



U.S. Department of Energy Energy Efficiency and Renewable Energy

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Financing Basics for RE Projects





Agenda:

- Overview & Summary Findings
- Introduction to Project Finance
- The Role of the Players
- Structure and Negotiation of Key Documents
- Conclusions



Overview & Summary Findings



Renewable Energy Options:

- Wind
- PV
- Solar
- Bio

- The evaluative parameters used by financiers is different for each of these technologies
 - Example: DSC for Wind = 1.4 – 1.5; and DSC for Bio (due to fuel risk) = 1.5 – 1.6



Basic Elements #1:

- Lots of money now available for RE projects
- Project package must be complete prior to submission
- Less than half of proposals survive the financial review process



Basic Elements #2:

- No projects less than \$50 M in value
- No “first of” projects
- Financial considerations vary by technology
- Financial evaluation requires 18 – 24 months
 - Does not include time for concept development, application preparation, or project construction



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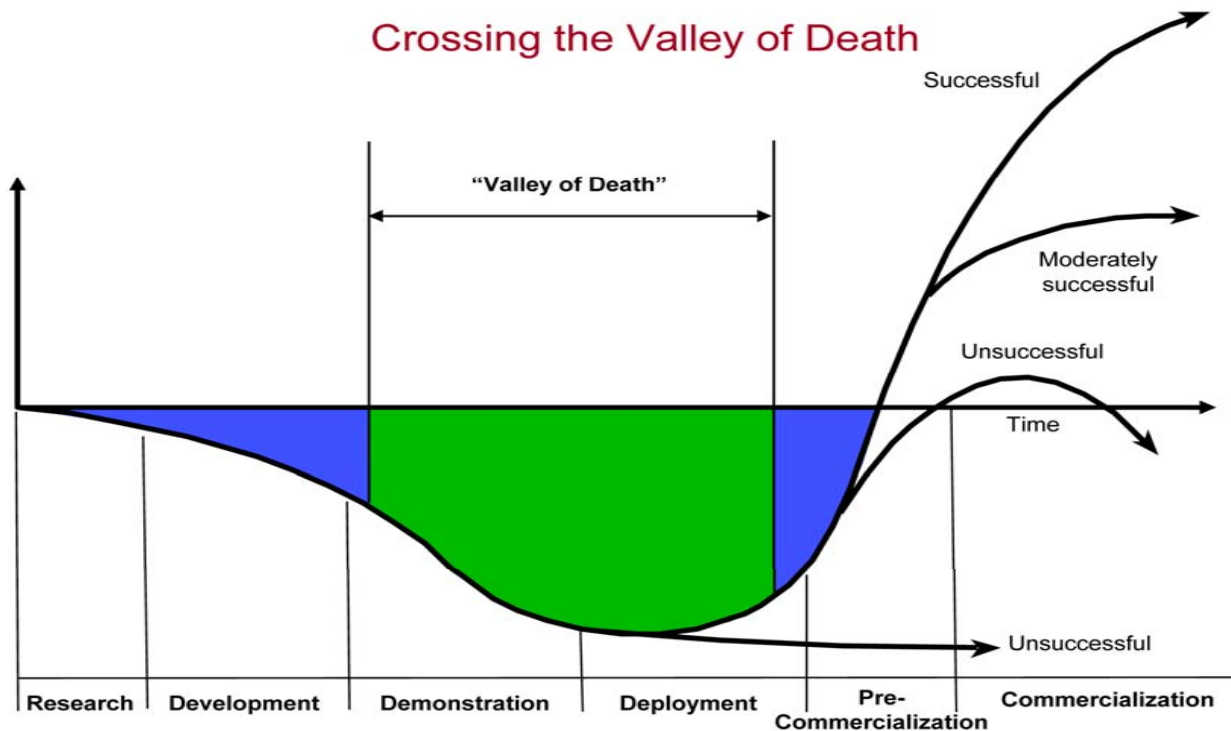
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Venture Capital:

- Projects that are the “first of” need to secure financing from the Venture Capital market
- What is Venture Capital?
 - Cash invested in new technologies
 - Cash in exchange for ownership
 - VCs can provide help and advice to owners / developers to enhance value
 - Usually require a 10X return on their investment
 - Frequently a hindrance for owners / developers of new technologies



