

Project finance and risk mitigation

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Trans-boundary energy infrastructure investments are exposed to a number of political, commercial and technical risks, as discussed in the previous chapters of this book. Finance is an additional risk – namely, the possibility that the proposed investment may not attract sufficient capital to meet expected project costs. But it can also be successfully utilised as a risk mitigation tool, both by ensuring that risks are contractually allocated to those entities best able to mitigate and absorb them, and by involving international financial institutions whose ‘umbrella effect’ often helps to ensure that the terms of host government agreements and intergovernmental agreements are respected.

This chapter provides an introduction to project finance, discusses its risk mitigation benefits and presents an overview of the different participants in a project financing as well as the main sources of project debt. We also highlight key criteria for a successful project financing, with an emphasis on managing the project financing process.

1. What is project finance?

‘Project finance’ refers to a financing scheme in which a specific finance plan is put in place to fund a single investment or project, with the future cash flows generated by the project asset(s) being the main, if not only, source of funds available to service the project debt.

The project sponsors or equity investors invest their *pro rata* share of equity in the project company. The company raises debt from a variety of sources, with lenders having no or limited recourse to the balance sheets of the project sponsors.

Project finance therefore differs from corporate finance in that the debt is raised specifically by (in most cases) and for the project company, as opposed to a scheme where a project investor funds its share of project costs from its corporate funds.

Project finance is often called ‘limited recourse finance’ in reference to the limited support that can be provided by project sponsors to lenders. Such form of sponsor support typically include completion and/or performance guarantees, debt service undertakings to cover specific technical or non-commercial risks, as well as ongoing warranties that suppliers, contractors and/or sponsors provide to lenders during part or all the operational phase of the project.

2. Why use project finance?

Project finance is used for two main reasons:

- to access capital, both for the weaker project sponsors that may be unable to fund their share of project costs on their balance and for the stronger ones that may want to make sure that their creditworthiness is not affected by the sheer size of the project; and
- to ensure that project risks are properly mitigated and allocated.

2.1 Access to capital

Accessing capital through project finance is particularly relevant for trans-boundary energy infrastructure projects, which tend to be very capital intensive. Few oil and gas companies or utilities can fund multibillion-dollar investments on their balance sheets. Some companies have a simple rule of thumb that says that they will seek to fund their share of a project on a limited recourse basis in case it amounts to more than 5% of the value of their balance sheet. This figure is easily reached for most trans-boundary oil and gas pipelines or power grid interconnections.

In the case of multi-sponsor projects, project finance is also a way to allow the smaller sponsors and/or the least creditworthy ones to mobilise the funds necessary to pay for their share of project costs without explicitly relying on the support of their more creditworthy partners. A company with a \$100 million net worth and no credit rating would find it very difficult to pay for, say, a \$150 million share of a large oil and gas infrastructure project unless a significant portion of it were funded by debt raised at the asset level.

In this situation, the larger and more creditworthy sponsors may also prefer to undertake a project financing than to have to 'carry' their weaker partners (eg, fund their partner(s)' share of project costs in exchange for a disproportionate share of future project revenues). Similarly, companies with a minority investment in a large project may prefer to raise debt at the project level in order to avoid consolidating it on their balance sheets.

As a result, project finance tends to be the technique of choice for large energy infrastructure projects being developed by groups of multiple sponsors with varying creditworthiness and/or financial strengths. This is particularly the case for projects in emerging markets, where the risk mitigation aspects of project finance add another level of benefits.

2.2 Risk mitigation and allocation

Project finance can potentially de-risk a proposed investment from the point of view of the project equity investors or sponsors, through the combination of three factors:

- an independent review of contractual arrangements and market studies by lenders and their advisers;
- the benefits of a detailed risk allocation embedded in the project commercial contracts; and
- the deterrent effect that some lenders provide. We review each of these factors below.

(a) *Lender contractual and market review*

The lender contractual and market review is largely driven by the fact that lenders

have little or no other methods of recouping their loans than through project cash flows. They will seek to understand and quantify most project risks: they typically ask an independent engineering firm to review and opine on the construction and maintenance contracts; they are likely to insist on contingent funding plans in case the risk of cost overrun is material; they will similarly review the permits and seek independent legal opinion(s) to confirm that the project is in compliance with domestic and international laws; and they will validate market studies and confirm that prospective revenues are more than sufficient to meet debt service obligations. Last, but not least, they will commission a stringent environmental and social impact assessment to ensure that the project does not breach any of the international environmental performance standards.

Such detailed lender due diligence should ensure that most commercial, technical and legal flaws of an energy infrastructure project, to the extent not already addressed by the project sponsors through various support mechanisms, are identified and adequately remedied. It is akin to having a second opinion of a project feasibility and expected economic benefits, which can often result in an improved contractual structure and risk allocation.

(b) Risk allocation

Risk allocation is at the core of project finance. Each of the project stakeholders is expected to bear the risks which it is best able to manage, with no or limited recourse to others in case some of the risks materialise. Risks are often divided between the pre-completion and operating periods on the one hand, and between commercial and political risks on the other.

Pre-completion commercial and technical risks are largely borne by contractors, with a key element being the existence of an engineering, procurement and construction (EPC) contract. An EPC contract means that there is one point of responsibility for all construction work among the various suppliers and contractors. The EPC company is committed to delivering a project meeting pre-agreed performance tests on schedule and under an agreed budget. It is 'on the hook' for any delays or performance shortfall, through the existence of an 'EPC wrap' and/or liquidated damages. Lenders will typically be the indirect beneficiaries of such liquidated damages. However, the ability significantly to shift risk to the EPC contractor may vary dramatically with market conditions.

