U.S. Department of Energy
Energy Efficiency and Renewable Energy
Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

Financing Basics for RE Projects

Golden Field Office

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

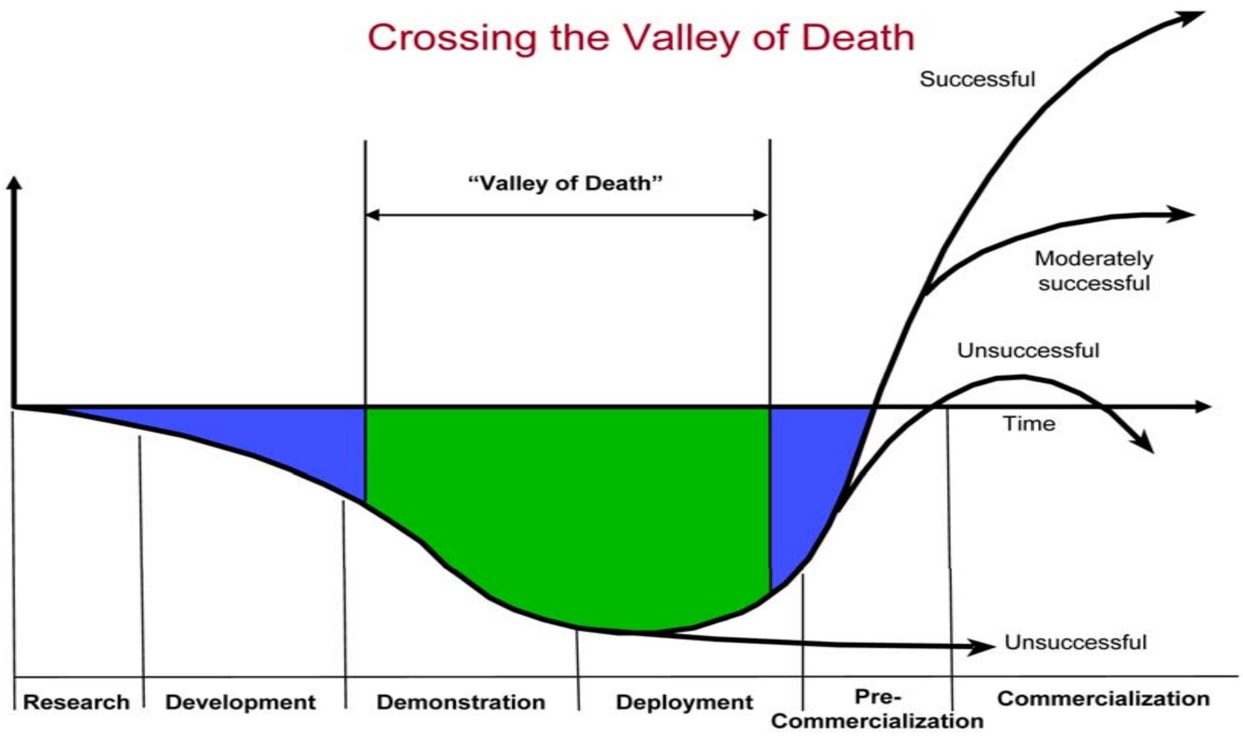
Basic Elements #2:

- 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

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”:



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:

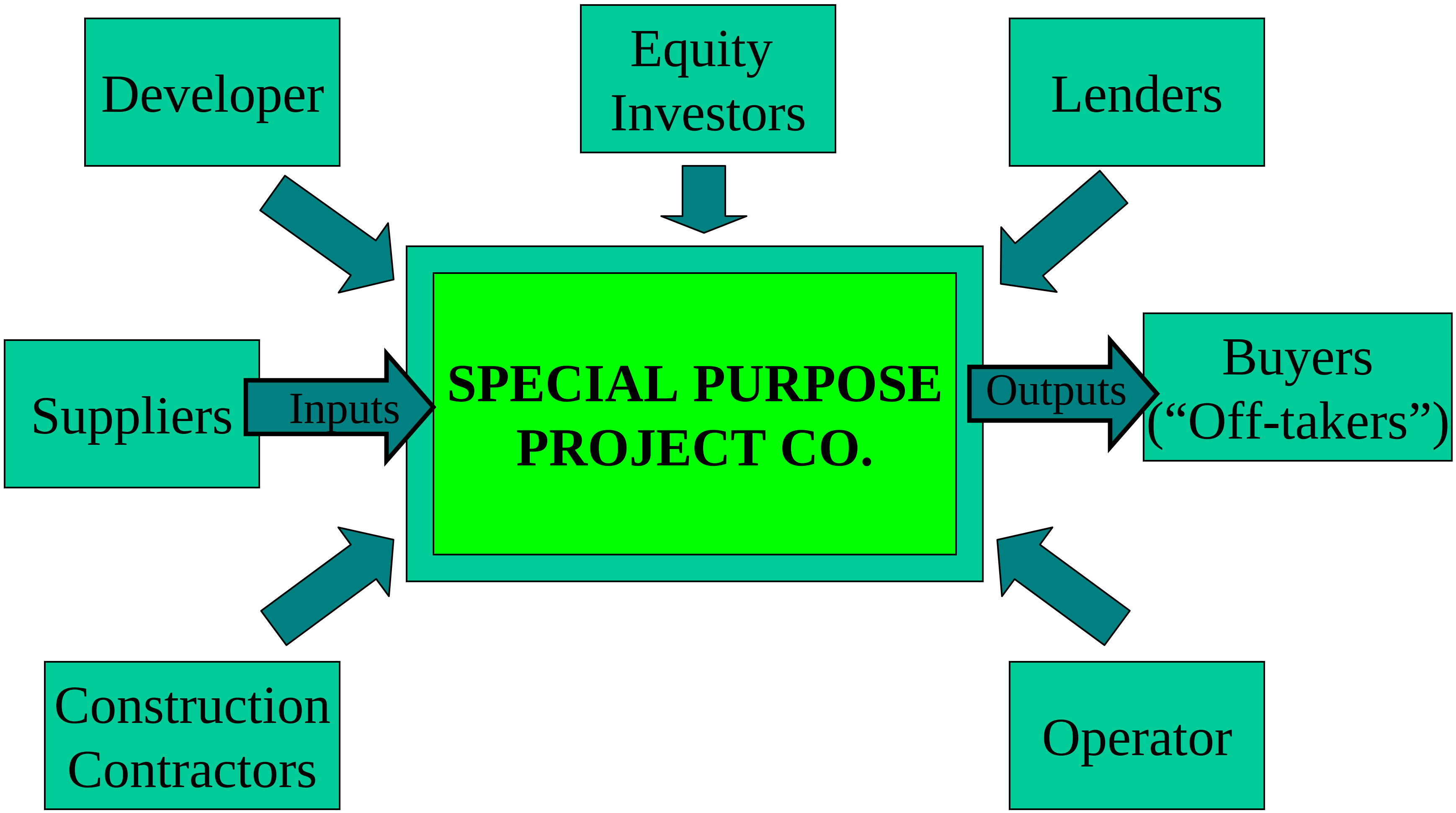
- More Capital than Quality Deals
- More Deals than Time to Evaluate
- Most Deals are not Quality or Qualified
- More than 50% of Deal ‘Starts’ do not make it through the 2-year financial review process
- Transaction Costs are High:
  - Minimum project size is $50M
  - If smaller, use an Aggregator

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

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

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

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?