estimate of all-in costs (*described in this section*),
2. Structuring the transaction and preparing documents, including deciding which market is most appropriate to target, or whether credit enhancement and/or a guarantee are needed (*see section 10*),
3. Preparing for credit review and due diligence by bank, investors and credit ratings agencies (*see section 11 and Appendix D*),
4. Preparing for investor road show (*see section 7*), and
5. Preparing for ongoing reporting to bank, investor and credit ratings agencies (*see section 8 and Appendix D*).

6.2 Selection of key people/transaction participants – advisors and distributors

Sponsors, issuers and procurement authorities typically hire one or more advisors to help them make the necessary bank loan or project bond decisions as to the financing alternatives available and to provide assistance with estimates of all-in costs, recommended transaction participants, how to structure the transaction, compliance with relevant local regulations, communications with credit rating agencies and, if project bond financing is selected, to provide advice on distribution strategy and marketing of the bonds to investors. The advisor is likely to be a bank, an investment bank or a consulting firm. Participants can vary somewhat from country to country on the basis of specific national legal and regulatory requirements.

When raising a bank loan, deciding which bank to mandate as lead arranger usually depends on criteria such as existing and prior relationships, financing capacity, product expertise, local expertise (if needed), pricing, terms, ability to provide related products such as swaps, payment services and trustee/custodian services.

For project bonds, similar criteria are considered when appointing one or more investment banks as arrangers. Additional deciding factors might include an investment bank's experience in structuring project financing transactions, its investor distribution network, execution capabilities and other services.

An issuer may choose to distribute its project bonds through either one or a syndicate of arrangers (see section 7). An arranger (or syndicate) may distribute the bonds in one of two ways:

1. As a "placement", where the arranger serves as an advisor, structures the transaction, and acts as a placement agent pursuant to a placement agreement, locating investors but not committing to subscribe for any bonds.
2. As an "underwriting", where the arranger serves as an advisor, structures the transaction, and subscribes for or purchases the bonds pursuant to a subscription agreement or underwriting agreement. In practice however, the arranger will only enter into the agreement to subscribe for or purchase the bonds for a few days prior to the closing date, and prior to doing so the arranger will have entered into back-to-back arrangements with investors whereby investors commit to buying the bonds from the arranger. If this arrangement is not honoured by the investor, the arranger remains bound to subscribe for (or purchase) the bonds pursuant to the terms of the subscription (or underwriting) agreement.

6.2.1 Paying agent and trustee

A paying agent is required to make the payments of principal and interest to investors (some, but not all, investment banks offer this service). A paying agent is the issuer's agent and has no contractual duty to the bondholders.

A trustee will generally be appointed by the issuer[15]. The trustee owes its principal duty as trustee to the bondholders and acts as fiduciary for bondholders in the event of a default. The trustee (or an independent security agent or security trustee) would normally hold the security and/or collateral for the benefit of the bondholders. The trustee has a contractual relationship through the trust deed to the issuer, but also has a fiduciary relationship with the bondholders – the beneficiaries. In a trustee structure, the holder of the bond is bound by the terms and conditions of that bond and the trust deed, including the fact that legal action to enforce the terms and conditions of the bond or any related security can only be taken by the trustee and not by individual bond holders (other than in very limited circumstances, such as where the trustee is obliged to take such action in accordance with the terms and conditions of the bond and the trust deed but fails to do so). Additionally, the trustee would typically only be required to take any such action if it has been instructed to do so by the applicable quorum (if applicable) and majority of the bondholders, as specified in the bond terms and conditions and/or the trust deed. As a general rule, the quorum (if applicable) and majority applicable to publicly issued bonds are less onerous than those applicable to an equivalent bank loan due to the fact that bondholders are less likely to engage in decision-making processes than holders of bank debt, bonds are likely to be may be widely held than bank debt and (while the bonds are lodged with a clearing system) the identities of the bondholders are often difficult to determine.

6.2.2 Lawyers

Both the issuer and the arrangers (or, on certain deals, the investors) will be represented by their own legal counsel, who will help to negotiate and draft project bond documentation. As the project bond documents themselves are frequently governed by English or New York law, the issuer and / or arrangers may retain both local counsel and international counsel. As a condition precedent to financing, each set of lawyers may be required to give the arrangers (or investors) a legal opinion in both the jurisdiction of the governing law of the documents and the jurisdiction of incorporation of the issuer. This opinion would, typically, cover points such as: due incorporation of the issuer, the authority of the issuer to enter into the bond transaction, and the validity, binding nature and enforceability of the obligations under the transaction documents. In many cases, investors will rely on the same legal advisors as the placement agent/arranger.

6.2.3 Auditors / Accountants

The role of auditors will generally be twofold in infrastructure financing in the capital markets. As a condition precedent to financing, and as part of the due diligence process, the issuer's auditors may be required to give arrangers a "comfort letter", the scope and limitations of which will be agreed between the parties in an arrangement letter, pursuant to which the auditors will be required to review the audited and management accounts (if any) of the issuer, and carry out certain agreed non-audit procedures. The auditor's role in providing an agreed-upon procedures report with respect to the cash flow model may be particularly important in the context of project financing transactions,

15 The concept of trustee is not recognised under all laws.

where historical financial data may be minimal and/or of limited use. These procedures are designed to ensure the accuracy of certain financial information contained in the offering memorandum or prospectus, and to confirm there are no material adverse changes, on the basis of agreed procedures. In addition, auditors will audit the ongoing financial statements of the issuer.

6.2.4 Technical advisors

A technical advisor (TA) is typically appointed on greenfield projects, to assist with the technical aspects of the disclosure materials / offering memorandum (including by providing a technical report where appropriate) and to provide advice to creditors with the technical aspects of the design and construction, engineering and commissioning of the project. In certain projects, the TA may also have an ongoing role during the operational phase of the project, including in relation to environmental compliance matters.

6.2.5 Monitoring advisors

A monitoring advisor (MA) may be appointed on a variety of projects, both simple and complex, but its use is still not common. Typically appointed by the issuer to act on behalf of the investors, the MA is an infrastructure expert who facilitates efficient decision-making by investors. The MA advises investors if it agrees with the issuer's categorisation of a required decision (for example, material, moderately material or heavily material) and may also have authority to take less important decisions. The MA also advises investors on how they should vote, and generally try to build a consensus among investors.

6.2.6 Tax Advisors

The role of tax advisors in the context of debt issuances will necessarily depend upon the nature of the issuance, jurisdictional considerations, and the specific legal structure of the party seeking to raise finance. There will invariably be tax implications for both the borrower and lender including:

- Managing the potential for withholding tax for cross-border financings;
- Ensuring the tax attributes of the borrower are not adversely impacted (e.g. tax deductibility of borrowing costs, thin capitalization considerations);
- Facilitating access by lenders to pre-tax cashflows through utilizing tax flow-through vehicles (e.g. trusts in Australia, and various collective investment vehicles (CIVs) like Limited Liability Companies (LLCs) in certain other jurisdictions); and
- Seeking to utilize specific borrowing tax concessions in relevant jurisdictions (e.g. withholding tax concessions and other jurisdictionally specific concessions aimed at eliminating tax distortions that can impede global debt markets).

Often tax opinions are sought by lenders and borrowers as part of the process of seeking to raise finance in order to address these and other tax considerations.

6.2.7 Listing agent

If project bonds are listed and admitted to trading on a stock exchange, a listing agent will often be required to liaise with the relevant stock exchange. Listing on an exchange may bring the issuer within the scope of regulatory regimes which may impose substantial disclosure and reporting rules, which is outside the scope of this guide.

6.2.8 Registrar

For bonds in registered (not bearer) form (the distinction between the two is outside the scope of this Guide), a bank or trust company is appointed as the issuer's registrar. The registrar maintains a register of the names of the owners, or, if the bonds are lodged in a clearing system, the names of the relevant clearing system (or its nominee) which hold the bonds on behalf of owners, and records any change in legal ownership when bonds are sold. It is worth noting that for bonds held in a clearing system (which is usually the case for public bonds), the registered owner will generally be a nominee of the clearing system and this will not change for so long as the bonds remain lodged in that clearing system (i.e. a sale of such bonds effected through the clearing system will constitute a transfer only of the beneficial ownership of those bonds through and in accordance with the rules and regulations of the relevant clearing system;

legal ownership of those bonds will remain with the nominee of the clearing system and accordingly the registrar will not make any record of any such sale).

6.2.9 All-in cost estimate

As one of its first tasks, an advisor typically prepares a comprehensive estimate of the all-in costs of a loan and/or project bond transaction. These costs, as set out in the pro forma template immediately below, will include both upfront as well as annual fees incurred over the life of a transaction. The estimate provides the issuer with an annualised all-in cost, as adjusted for the amortisation of upfront fees over the life of the transaction. These costs would typically include the fixed or floating rate of interest payable and the cost of any interest rate and/or currency swaps. Additionally, they will encompass the upfront and/or ongoing fees for: arrangement, subscription/underwriting and placement, credit enhancement, auditors, legal and advisory services, credit rating, trustee, fiscal and paying agent, listing agent, printing (in some limited cases), SPV management (if used), monitoring advisor (if used), technical agents, environmental consultants and insurance consultants[16].

Figure 12: Illustrative all-in cost template

	Bank loan		Project bond	
	Upfront	Ongoing bp per annum	Upfront	Ongoing bp per annum
Loan or bond coupon		✓		✓
Interest rate / currency swap		✓		✓
Net fixed rate		✓		✓
Arrangement, placement/ subscription/underwriting fee	✓		✓	
Credit enhancement fee	✓	✓	✓	✓
Other agency, advisory or consulting fees	✓		✓	
Issuers' legal advisors' fee	✓		✓	
Arranger and investors' /trustee legal advisors' fee	✓		✓	
Accounting comfort letter and ongoing audit costs	✓	✓	✓	✓
Credit rating agencies	✓		✓	✓
SPV management fee		✓		✓
Trustee/agent/custodian's fee	✓	✓	✓	✓
Miscellaneous fees and disbursements, including printing (if needed)	✓		✓	
Monitoring advisor's fee		✓		✓
Total upfront fees (in bppa)	✓		✓	
Total ongoing fees		✓		✓
All-in cost, including amortisation of upfront fees and ongoing fees		✓		✓

16 In some cases, parties will require two sets of relevant experts, acting for the issuer and investor, respectively. Excludes other fees payable, including any fees of the sponsor.

