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15 Key Ingredients to Renewable Energy Project Finance

By Dick Talbert

Although financing comes in all shapes and sizes for wind, solar, and other renewable energy projects, there are basic ingredients that investors use for evaluation. The following items are generally required for due diligence after an initial review of a project to see if it is within the general scope of an investor's parameters. It is, therefore, important a developer be prepared to provide these. The items can apply to various forms of financing including PPAs, FIT contracts, debt, equity, and acquisition.

- 1. Executive summary.** Ideally this is one to two pages and gives a high-level overview of the project including developer experience, site control information, PPA or off-take terms, Interconnect status, system description, EPC experience, permit and approval status, projected capital structure and needs, and proposed O&M.
- 2. Sponsor & EPC resumes.** These should show contact information, prior project experience, website URL, financial strength, bonding capability, and other relevant data. Investors rely heavily upon a project team, and want to be confident the team can execute a project through to completion.
- 3. Single purpose entity description & documents.** This is normally a single purpose LLC or corporation that owns the project, so required documents are the LLC Articles and Operating Agreement or Corporation Articles and By-laws.
- 4. Site control.** For ground-mount solar or wind projects, this is normally a land contract or lease, or option for same. In the case of rooftop solar, it is normally an executed lease or lease option. The critical elements are demonstration of site control and detailed terms going forward.
- 5. Civil engineering.** For ground-mount solar or wind projects, a copy of the site plan showing project location, set-backs, usable acreage, and any constraints would be needed. Soils reports done on land and any other civil engineering documents are helpful.

6. PPA or Off-take agreement. This is the document that provides the cash flow, which is being underwritten, so its importance is obvious. PPAs can be cumbersome in terms of legal time and expense, so be prepared for this.

There are four general types of PPA's or Off-take agreements as follows:

Utility PPA: in the case of utilities, they will have their own form of PPA and, usually, do not allow modifications; however, utility PPAs will normally be accepted by an investor's legal counsel and are normally very bankable.

Feed-in Tariff (FIT): these contracts are set in stone and not modified; however, they are generally the most bankable with investors and their legal counsel.

In both cases above, the off-taker is almost always a good credit risk so credit is not usually an issue.

Municipal PPAs: with municipalities, schools, etc., these will normally be fully executed and useful for presentation to the investor. These are favored by investors, as well, and the credit risk is normally minimal.

Private PPAs: are generally with private or public companies, and normally need to be investment-grade credit to be considered by an investor. In many cases, the investor will require his or her own form of PPA (or a modification of the existing one) so, often times, a developer will get a PPA term sheet to be followed by the investor's own form of PPA, which the investor's legal counsel has prepared or approved. In the case of biomass projects, a feedstock or supply agreement tends to accompany the PPA. Financial information such as two years of audited financial statements is often required for credit evaluation.

7. Interconnect agreement. Developers often underestimate the amount of time it takes to get this agreement, yet it is a vital component. It must be fully executed by the utility or Local Distribution Company (LDC), and is normally applicable to ground-mount solar or wind projects.

8. Performance modeling. This will be based upon the solar radiation, wind power density, or other relevant energy source modeling. It is driven by component performance, as well as the above energy source modeling. It should be prepared by an EPC or a design engineer that is qualified to do such projections.

9. Proforma & cash flow. This will incorporate the above performance modeling, PPA/FIT revenue streams, any KWH escalators, project costs, incentives (federal, state, utility rebates, etc.), and any other factors that show the projected income and expenses for the duration of the PPA/FIT contract.

10. System design & construction documents. These are necessary to support the project performance projections and show all components and design for the project.

11. EPC & vendor contracts. These would show the complete project cost in a detailed line-item budget.

12. Permitting & regulatory approvals. For ground-mount solar or wind projects, full land entitlement including all environmental and regulatory approvals will be required. This can be a lengthy process, and it's advisable to utilize a company or consultant that has prior experience to avoid costly delays. Building permits would be required as a final item prior to the start of construction.

13. System design. Project site plan, system specs, electrical design, and interconnect documents will be required. The EPC or design engineers will provide these.

14. Warranties & insurance. Major component warranties (e.g. solar modules, inverters, or wind turbines) should be provided along with all insurance coverages. These generally include Workers Comp, General Liability, All-risk property, and comprehensive insurance for the system once constructed.

15. Operations & Maintenance (O&M). An O&M plan should be in place with a company that has prior experience. There are several good companies to choose from.

Every project is unique, and the above provides a general list that encompasses most project finance requirements. If the project pencils out and the above components are in place, financing should be available.



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