An alternative to an EPC contract is often the provision by project sponsors of a completion guarantee to project lenders. In this situation the sponsors often take a more active role in the management of the construction process, typically being responsible for interface risks between the various project contractors and suppliers. Sponsors then give lenders the option of paying back their loans in case the project is not completed by a negotiated 'backstop' completion date. The point of these various pre-completion risk allocation options is that there is clarity on who bears such risks – which, in and of itself, is a strong risk mitigation factor. A project funded through a corporate financing may be equally successful and its construction could indeed be managed in the same way as with a project financing; but the sponsor(s) will not necessarily face the same scrutiny as the one imposed by project lenders.

The same logic applies to operating period risks. Under a corporate loan, lenders will not necessarily perform a detailed due diligence of the performances of all cash-generating assets of a company; with a project financing, they have no choice but to anticipate all likely scenarios and to ensure that their loans will be repaid in most reasonable downside cases since they are looking solely (or almost solely) to the project cash flows. This often leads the debt package to be resized, through partial and/or accelerated prepayments or cash sweep mechanisms, in case a project fails to meet certain completion tests and/or encounters certain material events.

Political risks are an important aspect of risk allocation for trans-boundary energy infrastructure projects. As explained elsewhere in this book, host government and intergovernmental agreements are a very effective way of mitigating such risks. These agreements create a legal framework that binds together the various countries in which the project is located. The involvement of development finance institutions, through a project finance scheme, often adds significant weight to this framework.

(c) ***Development finance institutions***

Development finance institutions can have a deterrent effect on host governments. These institutions include multilateral organisations such as the World Bank and its sister institution the International Finance Corporation; regional organisations such as the European Bank for Reconstruction and Development, the European Investment Bank, and the Asian Development Bank; and bilateral organisations such as export credit agencies and development agencies. They each maintain political relationships with host governments, either directly or through their country's embassies. Some of them require host governments to acknowledge their involvement in a project financing, often giving them additional legal protection should a host government not fulfil its obligations under the terms of a host government agreement or inter-governmental agreement. Importantly, they monitor project implementation and often pre-empt issues from becoming serious impediments to the successful development and operation of a project. Development finance institutions can exercise political leverage by threatening to reduce their involvement in a country – which can be very effective in emerging markets with limited funding alternatives and reputational sensitivity.

Development finance institutions can often fund corporates of a host country, but are unlikely to lend directly to a large international company on balance sheet. Hence, their involvement is typically found in project finance structures – which brings an indirect but very real additional benefit to such financings.

3. Role of different project participants and sources of project finance debt

The participants in a project financing can be divided between equity investors, lenders, host governments, contractors, and off-takers or buyers of the product(s) sold by the project. The table below summarises their main roles.

Equity investors	Lenders	Host governments	Contractors	Off-takers or buyers
Identify commercial opportunity	Review and test economic analysis	Approve investment proposal made by sponsors	Agree contracting strategy proposed by sponsors	Could help mitigate market risks
Define project scope	Confirm project debt capacity	May provide financial and/or fiscal benefits	Negotiate construction contracts	Should be investment grade entities to properly mitigate risks
Commission and pay for feasibility studies	Review and validate feasibility studies	Could be an equity investor	Construct project facilities	Could also be minority investors in project
Commission environmental social impact assessment	Review and validate environmental social impact assessment	Agree environmental and social requirements	Typically pay liquidated damages in case of cost overrun or delay	
Develop indicative finance plan	Negotiate term sheet and loan agreements	May provide direct or indirect guarantees to sponsors and/or lenders against specific risks	Receive payment during construction period	
Develop and implement contracting strategy	Seek credit committee approvals of agreed finance documentation		May be asked to make a small equity investment in project	
Select lenders and negotiate debt package	Ensure conditions precedent to drawdown are met			
Pay for lenders fees, consultants and legal expenses	Disburse loans			
Invest equity	Monitor project construction and operations			
Monitor construction activities	Receive interest payments			
Often operate project	Obtain loan repayments			

Project finance loans are provided by a combination of commercial banks, development finance institutions (including export credit agencies), and multilateral and bilateral development banks, as well as by capital markets investors under specific circumstances. The table below summarises the key characteristics of these first three sources of debt.

	Commercial banks	Export credit agencies	Multilateral agencies
Purpose	<ul style="list-style-type: none"> • Maximise remuneration through upfront fees and loans margins • Minimise risk exposure • Develop commercial relationships with sponsors 	<ul style="list-style-type: none"> • Promote exports from their country • Minimise risk exposure 	<ul style="list-style-type: none"> • Promote sound economic principles • Help mobilise commercial bank funding • Promote best environmental practices
Products	<ul style="list-style-type: none"> • Corporate or project senior loans 	<ul style="list-style-type: none"> • Insurance or guarantees provided to commercial lenders (European agencies) • Direct loans (other agencies) 	<ul style="list-style-type: none"> • Corporate or project loans • Corporate equity investments
Constraints	<ul style="list-style-type: none"> • Maturity • Size of unsecured loans 	<ul style="list-style-type: none"> • Cover typically limited to 85% of export contract plus local costs • Average life of loans 	<ul style="list-style-type: none"> • Maturity • Direct loans typically limited to \$250 million per project