6.3 Debt private placement issuance process - summary

Although in some ways the steps required to issue a debt private placement are similar to a public bond in terms of internal and external compliance and authorisations, the issuance process is more straightforward. While it may still be prudent to hire an advisor bank, it will usually be in a placement agency (rather than an underwriting) capacity. No syndicate of banks will be required as the debt will be privately placed to a small number of select investors. The level of due diligence and disclosure, as well as the contractual terms and conditions (including financial covenants and conditions precedent), are negotiable between the issuer and the investors, making the whole process more akin to the negotiation process for a bank loan. A paying agent or trustee will still be required to carry out administrative tasks, such as making the payments of principal and interest to investors and performing any ongoing monitoring of the project.

Investors will be represented by their own legal counsel, who will help to negotiate and draft the documentation, and may be required to give the investors a legal opinion in both the jurisdiction of the governing law of the documents and the jurisdiction of incorporation of the issuer. The issuer's auditors may be required to give investors a "comfort letter", as described above.

7. Marketing, pricing and issuance process

In the case of a bank loan, each bank undertakes credit risk assessment and makes a lending decision, just as is the case with investors looking to invest in a project bond. Both may depend upon analysis undertaken by due diligence providers and technical consultants to the transaction. Lending or investment criteria may include minimum rating levels from designated credit rating agencies. Once this phase has been completed, the arranging bank will then finalise the terms and conditions, and set the pricing based on investor feedback.

7.1 Preparation of offering memorandum or prospectus

The issuer must prepare an offer document – an offering memorandum or a full prospectus (in the case of a publicly traded bond). If the bonds are to be listed, such offer document can also serve as listing particulars which satisfy the disclosure requirements of the relevant listing venue.

As well as being a marketing tool, the offer document should contain all information and disclosure which an investor needs to make an informed investment decision. The issuer is responsible and liable for the accuracy of this document. The offer document sets out risk factors as well as the bond's terms and conditions, and financial information on the project company. It also discloses the role and business of the project company and the contracts it has to mitigate risks such as offtake agreements. For a PPP transaction, it discloses the nature of the contract the project company has with the relevant public body. See section 12 (Disclosure and reporting standards) for more discussion on this point.

7.2 Roadshow

The arranging bank and project company representatives usually go on an investor roadshow at which they will present the issuer, the project, the management of the project company, the proposed financing and the risk mitigation features, and give the investors the opportunity to ask for more information. In the case of a private placement, a similar but more targeted process aimed at a smaller group of investors would take place. At the project company's request, a provisional rating (denoted by a [P] in front of the rating) may be provided by one or more rating agencies to facilitate the roadshow phase. Typically, each rating agency would also publish a 'pre-sale report', setting out its rating rationale for the project. A definitive rating is typically assigned once the bonds have been issued and following the agency's review of final documentation.

7.3 Pricing

From a pricing standpoint, in the case of a bank loan, the reference rate is normally 3-month or 6-month LIBOR, to which the loan margin is added. A commitment fee (as a percentage of the margin) is charged for undrawn commitments given that the latter will also incur regulatory capital charges for the banks. In the case of a bond issue, the underlying rate (reference rate) is the sovereign yield on a fixed rate bond of similar maturity and/or the swap curve. A credit spread reflecting the perceived risk is added. For a bank loan, the bank syndicate agrees the loan margin before financial close, although interest rate risk remains unhedged until financial close, or possibly even later in certain countries. On some privately placed transactions, institutional investors have been able to fix spreads until financial close. In the case of a public bond issue, the likely spread can only be locked in on the pricing date when most or all of the bonds have been placed (subject to limited exceptions), depending on whether the transaction is a best-efforts placement or rather an underwritten transaction. However, in order to ensure deliverability of funding, an appropriate risk-allocation mechanism can be agreed upfront, which may result in the sponsor, the bidder, the investors or the procurement authority (or a combination thereof) assuming the risk of any price fluctuations.

7.4 Syndication, book building and allocations

Typically, international public bonds are issued on a syndicated, book-building basis. A similar process takes place for private placements, but more targeted towards selected investors. An issuer may choose, with the guidance of the arranger, to distribute its bonds through just the arranger or, more typically, a syndicate of banks and/or investment banks, which may include relationship banks, banks that provide certain geographical coverage or are required for local legal or regulatory

purposes. If a syndicate of banks is appointed, the arranger in this context becomes the 'lead manager' or 'lead arranger'.

There is a prestige factor for banks being included in a syndicate (if a distribution syndicate is created). While there is no prescribed maximum, in most cases only a small number of syndicate banks should be required to ensure successful execution, collection of bond orders and allocations. Issuers should set very careful engagement rules when appointing syndicate banks in terms of establishing roles and responsibilities, overall accountability and fees.

In terms of constructing the investor order book ('book-building') and deciding upon allocations to investors, following the financial crisis there has been a marked increase in demand for bond issues that has not been matched by an increase in available supply. This has resulted in order books for new issues being frequently heavily oversubscribed, with scores and sometimes hundreds of investors placing orders before order books close. Lead managers allocate new bonds on the basis of any specific issuer priorities (for instance, trying to expand the investor base into new sectors or geographical regions), as well as according to their own internal allocation policies and procedures. Issuers often invest considerable time and effort in investor relations and, where there has been a roadshow, may be keen to see to what extent that has led to actual orders. When deciding how to allocate the bonds in response to the investors' orders, specific considerations include early, proactive and useful investor feedback on what the transaction size/yield could be, track record of investing in the issuer (if appropriate), sector or type of issue concerned, likely holding horizon, and available explanation of unusual order sizes (in order to identify and avoid order inflation which can skew the allocations). Such factors need to be considered in the context of constantly changing market dynamics, often involving subjective judgments.

7.5 Timeline

The arranger prepares a timeline of the transaction marketing process. This is likely to include a timeline for the rating process, which must be substantially completed prior to starting the marketing process, to ensure that provisional ratings can be assigned at the time when the marketing phase launches. Rating agencies typically need a four to six week window to undertake a provisional rating engagement. In some complex projects cases, this can take several months. However, they can start well in advance of financial close by working with draft project documents, mature finance term sheets, pre-audit financial models and draft reports from advisors.

Typically, the issue process for a syndicated bond is as follows:

Closing date minus 25 days:
Provisional ratings received from credit rating agencies. Documentation is drafted (although typically drafting of the documentation starts well-before provisional ratings are obtained).

Closing date minus 15-20 days:
Lead manager distributes the offering memorandum or preliminary prospectus and marketing materials to potential investors, and sets up group and individual meetings in cities where key investors are based, as appropriate.

Closing date minus 10 days:
After receiving investor feedback, the lead manager proposes 'price talk' to the issuer, with the official book-building process to commence immediately afterwards. Investors confirm orders at a specific price. Price talk will typically be in the form of an agreed spread over an agreed benchmark reference rate such as a Treasury bond. If necessary, the lead-manager and arranger can revise or refine the "price talk".

Closing date minus 5 days:
The bond is "launched": marketing process stops; transaction size, issue price and coupon are finalised. Final allocations are made to investors through the "book-building" process.

Documentation is finalised, conditions precedent documents and certifications are prepared by the issuer.

Transaction documents are then signed, conditions precedent documents are delivered and "bring-down" due diligence processes are completed.

Closing date:
Final, "bring-down" conditions precedent documents are delivered. Due diligence processes are updated. Funds from investors are transferred to the issuing and paying agent, for onward transfer to the issuer. Bonds are released to investors through a depositary, which holds bonds on behalf of investors.

8. Project bond investor base

In addition to traditional commercial and development bank lending, institutional capital has been increasingly active in funding infrastructure debt over the past decade given the long dated, often inflation-linked nature of the asset class. Investment objectives differ by investor type and often project financing solutions require cooperation between several groups of investors.

Capital pools from non-bank institutions such as insurers, fund managers and pension funds funded by long-dated savings products (often called 'real money' investors) have increased significantly within Asia over the past decade as compulsory and discretionary saving has developed along with rising consumer affluence. Average savings levels in Asia are typically higher than Western markets. The Japanese pension market ranks in the top 3 globally, South Korea ranks within the top 10 and China's pension market is developing rapidly and looking to diversify into new investment areas[17].

Whilst investment strategies will vary by institution, the investor universe can be categorised according to a shortlist of key considerations such as: i) listed vs. unlisted securities, ii) investment grade vs. non-investment grade credit ratings, iii) greenfield vs brownfield projects, iv) funding currency (domestic vs G3 currencies, namely USD, EUR, JPY), and v) tenor. Some of the largest investment institutions with experienced credit staff are able to serve as lead investors; a bespoke transaction can be designed to fit their specific investment requirements. From a relative value standpoint, institutional investors review a large number of investment opportunities and will expect additional return for specific features of an instrument, such as illiquidity of the issuance. However some investors will simply not invest if certain risks cannot be mitigated to their satisfaction.

A key difference between bank lenders and institutional investors is the willingness of the former to be actively involved with the issuer and the project company, and to deal with the ongoing issues of the greenfield construction phase(in particular, engineering, procurement and construction risks), albeit with notable and ever more numerous exceptions. As a result, project bonds require more resources from the investor than holding sovereign or corporate bonds.

8.1 Classification of Infrastructure Investors

Insurance companies: Life insurers have become increasingly active in investing in infrastructure debt products given the need for long-dated assets to offset long-dated liabilities from their life books. Life insurers have historically predominantly invested through fund managers; however larger institutions are increasingly looking to build the capability to invest directly, to reduce fees. These large insurers may also manage third-party money as well as managing collective investment funds.

While life insurers may be comfortable holding long-term bonds, they invest across a broad range of sponsors including project companies, corporates and sovereign debt; therefore project bonds must compete with these other assets in terms of relative value or yield, liquidity, and other features such as early redemption provisions. Typically insurers will look for an 'illiquidity premium' from infrastructure debt products, delivering a spread over the relevant benchmark yield. For the same reason, life insurers may also target lower rated investment grade bonds (eg BBB+ to A ratings) in order to maximise yield. This is an important consideration for project sponsors where credit enhancement from a development bank may reduce the cost of issuance but also limit the pool of potential institutional investors.

Pension funds: Similar to life insurers, pension funds have long-term liabilities (future pension payments) and so are attracted to long-term bonds that yield a higher income than sovereign bonds. Traditionally, however, some have preferred to invest in project equity rather than project debt.

