



Certified Expert in Climate & Renewable Energy Finance

Module 7: Renewable Energy Finance
and the Role of Project Finance







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6. PROJECT FINANCE

- The basic premise of project finance is that lenders loan money for the development of a project solely based on the specific project's risks and future returns
- Therefore, it is essential that the project can stand alone and meet all cash obligations from the cash-flow generated by that project or asset
- Project finance is a method of financing in which the lenders to a project have no or limited recourse to the parent company that develops or "sponsors" the project
- Transaction costs for project finance are high and consequently project finance is only relevant for medium to large scale transactions

Project finance is a way of financing large scale infrastructure projects requiring long term financing where the income to be generated by the project can be isolated from the businesses other income and "ring-fenced". It usually requires the formation of a special purpose vehicle/entity (SPV/SPE), i.e. a company which owns the assets and becomes the counterparty of lenders and other project stakeholders.

There is no generally accepted definition of project finance. The most often used definition is the following which has been introduced by Nevitt & Fabozzi: "A financing of a particular economic unit in which a lender is satisfied to look initially to the cash flows and earnings of that economic unit as the source of funds from which a loan will be repaid and to the assets of the economic unit as collateral for the loan."

The basic premise of project finance is that lenders advance money for the development and/or realization of a project solely based on projected cash flows to be generated by the business.

The term non- or limited recourse¹ is often used in connection with project finance. It describes a scenario where the project sponsor does not assume a potential liability for the debts or liabilities of an individual project and the bank can only ask for repayment from funds generated by the project itself. This is rarely the case. In most projects, there are obligations and responsibilities of the project sponsor directly or indirectly to the debt providers ranging from non-

¹ Recourse describes what assets the lender can use to recover its outstanding in event of default, i.e. which assets can be used to indemnify the lenders apart from the project itself.



to almost complete recourse. However, full recourse is a different financing technique, balance sheet lending. Under a non-recourse financing structure, the project sponsor has no direct legal obligation to repay the project debt or interest. This is the reason why a detailed risk analysis and a solid financial modelling are crucial for lenders in this approach. For the equity investor, the financing structure will not make a significant difference: in balance sheet based lending as well as project finance an equity investor will analyze carefully whether the risk return profile of the new investment opportunity is attractive compared to other investment opportunities.

The credit appraisal, i.e. the thorough analysis of the project by the bank is therefore based on the underlying cash flow from the revenue-producing project contracts and independent from the non-project assets. Each contract necessary to construct and operate a project and the liabilities of the contracting parties arising therefrom, may add further value to the lender as collateral. As a consequence a project finance transaction is usually based on numerous contracts reflecting a complex risk allocation.

If a utility, which has a broad portfolio of traditional generation assets, invests into an innovative renewable energy project, conservative lenders will hope to have access to the cash flows of the existing asset base. Lenders rely on company's overall cash flows and wealth obtained from other business, and not necessarily from the project the loan is being used to build. The lenders will base their credit decision on the existing track record of the management as well as forward looking analysis. This is an example for a balance sheet based lending.

In contrast to that, a project finance structure would not allow the access to the cash flows of the existing portfolio of generation assets.

As a consequence, the lenders have to be reasonably certain about the probability of how the cash flows of the renewable energy project, they base the creditworthiness on, materialize. In project finance, lenders have limited recourse to the parent company that develops or "sponsors" the project. In the case of the utility described above a project finance structure would allow the utility to limit their maximum loss to their initial equity investment, i.e. they would not "contaminate" their existing asset base. If the project fails, the utility will not be paid back its equity injected in the SPV but would not have to repay the debt on the balance sheet of the SPV.