Technology “Valley of Death”:





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Crossing the “Valley of Death”:

- Financial Markets won’t fund “first of” projects
- Developers need to find VC funds or “public funds”, or:
 - Build small;
 - Use funds from family and friends; and / or
 - Form a consortium of “many”, so individual costs are low and acceptable
- After a successful “first” project, financial markets will consider funding subsequent projects



One Size does not fit All:

- There are a host of parameters the financial package must present for review:
 - Technology / Purchaser / Site Options
 - Equity vs. Debt
 - Debt: senior vs. mezz. vs. subordinate
 - Leveraged vs. unleveraged (pref. to unlev.)
 - “Flip” (Cross-over): developer vs. financier
 - Etc.



Sources of Capital:

- Equity:
 - Project Sponsor
 - Tax Benefits Purchaser
- Debt:
 - Senior
 - Mezzanine
 - Subordinate



Equity Investors:

- Are they big enough to use tax advantages?
- If not, find a “buyer” (3rd party) and sell:
 - Negotiate the “flip”
 - Example of “flip”:
 - 90 % / 10 % or 2 years
 - 0 % / 100 % until \$\$\$ recovered
 - Developer buys out 3rd party – then 100 % / 0 %



Financial Review:

- At the apex of the approval process
- Package must be complete prior to submission (usually 12+” thick):
 - Agreements designating business plan, technology, off-takers, site, equity / debt structure, etc. included
 - Options on some of the above offered for consideration
- Normal review time is 18 – 24 months
- Only about 50% of applications are funded (for a host of reasons)



Summary Statement from Financiers:

- More Capital than Quality Deals
- More Deals than Time to Evaluate
- Most Deals are not Quality or Qualified
- More than 50% of Deal ‘Starts’ do not make it through the 2-year financial review process
- Transaction Costs are High:
 - Minimum project size is \$50M
 - If smaller, use an Aggregator



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Introduction to Project Finance