Specialist infrastructure funds: A number of fund managers specialise in managing infrastructure debt on behalf of third party investors. For smaller pension funds and other 'real money' funds, infrastructure debt funds may be the most cost effective means of entering the infrastructure investment space given limits on institutional resources to review and manage investments. Funds provide institutional investors diversification benefits across country, sector and sponsor risk. One consideration for infrastructure funds in Asia is funding currency. Typically funds are denominated in US Dollars given they comprise investors from a number of markets; therefore investors will need to consider currency risk of the underlying projects.

17 Source: Global Pension Asset Study 2015, Tower Watson

Sovereign wealth funds: Sovereign wealth funds have liabilities of uncertain duration since it is not generally known when they will have to make payments to support the nations that own them. To date, they have been less active in investing in infrastructure debt than infrastructure equity, where a number of SWFs have been very active, to the extent of building up investment teams to manage fund investments and, increasingly, direct investment programmes.

Government & official agencies: Governments may finance infrastructure assets directly, but typically only when there is not a well-established legal framework for private ownership, where privatization is seen as politically unacceptable or where the infrastructure asset itself provides a social need but has low probability of generating acceptable investor returns. Governments (and lower-tier public authorities) also provide partial financing and guarantees, alongside private sector financiers. Export credit agencies (ECAs) are active providers of funds for projects which benefit domestic companies, typically projects with a high level of capital equipment or where foreign EPC companies can play a leading role.

MDBs (such as the ADB, the IFC and the AIIB) provide direct financing, as well as credit support in the form of credit enhancement.[18] MDBs are very active in Asia where private capital markets and local commercial debt markets are less mature.

The following tables provide examples of fixed income and equity investors that have participated in recent infrastructure financing transactions. These are global lists, so not all investors will invest in Asian transactions.

Figure 13: Examples of fixed income investors in global infrastructure projects:

Aegon Investment Management	Edmond de Rothschild	Munich Re Investment Management
Abu Dhabi Investment Authority	Fidelity	National Pension Service of Korea
Aerzteleversorgung Westfalen Lippe	Generali	PGGM
Ageas	Goldman Sachs Asset Management	Pictet Asset Management
AIG	Government Pension Fund (Norway)	Pioneer Investment Management
AIA	Hastings	Pramerica
Allianz GI	HSBC Asset Management	Private Wealth Management London
Amundi	IFM Investors	R&V Inv Frankfurt
APG	Insight Investment Management	Rivage
Aviva investors	JPMorgan Asset Management	SCOR
AXA Investment Management	Korea Investment Corporation	Sequoia
Blackrock	La Banque Postale AM	Standard Life
BlueBay Asset Management	Legal & General	Swiss Re
Brookfield Asset Management	MACSF	Temasek Holdings
BWVA	Macquarie Investment Management	Union Invest
Carmignac Gestion	Metlife	Westbourne
Deka Investment	M&G	Zurich Re
Deutsche Asset & Wealth Management	MUNICH ERGO Asset Management	

Source: ASIFMA members.

18 As defined in section 3

Below are examples of global infrastructure equity investors. Some of these investors might not be active in Asia. However, the list shows the broad range of investors active in this market globally.

Figure 14: Examples of equity investors in global infrastructure projects:

3i	British Columbia Inv Mgt Corp	InfraRed
Abu Dhabi Investment Authority (ADIA)	Brookfield Asset Management	I Squared Capital
Alberta Investment Management Corp	Canada Pension Plan Investment Board	J.P. Morgan Asset Management
Alinda Capital Partners	Colonial First State	Kohlberg Kravis Roberts
Amey	DIF	La Caisse de Dépôt et placement du Québec
Antin Infrastructure Partners	Energy Capital Partners	Macquarie Infrastructure and Real Assets
AMP Capital	Energy Investors Funds	Meridiam
APG Asset Management	EQT	OMERS
Arc Light Capital Partners	Future Fund	Ontario Teachers Pension Plan
Arcus Infrastructure Partners	Government of Singapore Investment Corporation (GIC)	QIC
ARDIAN	Goldman Sachs Infrastructure Partners	RREEF Infrastructure
Bilfinger	Global Infrastructure Partners	SteelRiver Infrastructure Partners
Blackstone	Highstar Capital	UBS Global Asset Management
Borealis	Industry Funds Management	Universities Superannuation Scheme

Source: Infrastructure Investor and ASIFMA members.

In addition to financial investors, construction companies and strategic players may invest in directly into infrastructure projects. Examples of these types of investors include Cintra, Globalvia, Iridium, Bouygues Construction, Veolia, Suez Environnement and IL&FS.

8.2 Ongoing investor relations

Generally, in addition to the initial roadshow market process described in section 7, investors will encourage as much regular contact as possible between the issuer, the project company and themselves, including non-deal roadshows, deal roadshows, conferences, direct updates and equity communications. Reporting typically includes: liquidity profile, debt facility usage, business operations, strategy, business evolution, outlook, ratings, targets and commitments. The issuer, however, must take care to comply with relevant rules with respect to inside information.

Although the investor relations process takes time, the information gathered can be used to update the investors' models on long-term risks, credit, strategy, industry trends, forecasts, models and, ultimately, investment recommendations. The consequences might lead an investor to maintain, increase or reduce its holdings. Additionally, it might encourage secondary market activity and help with new issue processes.

9. Key considerations for investors

Investment in project finance debt can present potentially attractive investment returns to institutional investors if sufficient resources are available to analyse the various risks and rewards, as well as to monitor the ongoing performance of transactions. Included on any investor's checklist should be:

- Key risks (including usage, cash flow, legal, environmental, regulatory, political)
- Early redemption features
- Relative value/pricing as against other similar investments
- Any secondary market liquidity requirements
- If needed, ability to obtain a periodic market valuation of the bonds for accounting, regulatory or internal purposes

One of the most material risk factors in project finance debt from the point of view of both banks and project bond investors is revenue risk, or the risk that either expected volume and/or price will not be achieved going forward. In some instances, oil and gas as well as power generation plants may mitigate this risk by way of off-take agreements, although this may reduce expected returns to shareholders. In the case of a PPP project, this risk can be mitigated through an availability-based payment contract. However, if a public authority is unwilling to provide an availability contract, or to retain some level of volume or usage risk – on a new toll road for example – financing the project is likely to be more difficult. Investors may be willing to take some risks between an agreed minimum or maximum level of usage, but they are unlikely to be prepared to take all of the risk. Public authorities can, for example, guarantee minimum revenue payments to project companies through 'cap and collar' agreements. These guarantee a minimum revenue commitment to the project company (a floor), which is offset by a cap agreement by which revenue above the cap accrues to the public authority.

Of the risks directly related to regulatory and political issues, the key concern for investors is the risk of project tariff revenues declining significantly after the financing of the transaction has closed. This will, of course, adversely impact the credit risk as well as the market value of their investment. A move towards transparency – as well as consistency – on the part of regulators and public sector authorities with regards to maintaining tariff-setting and/or regulatory controls post-financial close of a transaction, as well as a review of their past practice of tariff reviews, including retrospective changes to tariffs against a variety of asset classes/projects, would help to assuage investors' concerns over the regulatory risk associated with the underlying revenues of the project. It should be noted that many, but not all concession documents include some relevant protections (for example, provisions regarding changes in law).

Other regulatory or political risks include events that could have a materially negative impact on the viability of the project, such as an aggressive interpretation of the terms of the concession agreement by the public sector authority, or their ability to defer or amend the termination payments agreed under the contract in the event of termination or cancellation of the project.

From a credit risk evaluation standpoint, although many (if not most) transactions are rated by a credit rating agency, investors should also have staff who have familiarity with project finance transactions so they can complete their own due diligence and credit review processes.

9.1 Bank for International Settlements project finance factors

The Bank for International Settlements (BIS) suggests five factors for consideration by investors in project finance (infrastructure) debt – a type of debt that they classify as 'specialised lending' – that are listed below. While this list is primarily intended for banks evaluating the risks of project finance loans, it also offers a useful framework for infrastructure investors.[19]

The first BIS factor is ***financial strength***. This factor depends on market conditions (competitive and market strength of the project company), the financial ratios including Debt Service Coverage Ratio, and stress analysis to determine

19 Annex 6 of the Basel Committee on Banking Supervision's International Convergence of Capital Measurement and Capital Standards provides further detail of the rating grades for each of the five factors (http://www.bis.org/publ/bcbs128.pdf)

if the project can meet its financial obligations under adverse economic or sector specific conditions. It then considers the financial structure of the project company and, in particular, the duration of its borrowing relative to the project life and the amortisation schedule.

The second factor is ***political and legal environment***. This factor includes political risk, force majeure risk, the degree of government support and the project's importance for the country, the stability of the legal and regulatory environment (risk of change in law), and enforceability of contracts etc.

The third factor is ***transaction characteristics***. This factor includes design and technology risks, completion guarantees and track record of the contractor. It also includes operating risk, off-take risk and supply risk.

The fourth factor is ***strength of sponsor***. This factor depends on the sponsor's track record and also the extent of sponsor support.

The fifth factor is the ***security package***. This factor covers assignment of contracts and accounts, pledge of assets, cash sweeps, escrow accounts, covenant package, dividend restrictions, reserve funds etc.

In the context of Asian infrastructure projects since the 1997 crisis, the political and legal environment – the second factor listed above – represents one of the biggest challenges for investors. The other factors – financial strength; transaction characteristics; strength of sponsor; and security package – remain as relevant in Asia as always and as elsewhere, but the political and legal environment represent a unique challenge in Asia in four key areas.

1. A dearth of investable assets.
2. Dominance of bank financing.
3. Changes in political stability.
4. Legal enforcement of contracts.

9.2 Dearth of investable assets

The dearth of investable projects in Asia is the other side of the so-called "Asian savings glut" coin. High Asian savings rates led to large current account surpluses and the dramatic increase in foreign exchange reserves among Asian sovereigns following the 1997 Asian crisis. The lack of investable projects and the structural preference for current account surpluses and the consequent build-up of foreign reserves that went along with it meant Asian savings were channelled into low-yielding developed market assets, primarily US Treasuries, rather than invested in infrastructure assets at home.

The build-up of current account surpluses and foreign exchange reserves may have been an appropriate response to the 1997 crisis, but the two-sided coin of an Asian savings glut and a dearth of investable Asian assets have compounded the response to the global financial crisis of 2008. Excess Asian savings increase the supply of capital globally while the dearth of investable assets decreases the demand for capital. The net effect is downward pressure on interest rates. The price of capital – expressed in interest rates – has fallen due to excess Asian savings (supply of capital) and insufficient Asian investment projects (demand for capital). The low interest rate policies of central banks in the developed economies have accentuated this downward pressure on global rates.