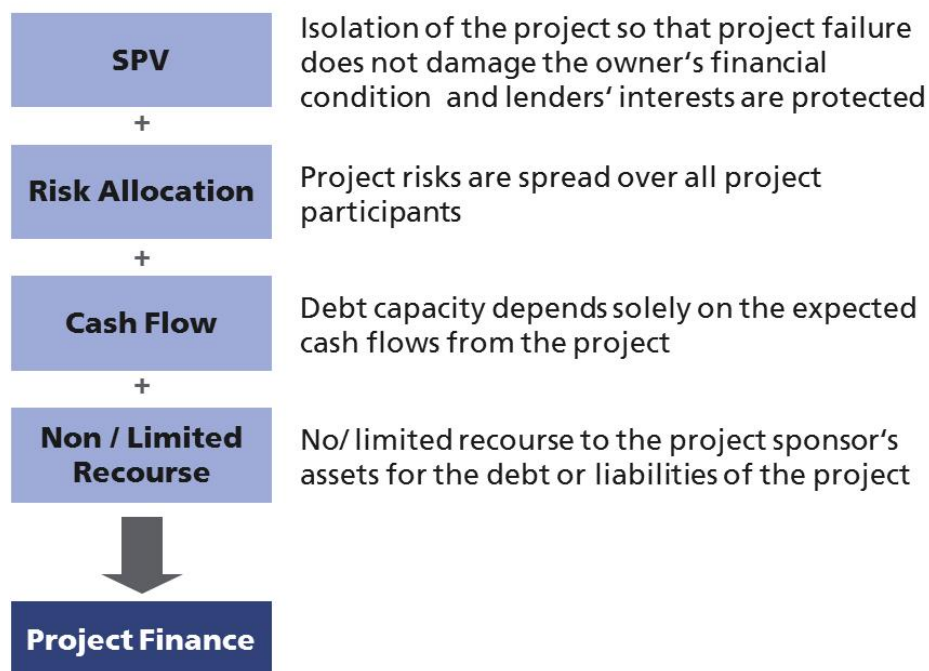
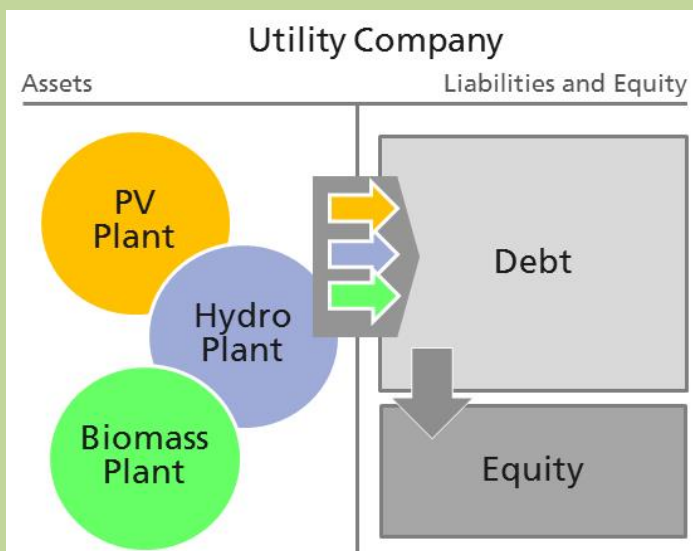
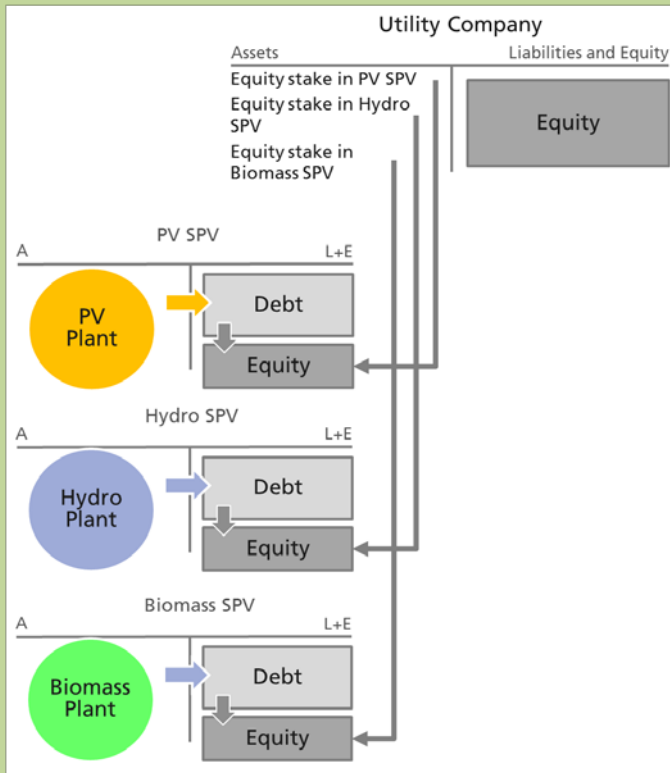