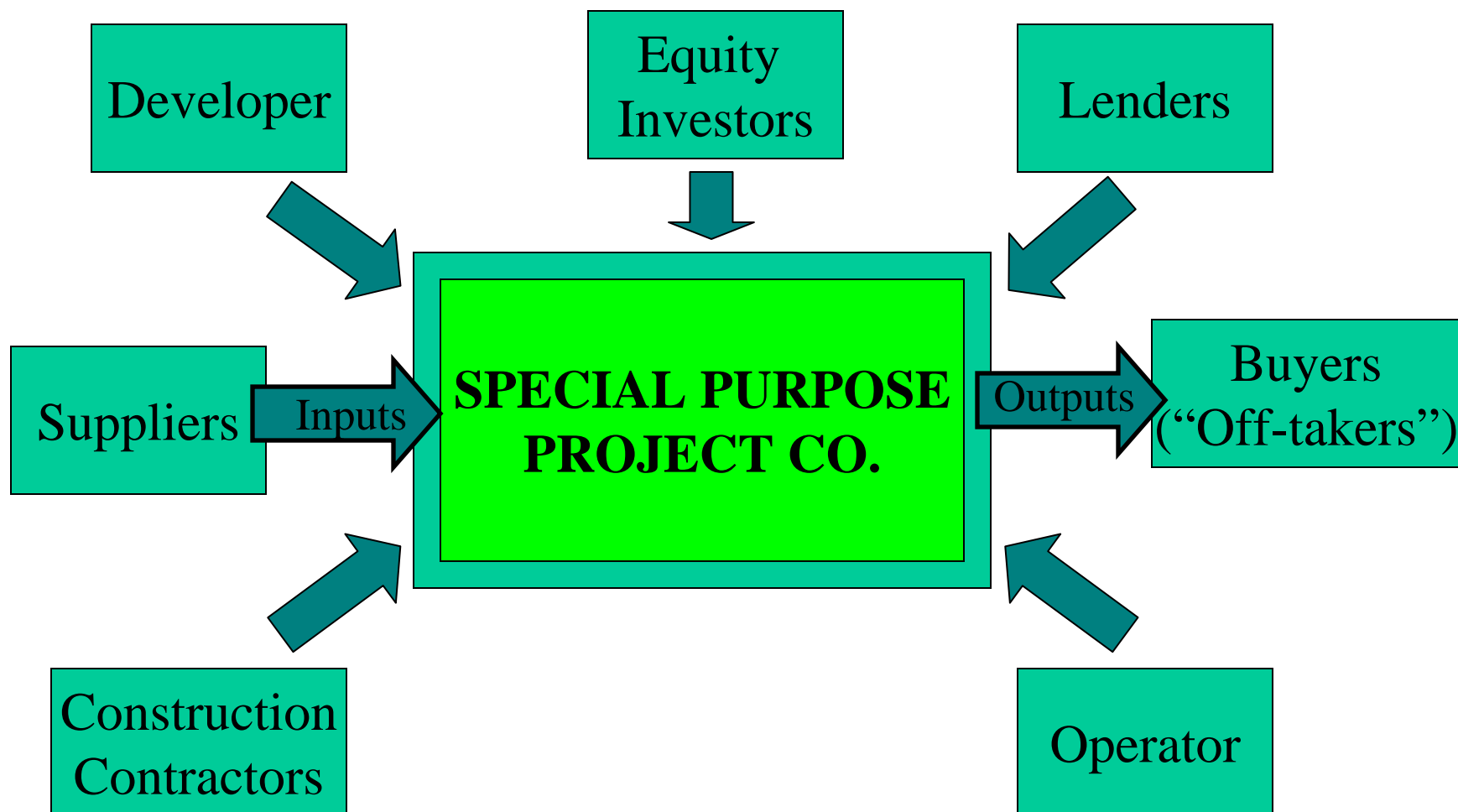


Introduction to Project Finance:

- Typical Project Structure
- What is Project Finance?
- Typical Project Structure
- Key Lender Considerations
- Construction Period Risk
- Operation Period Risk
- Mistakes to Avoid



Typical Project Structure





What is Project Finance?

- Non-recourse financing of assets:
 - Special purpose of project company
 - Project company's value is created through its entry into inter-related contracts
 - Bank lends to the project company without recourse to the project's owner(s)
- Well-suited for owners seeking to isolate risk:
 - Joint ventures
 - Private equity
 - Independent developers



What is Project Finance?

- Not well-suited if time is of the essence
- Transaction costs can be high
- Lender restrictions can be burdensome
- Key is understanding risk allocation



Key Lender Considerations:

- Experience of Sponsor
- Experience and financial strength of all parties
- Terms, conditions and coordination among all project contracts
- Expected revenues / expenses
- Marginal cost of production
- Risk – technology and market
- Time to closing
- Regulatory environment
- Size of transaction
- Financial pro-forma
- Etc.



Construction Period Risk:

- Permitting
- Schedule:
 - Interest during construction
 - Links to off-taker agreements
- Performance / Completion
- Technology Risk



Construction Period Risk Offsets:

- Turnkey, fixed-price construction contract with schedule and performance guarantees – including delay and performance damages
 - Not likely, given more projects than qualified builders
- Long-term, fixed-price input and output contracts
 - Not always available
- Contingency in construction loans
- Contingent equity



Operation Period Risk:

- Performance and Operation Risk
- Input Availability and Costs
- Output Demand and Price



Operation Period Risk Offsets:

- Insurance
- Debt service reserve
- Major maintenance reserve
- Cash sweeps
- Leverage – e.g., 60:40, 50:50



Lender's Collateral:

- Physical Assets
- Contractual and Permit Rights
- Bank Accounts
- Shares in the Project Company



Mistakes to Avoid:

- Single-sourcing prematurely
- Timing expectations
- Inadequate contingency
- Overly optimistic base-case projections
- Logistics
- Utilities
- Insufficient working capital
- ...and after 3 days of this workshop.....
 - Becoming financially involved in any form or fashion.....!!!