Asian sovereigns should consider expanded government spending on infrastructure projects both as direct fiscal outlays and as part of public-private-partnerships. The post-1997 "Washington Consensus" solution to the Asian crisis encouraged current account surpluses and a build-up of foreign exchange reserves which effectively suppressed domestic investment spending, including on infrastructure. An appropriate balance to increased fiscal spending and

sound public debt management should be adopted. The European Monetary Union's "Maastricht criteria" of a 3% limit on a country's fiscal deficit and a 60% of GDP cap on public debt could be a good place to start. The Maastricht criteria were observed largely in the breach in Europe, but most Asian sovereigns are prudently well below the criteria. Increasing Asian investment, while keeping Asian public finances within the Maastricht 3% and 60% limits, offers a potential solution to the dearth of investable assets in Asia.

Asia governments and multilateral development banks (including the AIIB) is expected to design funding structures that align the interests of private investors and public authorities while optimizing the use of their balance sheet and minimising crowding out private capital.

9.3 Dominance of bank financing

Reliance on bank lending throughout the life of a project will subject projects with refinancing risks in a rising rate environment, which can be reduced by long term fixed financing from the institutional investors. It will also prevent the development of a multi-tiered financial system in Asia with deep capital markets for both bonds and equities.

For the Asia Pacific region, there is also a recognized need to develop local currency capital markets and promote intra-region capital flow.

9.4 Political stability

The change of governments in Asia slows the pipeline of investable infrastructure projects. Elections in Asian democracies, coups in other states, and general political transitions have a pronounced tendency to delay infrastructure investment. This would include delayed execution of already approved and "shovel-ready" projects. Even in the absence of a change in governments, Asian sovereigns have demonstrated a tendency to actually under-spend on approved and budgeted investment projects. There is a pronounced need for increased political stability within and across governments in emerging Asia. One way to address the political risk or concerns is to have the political risk insurance coverage or credit enhancement that helps upgrade the credit rating.

9.5 Legal enforcement of contracts

The legal enforcement of contracts and creditor rights has also been a deterrent to expanding the universe of investable infrastructure projects in Asia. Legal structures tend to favour domestic players, but even within the context of the domestic court system, enforcement of contracts is problematic.

10. Credit enhancement alternatives

Structuring a bond or bank loan to achieve a higher credit rating is likely to broaden the investor base, which in turn should lower the overall transaction costs for the project company and enhance value-for-money considerations.

While capital markets investors have differing risk appetites, many only invest in investment grade transactions (in most cases, based on a rating provided by a credit rating agency, but also as may be judged independently by the investor). The size of the investor market for investment grade debt is much larger than for high yield/non-investment grade debt —and within investment grade the investor market for single A debt is larger than for BBB-rated debt.

The rating of the debt can be improved by support provided in respect of the obligations of counterparties to the project. For example, constructors and operators may provide corporate instruments or guarantees from creditworthy entities, bank letters of credit, adjudication bonds or performance bonds to support their obligations under the project documents. The providers of such support instruments will have recourse to the relevant contractor, and not to the project company. Similarly, sponsor commitments to provide contingent equity if certain of the assumptions in the base case fail to be met, or in other clearly defined circumstances, would also be credit positive.

As described below, credit enhancement for senior debt can also be provided through the use of subordinated debt in the capital structure of the project. In addition, credit enhancement may be provided by external parties who are, directly or indirectly, taking project risk and would have a claim on the project company if they are required to pay out.

10.1 Credit enhancement through the capital structure

The addition of layers of subordinated capital can enhance the credit rating of the senior debt. For example, if there were 25% equity (1st loss), 15% subordinated debt (2nd loss) and 60% senior debt in the capital structure, 40% of the initial capital could be eroded before the senior debt suffered any loss. In this way, one part of the capital structure provides credit support for another. There are now two classes of debt with different risk/return profiles.

10.2 External credit enhancement

External credit enhancement typically reduces the risk that a project company defaults during its construction phase and/or during its operations phase. This can be achieved in three ways, all of which involve paying a fee to a third party:

1. *Bank liquidity*: A bank may provide a liquidity facility (which could be in the form of a letter of credit, although these are not as widely available as in the past). In return for a fee, the bank will fund temporary shortfalls in cash flow, up to a certain amount or percentage of project value. A letter of credit protects creditors from temporary cash shortfalls, so mitigating the risk of a default from cash flow shortfall. Repayment of such facilities, if drawn, may be super-senior (i.e. ranking above senior debt).
2. *Private or Public Sector Guarantees*: A guarantee enhances a credit obligation by offering the guarantor's credit profile in addition to the obligor's, or instead of it. This lifts the project company's credit rating because the guarantor tends to be a more creditworthy entity. Credit substitution (as distinct from enhancement) can result from unambiguously worded guarantees, which oblige the guarantor unconditionally and irrevocably to pay or perform on a full and timely basis, without the ability to defend its liability. A guarantee might be provided by an insurance company, a sponsor (if it has a suitably high credit rating), a bank, an MDB or a sovereign government. Such guarantee might be either partial or in full.
3. *Sovereign Guarantees*: Guarantees or letters of credit, although rare for greenfield PPPs, may be available from national governments (or sub-national authorities) in return for a fee. As with private sector guarantees, the project company pays an annual premium for credit enhancement and, therefore, a ratings uplift. They are 'cheaper' in their own right only if they build in an inherit subsidy directly (i.e. the guarantor doesn't charge (fully) for the risk it takes) or indirectly (i.e. the guarantor's recourse/indemnity is against a third party balance sheet of a better credit quality).

   A government guarantee on all of the debt may confer credit substitution, with the resulting debt becoming effectively sovereign debt. It would be likely to trade at a small (yield) premium to actual sovereign debt, if only to reflect possibly lower liquidity.

4. *Asian Development Bank credit enhancement:*

In February 2014, the ADB announced an initiative aimed at supporting the use of project bonds through credit enhancement both in USD and local currency.

In February 2016, ADB signed the first project bond financing under the new initiative.

- *Local currency credit enhancement*

  For local currency project bonds' credit-enhancement, the ADB can provide a partial credit guarantee ("PCG") (typically up to a maximum of 75%) of the principal of the bonds and interest thereon. By virtue of the AAA/Aaa/AAA credit rating of ADB, the amount covered by ADB's PCG will be zero weighted in the hands of investors holding the bonds under most (if not all) regulatory models, and for bank investors, this presents the advantage that most regulators (if not all) will consider the amount covered by ADB's PCG as exempt for single borrower limit reporting. The latter feature makes this product particularly attractive in jurisdictions where banks are the main investors in bonds and where exposure limits to the most recurrent sponsors/developers are constrained.

- *USD credit enhancement*

  For USD project bonds, the ADB can offer a subordinated (vis-a-vis the senior bonds) liquidity facility which could take the form of a revolving irrevocable letter of credit for a fixed percentage of the value of the bonds. Such subordinated liquidity facility is now a proven model in the European context with investors, arrangers, governments and rating agencies, resulting in a one to three notches uplift from the underlying project rating depending on the percentage (typically up 20% but can go up to 25%) of support provided by the AAA/Aaa/AAA credit enhancer.

- *Green and Climate Bonds*

  ADB has also promoted certification for Green bonds and Climate Bonds, allowing the investors to assess the bonds' environmental integrity on a common set of standards based on third party review. The Tiwi-Makban project bonds (refer to appendix E) are the first Climate Bonds certified in emerging markets.

5. *Credit Guarantee and Investment Facility*

- 5.1 *Local currency bond guarantees*

  The Governments of the Association of South East Asia Nations (ASEAN), China, Japan and Korea together with the ADB established the Credit Guarantee and Investment Facility ("CGIF") as a key component of their Asian Bond Markets Initiative to increase the supply of local currency bonds in the region. Recognizing the importance of fixed rate long term funding in matching currencies to help make infrastructure projects more robust, the work undertaken by CGIF to develop local currency bond markets forms the foundation for the use of project bonds in financing infrastructure.

  Underpinning CGIF's irrevocable and unconditional "full-wrap" guarantees are its strong credit worthiness and experience in assessing and structuring projects. By instilling confidence in project bonds as a starting point through its "full-wrap" guarantees, CGIF aims to attract conservative long term bond investors in the region to ensure that project bonds become a key part of their fixed income portfolios in addition to sovereign and corporate bonds.

  In addition to the "full-wrap" guarantee, CGIF has recently launched a Construction Period Guarantee ("CPG") to further encourage long term bond investors to support green-field infrastructure projects. This facility and the methodology to assess and manage construction risks are aimed at helping investors frame and address concerns relating to greenfield projects, all of which is more fully described in Appendix F.

Figure 15: In 2015, USD2.2 billion of guarantees were provide by international developmental financial institutions (IDFI).

	IDFI	Direct lending	Guarantees	Exposure	Total
1	JBIC/Nexi/DBJ	3,128	455	3,580	8,692
2	IFC/MIGA/Clean Tech Fund/ICF	1,686	934	2,620	4,672
3	EBRD	1,903	-	1,903	3,784
4	KEXIM/KEIC/Ksure/KDB	1,164	-	1,164	2,632
5	IADB	1,084	-	1,084	2,285
6	China Eximbank/CDB/Sinosure	500	365	865	1,915
7	Asian Development Bank	785	-	785	1,364
8	US Ex-Im	595	-	595	895
9	OPIC	546	-	546	792
10	EDC	490	-	490	875
11	Export Finance & Insurance Corp Australia	450	-	450	800
12	KfW/Hermes/DEG/UFK	416	-	416	1,105
13	Coface/Proparco/AFD	103	267	370	415
14	Sace	167	137	304	828
15	Black Sea Trade Development	256	-	256	581
16	FMO	217	-	217	300
17	EIB	183	-	183	355
18	NIB	100	-	100	100
19	Islamic Development Bank	70	-	70	70
20	North American Development Bank	62	-	62	62
21	Export Credit Norway	45	-	45	90
22	OPEC	45	-	45	45
23	African Development Bank/BDEAC/ African EXIM	37	-	37	37
24	DBSA	35	-	35	35
25	CDC	20	-	20	40
26	Central American Bank for Economic Integration	15	-	15	15
	Total	**14,102**	**2,158**	**16,257**	**32,784**

Source: Project Finance International, January 27, 2016

11. Credit review processes

Credit committees of banks, investors and credit rating agencies all need to carry out comprehensive assessments of an infrastructure project's credit risks, performing extensive due diligence and undertaking credit reviews. In doing so, they generally require more information than that included in an offering memorandum or prospectus. One or more credit rating agencies may be engaged to rate a project.