Figure 1: Key Characteristics of Project Finance

As with corporate finance / balance sheet based finance, project finance involves a combination of both equity and debt. The split between equity and debt depends on the individual renewable energy project and its associated risk/return profile. The maximum debt capacity is often calculated using the Debt Service Coverage Ratio (DSCR) concept.

→ The DSCR concept is explained in section 7.1

Food for thought: The following charts describe two ways a “green utility” could finance the realisation of three generation assets. Try to describe the financing approaches using the terms introduced in this section.



6.1 Project participants and contractual relationship

Project finance is used to realize one concrete investment with a clearly defined business model which does not need constant changes or adjustment to changing markets. The SPV is not expected to grow its business activities but rather focus on the realisation of one investment. A broad range of contracts frame this business model. As a consequence, the “management” of the SPV has a rather limited entrepreneurial character.

For renewable energy generation assets, the business model is the generation of electricity and the sale of the electricity ideally under a long-term contract to a single off-taker. There is no need for a strong management team identifying new markets or attractive growth strategies.

The main stakeholders of a project finance transactions are described in the following:

- The SPV is the project specific entity established to enter into the project contracts, to own the project assets and to be the actual borrower for the project finance. Typically, the shares of the SPV are held by the sponsors. In an electricity generation project, the SPV is the independent power producer.
- The equity sponsors are the entities that co-ordinate the development of the project. The sponsors provide the necessary equity to the SPV using various forms and legal frameworks for the equity investment. The sponsors may have spent extensive time and incurred significant development expenses.
- The debt providers attempts to structure a financing (i) that contains sufficient total financing of the project considering sufficient comfort to cover uncertainties as potential cost overruns or delays, (ii) which ensures that the contractor is required to satisfy performance guarantees, (iii) which ensures that if the project is not completed, that there is recourse to other creditworthy project participants, (iv) which is based on predictable revenue streams that can be applied to service the debt in the currency of the debt, (v) which is based on revenue streams are long-term, from a creditworthy source and in an amount that covers operating cost and debt service, and (vi) which is based on an overall contract structure that provides the incentives that the project will be operated at levels necessary to maximize revenue while minimizing costs, being in compliance with regulatory

requirements, environmental laws as well as social and ethical standards.

- An EPC contractor will be responsible for the construction of the power plant and might be required to provide performance guarantees for the case of delays in the construction process. The contractor must deliver the project at a fixed or predictable price, on a date certain, warranted to perform at agreed levels.
- An Operations & Maintenance (O&M) contractor will be chosen to manage operation and maintenance.
- The Off-taker agrees to buy the electricity produced by the SPV over the lifetime of the project at an, ideally, defined price.