The Role of the Players



Overview of Players:

- Developer
- Developer's Advisors
- Project Company
- Sponsors / Equity Investors
- Lenders
- Lenders' Advisors
- Project Contractors:
 - Construction contractor
 - Suppliers
 - Off-takers
 - O&M providers
- Regulatory Authorities / Governmental Agencies



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The Developer:

- First – the Idea:
 - Project Site
 - Feasibility
 - Is a bid process required for rights to the site?
- Second – Setting up the Framework:
 - Acquire necessary expertise
 - Determine scope of required governmental approvals
 - Engineering review and analysis
 - Contracts with potential partners and project parties
- Third – Identifying Sources of Funding:
 - Equity
 - Debt
- Fourth – Finalizing Relationships and Working towards Closing



Developer's Advisors:

- Engineering Consultants
- Financial Advisors
- Legal Counsel
- Insurance Advisors
- Employee Recruiting



The Project Company:

- The Project Company will “become” the Project
- All assets will belong to the Project Company (PC)
- Employees may be from PC, or via management services agreement
- Ownership of the PC may be directly by equity investors – or via a holding company structure
- Must be legally established prior to financial “closing”
- Will need certain “bankruptcy remoteness” and “separateness” provisions in place to satisfy lenders



Sources of Equity for the PC:

- Developer
- Strategic Partners
- Local Partners
- Private Equity – e.g., venture capital (but not “first of”)
- Financial Institutions



Equity Issues:

- What will equity investors expect to see before they commit to an investment?
- How much financial support will equity investors provide?
- What types of returns do equity investors require?
- How much control do equity investors want over the project?
- How are equity arrangements documented?



Types and Sources of Debt:

- Types:
 - Senior Debt
 - Mezzanine or Subordinated Debt
 - Working Capital
- Sources:
 - Commercial Banks
 - Investment Funds
 - Equity Providers
 - Government Financing
 - Project Parties
 - Multi-lateral Lenders
 - Export Credit Agencies



Lenders' Advisors:

- Engineering Consultant
- Market Consultant
- Legal Counsel
- Insurance Advisor



Role of Lenders' Agents:

- Arranger or Placement Agent
- Administrative Agent
- Collateral Agent
- Accounts Bank
- Inter-Creditor Agent



Project Contractors:

- Construction
- Operation & Maintenance
- Suppliers:
 - Critical to generation requirements
- Off-takers:
 - Long-term or spot sales
 - Critical to revenue requirements



Regulators and Government:

- Concessions
- Permitting
- Public Financing
- Tax Credits



Structure and Negotiation of Key Documents



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Key Project Documents:

- Power Purchase Agreement (PPA)
- Energy Performance Contract
- Energy Off-take Agreement
- Construction Contract
- Warranties
- O&M Agreement
- Interconnection Agreement
- Leases and Easements
- Loan Agreements, Guarantees & Financing Docs
- Regulatory and Environmental Docs and Approvals
- Incentive Agreements
- Etc.



Overview of Drivers:

- Incentives and Benefits:
 - Govt. incentives?
 - Utility programs?
 - Tax / tariff advantages
- Practical Project Considerations:
 - Do project structure and contracts make sense?
- Risk Tolerance:
 - Tolerance of participants?
 - Allocation of risks?



Overview of PPA:

- The critical document to lender
- Contains the fundamental business and financial terms of the project
- Must have a term sufficient to amortize the investment
- Allocation of risk must reflect the relationship between the parties and not allocate so much risk to Seller / Developer that Seller / Developer becomes an undesirable borrower



Regulatory Issues for PPA:

- State PUC requirements
- Other agency reviews
- Verification by ISO or RTO
- “Public utility” status
- Interconnection and transmission access



Other Regulatory Issues:

- Siting
- Local land use
- Environmental review
- Transmission corridor
- Qualifying as “renewable” for tags / RECs



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Other PPA Issues:

- Elements of Seller's Risk
- Elements of Buyer's Risk
- Elements of Lender's Risk
- Take-or-Pay Covenant
- Reliability and Performance Standards
- Measurement and Verification Standards
- Financial Incentives and Tax Benefits
- Financing Considerations
- Financial Distress or Bankruptcy
- Sale / Buyout / Removal Provisions



Conclusions



Final Thoughts:

- Lots of money now available for RE projects
- No “first of” projects
- No projects less than \$50M
- Allow 18 – 24 months for financial review
- Less than half of proposals gain funding



Questions and Answers?