It should be noted that banks, credit rating agencies and investors have a different perspective to the sponsor when evaluating transactions. While the sponsor's management typically focuses on the project's upside potential, debt providers do not benefit from upside performance, and hence banks and credit rating agencies focus on the project's key risk factors, including downside risk.

11.1 Credit rating agency considerations

Ratings are intended to exhibit stability within normal economic cycles rather than reflect short-term changes to macroeconomic conditions. Credit rating agencies consider the project's risk profile throughout its whole life, and the "weakest link" in the project may limit its rating.

In general terms, credit analysis will include consideration of construction phase risks and operational phase risks, and factors that will affect an issuer's long-term ability to meet debt payments such as major economic downturns or major regulatory developments.

More specifically, assessing a project's credit risk involves analysing the potential risks that may impact a project throughout its life; the contractual arrangements that allocate risks to the various project and finance parties and the ability and willingness of those parties to perform their obligations; the nature of residual risks retained by the project company and structural features including any credit enhancements that might mitigate those retained risks; and any other relevant considerations, including areas of subjective judgment.

For an operational project, the main potential problems in any project are, firstly, technology and operations issues (cost overrun, a failure of technology, operational underperformance) and, secondly, problems in the input and output markets in which the project company operates (hedge mis-matches in areas such as fuel costs and market exposure in the form of volume risk or price risk). It will also be necessary to review possible structural risks (the demise of a parent company or counterparty) and counterparty/regulation factors (for example, off-taker problems, failures of government to support a project contrary to expectations, tariff regulation changes, emissions regulation impositions or changes).

For projects exposed to construction risk, relevant credit considerations will also include project construction complexity, constructor/consortium experience and project readiness, resilience of the constructor to cost overruns, and the resilience of the project to construction schedule overruns.

In a PPP project, the allocation of construction risks between the private sector and the public sector is a central issue. An important analytical focus is understanding the drivers of cash flow generation and, in particular, the predictability and sustainability of cash flow in the event of an economic downturn. Naturally, construction phase risks can be very different from the operational phase's risks. In the construction phase, the risks relate to technology, design, construction and adequacy of financing. In the operational phase, the greatest risks are performance risk, market risk, country risk and refinancing risk.

11.2 Credit rating agency methodology

Credit rating agencies publish rating methodologies/criteria that provide guidance on the relevant agency's rating approach for project finance and infrastructure transactions, and must assign credit ratings in accordance with those published rating methodologies/criteria. Different rating agencies have different rating methodologies/criteria, including the use of notching adjustments and relevant terminology. These publications are freely available on agency websites, and rating agencies are typically very willing to discuss their rating approach for potential transactions and to illustrate their views with reference to relevant rated precedents.

As an example, Moody's Generic Project Finance Rating Methodology considers as key rating factors: (1) long-term commercial viability and competitive position, (2) stability of net cash flows, (3) exposure to event risk, and (4) key financial metrics. This methodology incorporates notching factors to reflect a project's relative strengths or weaknesses in relation to liquidity arrangements, project finance structural features, and exposure to refinancing risk. The methodology also provides guidance on how construction risk and ramp-up risk (which may affect revenues following construction completion but before the project has established steady-state operations) will be considered.

Sovereign-related considerations are also relevant but tend to be discussed in separate rating methodologies/criteria given their relevance to a wider range of rated entities and sectors.

Figure 16: Key Considerations for PPP Projects:

PPP Greenfield Phase	PPP Brownfield Phase
1. Allocation of construction risks between the private sector and the public sector	1. Complexity of Project Operations and Performance Regime
2. Project construction complexity	2. Strength of Contractual Arrangements and Operational Approach
3. Constructor/consortium experience and project readiness	3. Performance and Quality of Sub-contractor
4. Resilience of constructor to cost overruns	4. Leverage and Coverage
5. Resilience of project to construction schedule overrun	

As another example, Standard and Poor's (S&P) credit ratings for projects reflect its view of the overall relative creditworthiness of a project finance, which encompasses the likelihood of default, payment priority, and credit stability within a project finance structure. S&P's multistep process for assigning an issue credit rating to each debt consists of establishing the project's stand-alone credit profile ("SACP"), which is the lower of either its assessment of the project's construction phase SACP or operations phase SACP. If construction risk is not present, the operations SACP determines the project SACP. The process factors in any weaknesses in the transaction structure due to parent linkages or structural deficiencies, cross-default and debt acceleration linkages, as well as any extraordinary timely government support and sovereign risk. It adjusts for any full credit guarantees, such as a financial guarantee provided by an insurance company.· It determines the project finance credit ratings for senior debt and, if present, any subordinated project finance debt.

11.3 Credit rating agency oversight

Since the global financial crisis, the regulatory oversight of credit rating agencies has increased worldwide. Similar to the US and in Europe, credit rating agencies are under supervision in Asian countries by their respective local regulators such as the Securities and Futures Commission in Hong Kong and the Monetary Authority of Singapore.

In general, supervision requirements relate to, among other things, the business conduct of credit rating agencies and measures to avoid conflicts of interest, so safeguarding the independence and quality of credit ratings and rating methodologies.

A summary of the main rating agencies' credit scales follows:

Figure 17: Main rating agencies credit grades:

Fitch	S&P	Moody's	Rating grade description (Moody's)	Rating grade description (Moody's)
AAA	AAA	Aaa	Investment grade	Lowest level of credit risk
AA+ AA AA-	AA+ AA AA-	Aa1 Aa2 Aa3		Very low credit risk
A+ A A-	A+ A A-	A1 A2 A3		Low credit risk
BBB+ BBB BBB-	BBB+ BBB BBB-	Baa1 Baa1 Baa3		Moderate credit risk
BB+ BB BB-	BB+ BB BB-	Ba1 Ba2 Ba3	Speculative grade	Substantial credit risk
B+ B B-	B+ B B-	B1 B2 B3		High credit risk
CCC+ CCC CCC-	CCC+ CCC CCC-	Caa1 Caa2 Caa3		Very high credit risk
CC C	CC C	Ca		In or very near default, with some prospect of recovery of principal and interest
DDD DD D	8D D	C		In default, with little prospect for recovery of principal or interest

11.4 Credit review checklist

A summary of typical credit review considerations used by banks, investors and credit ratings agencies is provided in Appendix D.

12. Disclosure and reporting standards

In the case of an information memorandum prepared for purposes of loan syndication, there are no legal or regulatory requirements in respect of the format and standard of disclosure, which are driven largely by market practice.

Bonds, on the other hand, tend to have more prescriptive disclosure standards. A prospectus for listed project bonds has to comply with the disclosure requirements of the listing rules of the relevant stock exchange on which the bonds are to be listed. Listing rules of different stock exchanges vary for bonds offered to sophisticated and professional investors (as would typically be the case for project bonds). For example, the EU Prospectus Directive applicable to listing on a European exchange is generally more prescriptive in terms of prospectus format and disclosure standards as compared to the applicable listing rules of the Singapore Stock Exchange.

Even if the bonds are unlisted, market and investor expectations for an international bond offering in Asia means that, in practice, the standard of disclosure between a listed bond and an unlisted bond does not differ significantly.

As such, any offering memorandum or prospectus (whether listed or unlisted) must contain all the relevant information and disclosure the investor needs to make its decision to purchase the bonds and finance the project. Such information and disclosure will include:

- An overview of the project, transaction and financing structure;
- A description of the key risks in the project;
- How the proceeds of the bonds being issued are to be used;
- A description of the issuer, the shareholders and any credit enhancement provider;
- Financial statements of the issuer and any credit enhancement provider;
- A description of the terms of the bonds, the financing, the development, any concession and/or offtake contracts;
- A description of the relevant tax rules; and
- Information relating to the project financial model.

The market in which the bonds are being offered is also relevant in determining disclosure standards. For example, if the bonds are being offered to "qualified institutional buyers" in the US based on the safe harbour offered under Rule 144A, the standard of disclosure is generally held to the same or similar standard as if it is a registered offering made to US investors generally.

Satisfying the required standard of disclosure may potentially be challenging if the project is in a sector where information is highly sensitive and confidential (for example, a project in the defence sector).

After a bond transaction is priced and all of the documentation signed and closed, every funder and credit rating agency will want to receive regular reports on the subsequent performance of certain aspects of the project. The reports and information provided typically include:

- Audited financing statements of the project company, any other material project party (such as an EPC contractor) and any credit enhancement provider

- Annual budgets and updates to the financial model
- Compliance certificates confirming financial ratio levels and no defaults
- Periodic progress reports during both construction and operating phases
- Event-based disclosures such as non-payment of interest or principal, breach of contractual obligations, illegality, default of a major contract counterparty, insolvency event, regulatory/policy changes, construction delays, significant deviation from projected costs and cash flows, or "*force majeure*" that affect the economic value of the project.

There is no consistency as to the standards and format of on-going reporting for projects in Asia, although some banks, investors and credit rating agencies will have developed their own templates for reporting.

Ongoing reports and information have to be made available to bond investors; this is typically done through a project agent or on a designated website.