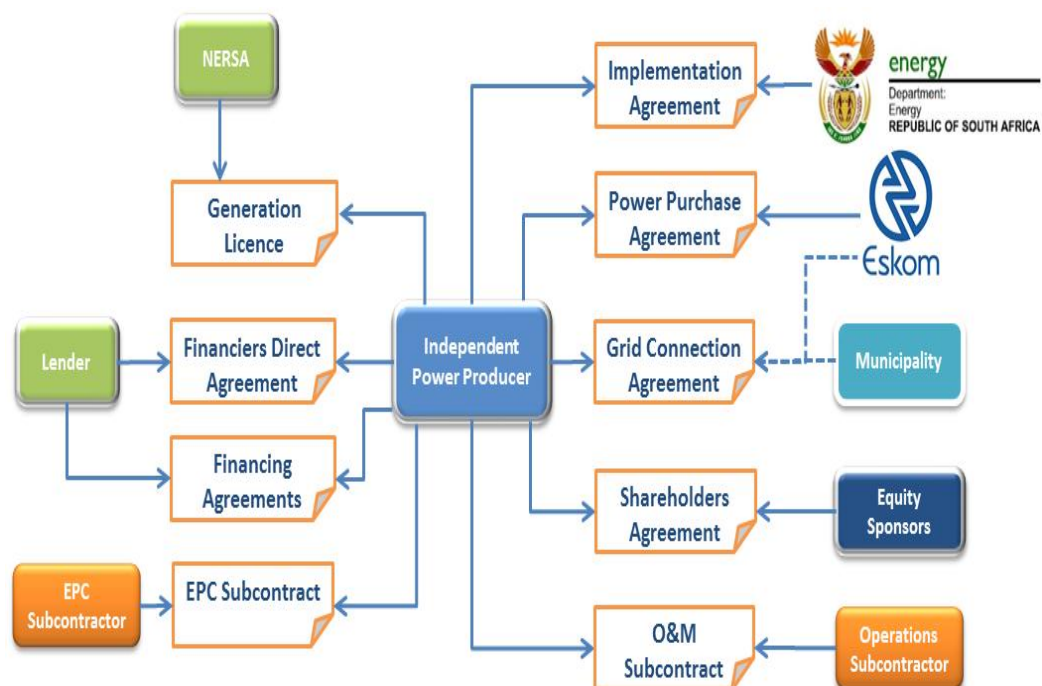


Figure 2. Involved Parties in an IPP Project in South Africa
Source: South African Renewable Energy Independent Power Producers Programme RFP Documents

Large scale project finance often includes additional participants such as legal advisors and auditors nominated by each party, independent experts, suppliers, financial advisors, trustees, rating agencies, government bodies, export credit agencies (ECA), arrangers, monoline insurers², etc.

² Monoline companies are the companies that develop expertise in a specific financial service area, e.g. a monoline insurer guarantees the repayment for debt or bonds.



Uganda's first large scale Independent Power Producer (IPP) project, the Bujagali Hydropower, has doubled power generation sources in Uganda. Follow the link to access a description of the project and the transaction structure.

<http://siteresources.worldbank.org/INTGUARANTEES/Resources/UgandaBujagaliNew.pdf>



C-Power is set up by a consortium of strong Belgian and international shareholders, including the German utility RWE, to develop and operate the first offshore wind farm in the concession area on the Thornton Bank in the North Sea, on 30 km from the Belgian coast line. Follow the link for a description of the project.

www.c-power.be



The project finance approach has been applied to finance the C-Power project. RWE does not need to consolidate this investment. Check the financial statement of RWE AG (not RWE Group); on page 35 you will find some information on the C-Power stake.

<http://www.rwe.com/web/cms/mediablob/en/2320254/data/110822/6/rwe/investor-relations/reports/RWE-Financial-Statements-2013.pdf>



Food for thought: RWE has invested in a broad range of renewable energy projects. Visit their website for more information: <http://www.rwe.com/web/cms/en/1452316/rwe/about-rwe/business-areas/power-generation/renewable-energy/>

Starting page 21 of the financial statements of RWE AG you will find the (un)consolidated stakes of RWE in various companies including generation SPVs.

Except for the C-Power investment the projects are not ring-fenced. Think about potential reasons for the chosen financing approach.



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