Appendix A: Examples of Project Finance Transactions in 2015

Examples of global Project Finance Deals completed in 2015

IDFI					
Project	**Country**	**Cost**	**Debt**	**Involvement**	**Details**
Shah Deniz II	Azerbaijan	-	960	560	EBRD, ADB and BSTDB loans
Quequen grain terminal	Argentina	-	33	16	FMO loan
Pan American Energy	Argentina	-	520	120	IFC
Cia Siderurgica Pecem	Brazil	-	2,020	910	Kexim
Agea corporate loan	Brazil	-	85	85	IADB loan
Seaborn Networks	Brazil	500	267	267	Coface cover
Puma pulp mill & Klabin	Brazil	-	250	250	NIB and IADB loans
Itua Unicbanco renewables	Brazil	-	100	100	IFC loan
Bibiyana II	Bangladesh	-	210	210	ADB, IFC and IsDB each provided US$70m loan
Cidade de Saquarema FPSO	Brazil	-	1,550	567	Nexi cover and Sace loan
Tartaruga MV29 FPSO	Brazil	-	1,263	252	JBIC direct loan
Sonker Bunker	Egypt	417	260	200	IFC and EBRD loans
Minera Valle	Chile	-	75	40	EDC
110MW Cerro Dominador solar	Chile	1,200	940	216	KfW providing US$120m; CTF providing US$66m; and IADB's C2F providing US$30m
Druk hydro	Bhutan	183	174	120	ADB loan to sponsor and US$70m project loan
Providencia solar	El Salvador	-	88	88	IDB or IDB-administered loans
4G highways	Colombia	-	1,200	158	Inter-American Development Bank loan
Negev solar CSP	Israel	1,000	800	420	OPIC and EIB
Western Macedonia waste PPP	Greece	-	31	13	EIB loan
Ma'an solar PV	Jordan	170	129	129	JBIC and Nexi cover
BMR Jamaica 36MW wind	Jamaica	-	63	63	OPIC and IFC loans
Pertama mine	Malaysia	384	267	82	KDB loan
Broadband and e-ticket PPP contracts	Greece	74	42	42	Kexim provided majority of the debt
Shuakhevi hydro	Georgia	417	250	250	ADB, EBRD and IFC loans
Renew wind	India	-	60	30	FMO loan
60MW Agua Fria	Honduras	125	90	45	Export Credit Norway split the debt

IDFI					
Project	**Country**	**Cost**	**Debt**	**Involvement**	**Details**
SunEdison solar projects	Honduras	-	146	146	IFC, OPEC and Central American Bank for Economic Integration
Green Infra	India	-	60	60	IFC loan
Etlik hospital PPP	Turkey	-	1,236	457	EBRD, IFC, Black Sea Trade Development Bank, SACE, DEG
Donggi Senoro equity loan	Indonesia	-	314	314	JBIC
Oyu Tolgoi second stage	Mongolia	-	4,400	2,800	IFC, EBRD, US Exim, EFIC of Australia loans and MIGA cover
Burnoye solar 50MW	Kazakhstan	-	92	92	EBRD and the Clean Technology Fund provided loans
Voskhod Chromium	Kazakhstan	-	260	130	EBRD loan
Tres Mesas wind	Mexico	-	241	241	OPIC and IADB

Source: Project Finance International, January 27, 2016

Examples of Project Bonds completed in Australia in 2015

Issuer	Connecteast Finance Pty Ltd	Perth Airport	Transpower	Australia Pacific Airports Pty Ltd
Project Description	Refinance to increase leverage	Refinance to fund capex	Refinance to fund capex	Refinance to fund capex
Sector	Toll Road	Airport	Utilities	Airport
Country	Australia	Australia	Australia	Australia
Project Type	Refinance	Refinance	Refinance	Refinance
Issue Type	AMTN	USPP	N/A	AMTN
Issue Ratings	Baa2	Baa2	A1	A3
Amount	A$300 million	USD$270 million	NZD$150 million	A$250 million
Maturity	7 years	10, 12, and 15 years	7 years	7 years
Coupon	4.25%	4.47-4.77%	4.30%	4.00%
Spread	N/A – Fixed	N/A	93.775	N/A
Reoffer Price	99.73	N/A	1	N/A
Listing	Unlisted	N/A	IDC CEP	N/A

Source: Moody's Investors Service

Appendix B: Indicative Project Bond Financing (only) Timetable and List of Responsibilities*

		Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12
General	Issuer or municipality receives authorisation from their board to issue												
	Appoint lead managers – organisational meeting all advisors												
	Preliminary due diligence; list of background information prepared												
	Investor Pre-Sounding												
	Structure definition: guarantees, covenant package, documentation model, rating, listing, public vs. private offering												
Public Bond	Begin drafting Legal Documentation												
	Drafting of Prospectus and Legal Documentation												
	Prepare Investor presentation												
	Receive Draft comfort Letters and Legal Docs												
	Due Diligence with Bookrunners												
	Prepare Execution Versions												
	Announce Transaction												
	Sales tech-in / distribute marketing materials												
	Roadshow (up to 5 days)												
	Bring down due diligence call												
	Price Notes												
	Execution of Legal Documentation												
	Close and fund transaction												
Rating	Preparation of background information, operating & Financial data for the presentation / ongoing DD												
	Schedule rating meetings; Send background information												
	Rating book sent to rating agencies												
	Rehearsal with management												
	Meetings with the rating agencies												
	Rating Agencies Analysis, initial feedback (Provide as required)												
	Rating Agencies communicate rating												

* The timeline covers all the major steps in the execution of a bond offering, which takes approximately 12 weeks from mandate to closing in Europe. In Asia, this varies from jurisdiction to jurisdiction.

Appendix C: Typical bond and bank documentation

Typical bond documentation

Mandate/engagement letter

This deals with the appointment of the arranger/Lead Manager (if any).

Timetable and Responsibilities List

This will describe the main parties and their responsibilities, and will set out targeted deadlines from first meeting until closing.

Key Participants List

This will include key participants such as issuer, arranger/lead manager, legal advisors, auditors, credit rating agencies (if any), trustee or fiscal agent/paying agent, SPV management company (if required), listing agent (if any), printer (if any), technical and environmental consultants, financial model auditor, insurance advisor.

Documents

Required documentation will depend on the transaction, but will typically include:

- Preliminary Term Sheet
- Offering document, comprising a prospectus or offering memorandum, as to the contents of which, see section 12
- Underwriting/Subscription Agreement or Placement Agreement
- Trust Deed/Deed of Covenant under which the bonds are constituted and which may contain the covenant package – if there is more than one source of finance, a common terms agreement may be used
- Fiscal Agency Agreement[20]/Paying Agency Agreement
- Interest Rate or Currency Swap Agreement (if any)
- Security Documents

Conditions Precedent Documents

The conditions precedent documents will vary between transactions but will generally include at a minimum:

- Legal opinions from issuer's legal advisors
- Legal opinions from arranger's/lead managers' legal advisors
- Comfort letters from the issuer's auditors (delivered on the date of the prospectus on the closing date)
- Auditor's report on financial model
- Tax report on overall structure
- Technical Due Diligence report
- Market Due Diligence report
- Reliance letters from technical consultant
- Copies of board resolutions and other authorisations for the transaction
- Copies of governmental or other consents, authorisations, approvals, orders, filings, registrations required for the issuer to issue the bonds
- Certificates of compliance from the issuer with relevant consents, authorisations, approvals, orders, filings, registrations required for the issuer to issue the bonds
- Other required certifications concerning anti-bribery and anti-corruption laws, money laundering, OFAC sanctions
- Rating agency confirmation
- Completion of KYC requirements

20 If no Trust Deed is used

Typical Loan Documentation Requirements

Mandate/Engagement letter

This deals with the appointment of the Mandated Lead Arrangers (MLAs) (if any) and sets out the conditions for the arrangement and underwriting (if any) and the Commitment, the agreed syndication strategy and termination rights.

Timetable and Responsibilities List

This will describe the main parties and their responsibilities, and will set out targeted deadlines from first meeting until closing.

Key Participants List

This will include key participants such as borrower, mandated lead arrangers, legal advisors, credit rating agencies (if any), security trustee, facility agent, SPV management company (if SPV is required), Technical and Environmental consultants, financial model auditor, insurance advisor.

Documents

Required documentation will depend on the transaction, but will typically include:

- Preliminary Term Sheet
- Information memorandum, as to the contents of which, see section 12
- Due diligence reports (including Technical, Environmental, Tax and Insurance consultants' reports and audited financial model with projected cashflows)
- Security Documents
- Facility agreement under which the loan is documented
- Intercreditor agreement (defines sharing of security and voting rights between creditors, including swap counterparties and subordination of any sponsor debt and equity)
- Accounts agreement (security over and management of cash accounts, including use of proceeds and excess cash flow distributions)
- Bank meeting presentation (in case of syndication)
- Agreed hedging policy
- Interest rate or currency swap agreement
- Fee letters signed with MLAs and facility agent

Conditions Precedent Documents

The conditions precedent documents will vary between transactions but will generally include at a minimum:

- Legal opinions from issuer's legal advisors
- Legal opinions from investor's legal advisors
- Auditor's report on financial model
- Tax report on overall structure
- Reliance letters from technical consultant
- Copies of board resolutions and other authorisations authorising the transaction
- Copies of governmental or other consents, authorisations, licenses, approvals, orders, filings, registrations required for the issuer to enter into the loan
- Other required certifications concerning anti-bribery and anti-corruption laws, money laundering, OFAC sanctions
- Completion of KYC requirements

Appendix D: Sample Credit Review Checklist from Banks, Investors and Ratings Agencies

Asset type: Assets are often specialised and should have an economic life well beyond the term of the debt.

Term: The term of financing facilities should be commensurate with the economic life of the asset, and the project structure should encourage subsequent refinancing either in the bank or capital markets. Shorter term development and "bridge" debt financing will necessarily require near-term refinancing options. Equity investors will consider the investment horizon of funding sources and look to identify exit strategies commensurate with this tenor at the point of investment. Institutional investors may be willing to hold assets for the life of the concession whereas closed end investment funds will typically have a fixed term of 10-12 years.

Performance risk: An investor is exposed to the performance risks involved in the design, construction and operation the project. Investors should understand and diligence all relevant commercial risks that are the responsibility of the concessionaire, including volume risk, pricing risk and operating risk, suitable contractual protections, qualified and competent counterparties and independent technical advice should be sought to ensure adequate comfort.

Issuer financial covenants: Financial covenants, in which the issuer undertakes to comply with certain ratios, act as a proxy measure of the issuer's ability to service and repay its debt and, if measured in a consistent way, can be an effective "early warning system" which allows investors to assess deteriorations in the risk attached to the credit quality of the issuer and to the debt. Well-designed and appropriate financial covenants can also provide timely performance indicators for investors.

It is however difficult to design a finite list of appropriate financial covenants as the terms may vary considerably depending on the circumstances, including the nature of the issuer's business, its credit quality and the scope of financial covenants in existing bank loan and other debt documentation (although the starting point for financial covenants will usually be the scope of any financial covenants in the issuer's existing bank loan and other debt documentation, if any). Key ratios in project finance include the Debt Service Coverage Ratio (DSCR), Loan Life Coverage Ratio (LLCR), Project Life Coverage Ratio (PLCR) and Debt to Equity ratio. Precise definitions of the financial covenants and each component of the ratios should be the subject of careful drafting in the documentation, and consideration should be given to ensure consistency with those used in other bank loan and debt documentation (if any) and/or the accounting policies of the issuer. Issuers will be required to supply investors with a compliance certificate signed by senior management of the issuer, at a frequency and time to be specified in the documentation, demonstrating to investors their compliance with the covenants and potentially showing the calculations of any ratios in the financial covenants, and based upon which investors will ascertain compliance with the covenants and, if necessary, take appropriate actions.

Third Parties Credit Risk: Where third parties have significant obligations to the project company, their credit standing is an important part of the credit application for the project. Third parties may include corporate entities, banks and insurance companies.

Environmental Risk: Environmental issues may materialise due to the intrinsic nature of project finance transactions and sector environmental risk profiles. Most investors have adopted the 'Equator Principles'[21] which seek to provide a framework for assessing and managing social and environmental risks, in line with international best practice.

Documentation: Rights and obligations of the various parties must be clearly set out to avoid the risk of lengthy litigation at a later stage. In respect of PFI/PPP projects the powers of the public sector body to enter into contracts with the project company needs to be investigated. Other issues include the transaction structure, security, step-in rights, events of default and compensation on termination.

Interest Rates and Currency Risk: Changes in interest and currency exchange rates may materially affect the project company cashflow. A hedging strategy should be established and described in the credit application.

21 http://www.equator-principles.com/

Insurance: Insurance is required by the SPV to allow for, *inter alia*, reinstatement of assets, loss of earnings and third party liabilities.

Tax: With the exception of corporation tax, the project company should not be exposed to changes in tax.

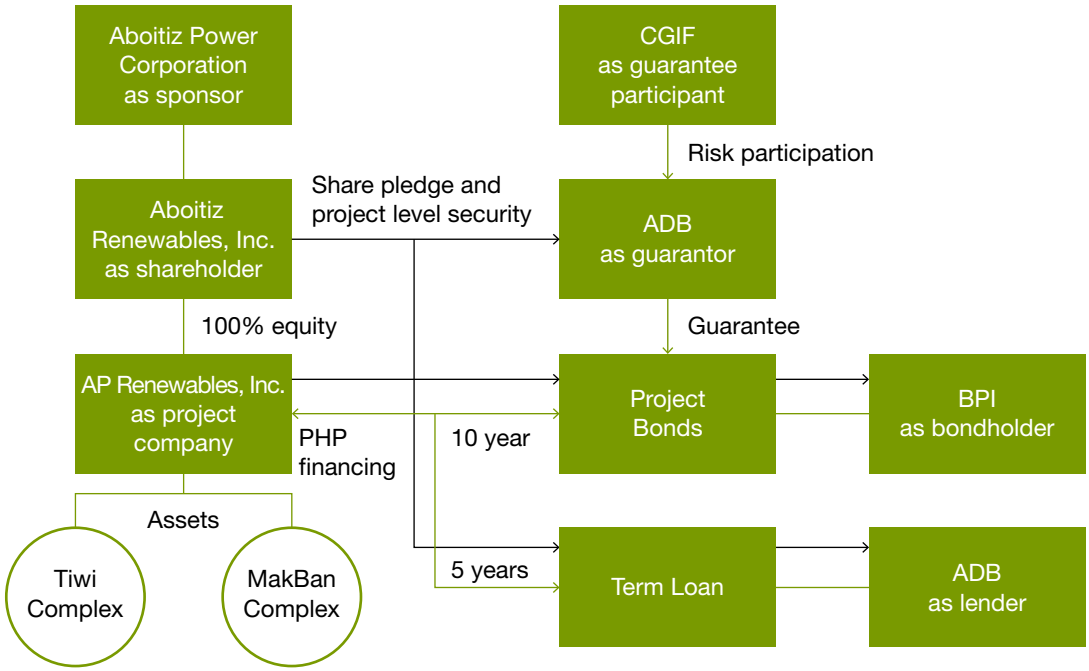
Regulatory Risk: Investors will consider the relevant country risk when assessing project returns. Long-term infrastructure projects are exposed to potential changes in domestic regulations which may affect the economics of a project, including changes to key concession terms, obligations and expropriation of the project itself. The risk is typically higher in countries with a less stable political structure and a shorter track record of private sector investment. Unlike performance risk, regulatory risk cannot be captured accurately in the forecast project cashflows (or applied scenario analysis); therefore this will necessarily be factored into the appropriate cost of capital for funding. Insurance can be used to mitigate specific risks, for example MIGA, the World Bank subsidiary offers cover for contractual performance and expropriation risk.

Appendix E: ADB's credit enhancement for a local currency project bond – Tiwi-MakBan Case Study

The project bonds were issued by AP Renewables, Inc. (APRI), an indirect wholly-owned subsidiary of Aboitiz Power Corporation (APC), in relation to the Tiwi and Makiling–Banahaw (Tiwi-MakBan) geothermal power plant complexes operating in two locations in the province of Albay and on the boundary of Laguna and Batangas provinces, the Philippines.

TABLE 1 – TIWI-MAKBAN PROJECT DETAILS	
Project Company	AP Renewables, Inc.
Shareholder/Parent	Aboitiz Renewables, Inc.
Sponsor	Aboitiz Power Corporation
Lender	Asian Development Bank
Mandated Lead Arranger and Bookrunner	BPI Capital Corporation
Guarantor	Asian Development Bank
Guarantee participant	Credit Guarantee and Investment Facility
Bonds Facility, Intercreditor and Security Agent	BPI, acting through its Asset Management and Trust Group
Project	Refinancing and financing of operation and maintenance
Capacity	Combined installed capacity of 676 MW
Sites	Tiwi complex in Albay province, the Philippines Makiling-Banahaw complex on the boundary of Laguna and Batangas provinces, the Philippines
Project Company Counsel	Gibson, Dunn & Crutcher (International Counsel) SyCip, Salazar, Hernandez & Gatmaitan (Local Counsel)
Lender Group Counsel	Freshfields Bruckhaus Deringer (International Counsel) Picazo Buyco Tan Fider & Santos (Local Counsel)
Debt	PHP12,500,000,000, consisting of: (i) PHP10,700,000,000 Project Bonds (ii) PHP1,800,000,000 Term Loan
Tenor	10 year Project Bonds 5 year Term Loan

Financing Structure



The Tiwi-MakBan geothermal plants

Despite the potential of geothermal power in the Philippines', few geothermal power transactions have occurred in the country, mainly due to a lack of risk appetite on the part of developers and lenders.

The facilities were developed in the 1970s by the government's National Power Corporation. Originally built with a nameplate capacity of 676 megawatts (MW) (234 MW at Tiwi and 442 MW at MakBan, the 7th and 4th largest geothermal power plants in the world), the facilities had fallen into disrepair by the mid-2000s. Effective availability in 2007 was 41% at Tiwi and 63% at MakBan, well below industry standards. APRI acquired the plants from the Power Sector Assets and Liabilities Management Corporation, a government-owned company, in 2009. By mid-2013, after 4 years of turnaround activities, the sponsor had increased plant availability to above 90%, improved generation efficiency, and extended the plants' operating life. As of 2015, Tiwi–MakBan accounts for 17% of the Luzon grid's dependable capacity of renewable energy. The plants are operated by APRI, while geothermal water and steam production are supplied by Philippine Geothermal Production Corporation, which is responsible for the operation and maintenance of the wells and steam fields themselves. Offtake is through a mix of bilateral contracts and spot sales on the Philippines' Wholesale Electricity Spot Market (WESM). Currently, the project is operating with an average load capacity of 345 MW, with potential operation capacity of 676 MW. This disparity is due to restrictions on steam supply associated mainly with the steam fields' natural decline.

The financing structure

The PHP12,500,000,000 financing consisted of two tranches, PHP10,700,000,000 partially guaranteed climate non-rated project bonds and a PHP1,800,000,000 term loan. This financing is noteworthy as it represents a Landmark use of project bonds in the region (excluding Malaysia) since the Asian Financial Crisis, being the first local currency project bond in the Philippines power sector, the first credit-enhanced project bond in the Philippines, the first Climate Bond certified in emerging markets for a single project, and the first green bond in the Philippines.

The bonds – The bonds were issued by APRI in the amount of PHP10,700,000,000 without any credit support from its parent Aboitiz Renewables, Inc. or ultimate shareholder APC. The bonds are amortised over 10 years. The initial purchaser of the bonds was BPI. BPI may sell down a portion of the bonds to a limited number of primary institutional lenders, such as insurance companies and pension funds, in line with existing regulations in the Philippines. BPI, acting through its Asset Management and Trust Group, acts as agent for the transaction. BPI Capital Corporation, a wholly owned subsidiary of BPI, was the mandated lead arranger and bookrunner. ADB provides a Partial Credit Guarantee (PCG) to the bondholders in respect of 75% of the principal and interest thereon.

CGIF, a trust fund of ADB established in 2010 with the aim of promoting economic development, stability and resilience of capital markets in the ASEAN + 3 (China, Japan, and Korea), entered into a risk sharing agreement with ADB in respect of the PCG.

To the extent ADB pays out under the guarantee, it is funded or indemnified by APRI for the same amount which it would then pass to CGIF its entitlement thereof.

The term loan – ADB also lends PHP1,800,000,000 by way of a 5-year direct term loan to APRI.

Highlighted features of the project bonds

The financing was highly negotiated, marrying the need for international standards for the project bond that would accelerate the development of the private sector bond market in the Philippines with APRI's expectations as an experienced owner and operator of a high quality brownfield asset.

Key features included:

- *Revenues generated from the wholesale electricity spot market* – The Philippines' spot market for power, the WESM, was established in 2006 to encourage competition and reduce energy prices. The market follows a gross-offer-pool, net-settlement model, and enables the trading of electricity as a commodity in 24-hourly trading periods. All available power in the system — including contracted capacity sold under bilateral arrangements — is delivered through WESM and prices for spot transactions are set through competitive bidding.
- *Steam supply risk* – Steam supply is naturally one of the key risks associated with geothermal power projects, requiring a thorough analysis of the contractual supply arrangements and the performance of the wells and steam fields. For this project, while the steam fields are in a natural decline, they had long operating histories. In addition, the steam fields are in two locations, diversifying the supply risk to the project, and the significant spare installed capacity limits the likely impact of any failure in the generation facilities.
- *CBI Climate Bonds Certification* – In full support of ADB's objectives in developing the market for project bonds in renewables, as part of the financing, APRI successfully applied for Climate Bonds Certification from the Climate Bonds Initiative, allowing the investors to assess the bonds' environmental integrity on a common set of standards based on third party certification.
- *Security package* – The security package was devised based on a clear understanding amongst the lending group of (i) the complexities introduced by the project having been developed by the Philippine government and (ii) the security and enforcement options available for an entirely Philippines-based project and sponsor.
- *CGIF as guarantee participant* – CGIF plays an integral role in the credit enhancement for the bond issuance through its back-to-back arrangement with ADB, yet is not itself a secured party for the purpose of the financing documents. A solution was reached with APRI and the lender group whereby CGIF was entitled to certain rights as if it is was a secured party, including direct voting rights on certain intercreditor matters for which CGIF would not need to rely solely on the terms of its risk sharing arrangement with ADB.

Conclusion

The project bond model represents an exciting opportunity for 'developing Asia' issuers to access domestic debt capital markets for projects that would not otherwise qualify for financing and for a broader range of investors to gain exposure to emerging market infrastructure. The Tiwi-MakBan deal shows that the model can work in the context of an 'Emerging Asia'.

Appendix F: CGIF'S CONSTRUCTION PERIOD GUARANTEE

Construction risk has long been an impediment for the use of project bonds to finance green-field infrastructure projects. Despite being suitable long term investments for pension and life insurance funds in the region, exposures to green-field infrastructure projects fall outside the risk appetite of their conservative investment strategies due to construction risks.

Construction Period Guarantee

CGIF's Construction Period Guarantee ("CPG") is aimed at allaying bond investors' concerns about construction risks by guaranteeing the completion of construction works and the commencement of the operations phase in a project which will be financed by project bonds issued in the local currency bond market in the region. Under this facility, CGIF irrevocably and unconditionally guarantees the non-payment of scheduled payments for the project's bonds occurring prior to the commencement of commercial operations. If a project's completion is delayed, CGIF shall ensure that the project bonds are adequately serviced on a timely basis. In the unlikely event that it cannot be completed, CGIF shall accelerate the guaranteed bonds and pay 100% principal and accrued interest amounts owing to bondholders. CGIF's CPG will terminate upon the commencement of commercial operations as defined in the project documents.

To take on construction risks, CGIF has developed a comprehensive assessment framework that allows these risks to be measured and managed. Components of this framework allow for expert judgement of the various risk factors relating to the construction works as critical inputs in the assessment. Risks are also managed by CPG's boilerplate requirements on the various contractual agreements and risk mitigants that are consistent with international project finance practices to frame up the boundaries of risk during the construction period to manageable levels.

Anticipated Impact

CPG is anticipated to boost the use of local currency project bonds for new projects in the region by eliminating construction risks for bond investors investing in green-field projects. If rated, with CGIF's CPG, the project bond's rating during the construction period should not be lower than its operations phase rating.

Intended Benefits

Project Companies: CGIF's CPG is envisaged to enable infrastructure project developers to tap long term local currency project bonds that otherwise would not normally be accessible. Project companies are also able to engage with a single controlling creditor with respect to the monitoring of construction progress and consent requirements instead of numerous bondholders. The elimination of rating penalties (notching down or caps) associated with construction risks helps improve the long term bond pricing and deliver considerable interest savings to the project over its life.

Investors: With the mitigation of one of the most significant concerns, conservative life insurers and pension funds in the region can now invest in safe and highly rated project bonds that provide long term stable fixed income that matches well with their long term liabilities. Supporting projects at the green-field stage will allow these funds to directly contribute to building infrastructure. Investors will also be relieved of the necessary monitoring and management obligations of lenders during the construction phase.

Governments: By ensuring that the projects meet CPG's boilerplate standards with respect to the various concession and construction contracts, Governments will be ensuring that the respective projects are well delivered. This helps boost private sector participation and long term regional savings to help boost the roll-out of infrastructure projects.

Eligibility

CGIF's CPG will be deployed to projects in the ASEAN+3 region for qualifying green-field projects. Guaranteed debt instrument should be local currency bond or notes issued via public or private placement by a ring-fenced SPV to finance a specific infrastructure project.

CGIF will only guarantee projects that meet CPG's boilerplate requirements, which include a robust construction work programme in the hands of experienced and capable contractors. The project shall also meet CGIF's Know Your Client, Environmental & Social Safeguard Policy and due diligence requirements. These will include 3rd party expert consultant and legal counsel opinions on the respective technical aspects to the construction works, contractual arrangements as well as the environmental and social impacts.

Appendix G: Glossary of Terms

AIIB	Asian Infrastructure Investment Bank
ADB	Asian Development Bank
ASIFMA	Asian Securities Industry & Financial Markets Association
Availability-based projects	Projects that entitle a private entity to receive regular payments from a public sector entity to the extent that the project asset is available for use in accordance with contractually agreed service levels
Basel III	A comprehensive set of reform measures, developed by the Basel Committee on Banking Supervision, to strengthen the regulation, supervision and risk management of the banking sector
Brownfield	A private entity takes over the management of a state-owned enterprise or, alternatively, a project in which construction and testing have been completed which is now operational and revenue generating
Build-Operate-Transfer Projects (BOT)	A Build-Operate-Transfer (BOT) Project is typically used to develop a discrete asset rather than a whole network and is generally entirely new or greenfield in nature (although refurbishment may be involved). In a BOT Project, the project company or operator generally obtains its revenues through a fee charged to the utility/ government rather than tariffs charged to consumers. A number of projects are called concessions, such as toll road projects, which are new build and have a number of similarities to BOT projects
Build-Own-Operate-Transfer (BOOT)	A Build-Own-Operate-Transfer is a varation of a BOT in which a developer (1) designs and builds a complete project or facility (such as an airport, power plant, seaport) at little or no cost to the government or a joint venture partner, (2) owns and operates the facility as a business for a specified period (usually 10 to 30 years) after which (3) transfers it to the government or partner at a previously agreed-upon or market-price.
Committed	A financing facility provided by a bank to a borrower, which cannot be withdrawn unless the borrower breaches covenants or other terms of the facility
Concession	A type of PPP. A concession gives an operator the long term right to use all utility assets conferred on the operator, including responsibility for all operation and investment. Asset ownership remains with the authority. Assets revert to the authority at the end of the concession period, including assets purchased by the operator. In a concession the operator typically obtains its revenues directly from the consumer. A concession covers an entire infrastructure system.
Covenant	A condition that requires a borrower to fulfil certain conditions or which forbids a borrower from undertaking certain actions, or which in other ways restricts certain activities. A key financial covenant in a project financing is the debt service coverage ratio (DSCR) which can give an indication of a deterioration in the risk of the debt due to a fall in the ratio (caused for example, by a decline in expected revenue from the project)
Debt Service	Scheduled payments of principal and interest
Debt Service Coverage Ratio	Within a given ratio, the ratio of cash available for debt service divided by debt service payments scheduled in that period
Demand risk	Reliance on income from a third party for a project, for which credit enhancement is usually required, or the risk during the operational phase from not having a contractually guaranteed revenue stream and thus being subject to volume or price risk
EPC companies	Engineering, Procurement and Construction companies (development companies)
EPC contractor	Engineering, Procurement and Construction contractor

Financial model	A financial model is built to confirm that a project is economically viable for the lenders but also for the equity investors and any offtaker/ contracting authority or users in the expected future scenario and, through the use of sensitivity calculations (stress testing), to confirm that lenders are not at undue risk in a downside scenario. The inputs required for such a model include the underlying macroeconomic assumptions, the cost of the project and its financing structure, the expected operating revenues and costs and any relevant accounting or taxation assumptions
GDP	Gross domestic product
Greenfield	The project is not yet built. Financing is required for both the construction phase and permanent operations, or, a project still at the planning stage which requires financing for the construction and operational phases
ICMA	International Capital Market Association
IFC	International Finance Corporation
Intercreditor Agreement	An agreement which regulates the respective rights and ranking of two or more funders in a single class of security or between different classes of security in a financing, including rights to receive payments and rights to enforce security
IRSG	International Regulatory Strategy Group
Issuer	The issuer of the debt for the infrastructure project (usually an SPV). This may be the project company or a separate (usually sister) company incorporated to issue the bonds and on-lend the proceeds to the project company
KYC	Know your customer – the process used by a business to verify the identity of its clients
LIBOR	London Interbank Offered Rate
Mark-to-market	The accounting act of recording the price or value of a security, portfolio or account to reflect its current market value rather than its book value
OFAC Sanctions	US sanctions administered by the Office of Foreign Asset Control of the US Department of the Treasury
Project company	Normally the sponsors will create an SPV known as the project company, which is the counterparty to the contracts with the construction company, offtaker, concession provider etc. The project company could also be the borrower of debt or the issuer of bonds. However, in some cases, for regulatory and tax reasons, a separate (usually sister) company is incorporated to issue the bonds and on-lend the proceeds to the project company
Public Private Partnership (PPP)	PPPs describe a form of cooperation between the public authorities and economic operators. The primary aims of this cooperation are to fund, construct, renovate or operate an infrastructure or the provision of a service
SPV	Special Purpose Vehicle
Sponsor	A party which develops and becomes a shareholder in infrastructure projects
Swap	A derivative in which two counterparties exchange cash flows of one party's financial instrument for those of the other party's financial instrument
Swap curve	The name given to the equivalent of a (sovereign) yield curve but using market swaps prices. The swap curve shows the relationship between swap rates at varying maturities and can be used as the basis for pricing fixed income bonds as in 'mid-swaps plus spread of x bp'
Volume risk	Volume risk arises from a project not generating the expected revenue as a result of lower volume of output (such as electricity) or from the lower than expected usage of a project (such as a toll-road) or from selling prices/ charges, being below expectation
Yellowfield	Category of infrastructure which sits between traditional greenfield and brownfield asset categories. Yellowfield assets are assets which require work to either upgrade or replace the asset. Construction work is involved but is considered a lower risk than greenfield as more performance information will be available

Appendix H: Further resources

ASIFMA Infrastructure Project Bond Factsheet: Attracting Foreign Investors

The ASIFMA Infrastructure Project Bond Factsheet is a comprehensive document which contains recommendations, guidance notes, key steps, etc for Foreign Investors and Asian players that would want to know more and invest into Asian Infrastructure Project Bonds.

www.asifma.org/uploadedFiles/ASIFMA Infrastructure Project Bonds Factsheet Final version.pdf

ADB

http://www.adb.org/

AIIB

http://www.aiib.org/

ASIFMA

http://www.asifma.org/

ICMA

http://www.icmagroup.org/

IFC

http://www.ifc.org/

World Bank

http://www.worldbank.org/

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