World Bank

RENEWABLE ENERGY TRAINING PROGRAM
FINANCING RENEWABLE ENERGY PROJECTS

Finance Basics

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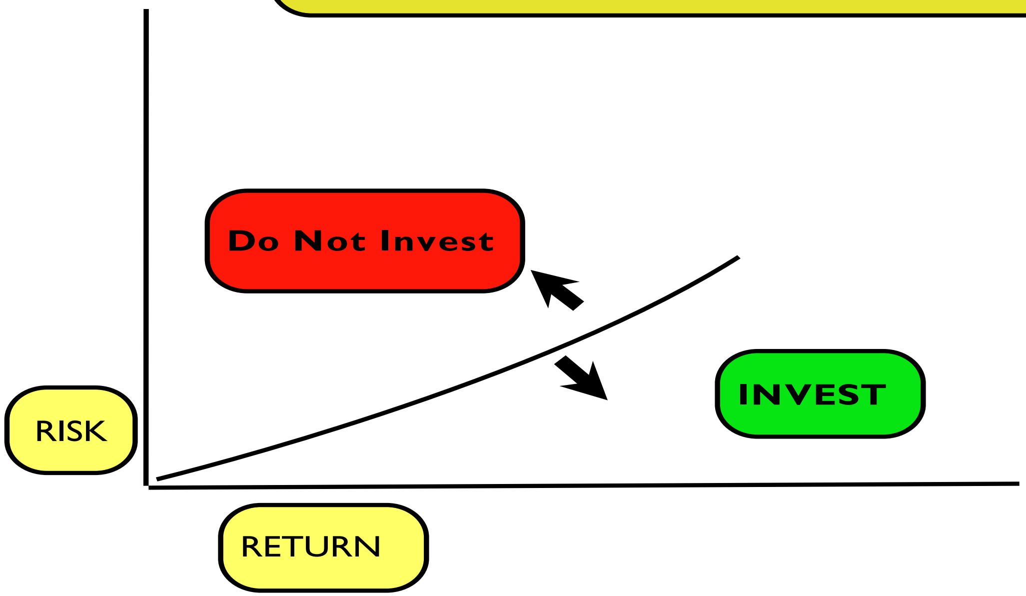
RISK - RETURN PROFILE



A basic principle in finance is the relationship between RISK assumed and expected RETURN

Finance Basics

Types of Finance

- Equity
- Debt
- Grants
- Guarantees

Finance Basics

Equity

- Capital in Exchange for Ownership/Revenue
- High Risk = High Returns
- "ROE" - 2Xs greater than Debt
- Distributions after other financial and tax obligations met

Sources of Equity

- Project Developers
- Venture Capitalists
- Infrastructure Funds
- Equipment Suppliers
- Multilateral Development Banks
- Institutional Investors (banks, insurance companies)
- Individual Investors

Finance Basics

Quasi-Equity

- Technically “Debt”
- Some Equity Characteristics
- Unsecured Funding
- Flexible Repayment Terms

Finance Basics

Debt

- LOAN or BOND to provide capital
- Requires REPAYMENT of Principle & Interest
- Ownership remains with Sponsors
- Specific Payment Schedule

Sources of Debt

- National & International Commercial Banks
- Multilateral Development Banks
- International Finance Corporation
- Investment Funds
- Equipment Suppliers
- Private Investors

Finance Basics

Soft Loans

- Generous Repayment Terms
- Low Interest Rates
- Flexible Time Frame
- Generally Preferred over Commercial Loans

Subordinated & Mezzanine Debt

- **Between Debt & Equity**
- **Subordinate to Primary Debt**
- **Higher Risk than Primary Debt**
- **Higher Interest Rate than Primary Debt**
- **Generally Preferred over Commercial Loans**

Finance Basics

Grants

- "Gifts" - No Repayment Required
- Offered by Governments & International Organizations
- Offered to Promote Specific Policies - Environmental & Developmental
- Subject to Time & Use Restrictions
- Often Tied to Specific Purchases

Sources of Grants

- Private Foundations
- International Development Organizations
- Bilateral Funding Organizations
- National Funding Divisions

Finance Basics

Guarantees

- Contractual Promise to Pay
- Subject to Default of Primary Obligor
- Lack of Acceptable Collateral
- Used to Attract Commercial Lenders
- Used to Minimize Political Risk
- Used to Minimize Commercial Risk

Sources of Guarantees

- Multilateral Development Banks
- National Development Banks
- Host Governments

Finance Basics

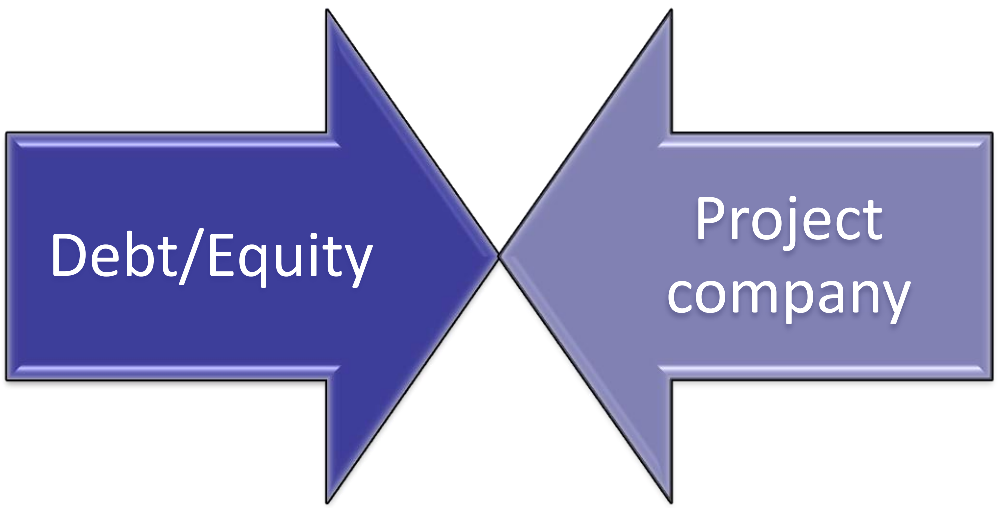
Government Finance

- Public Funding
- Predominate Source in Developed Countries
- Usually Provided as Loans or Grants
- Generally Combined with Funds from Multilateral and Bilateral Organizations

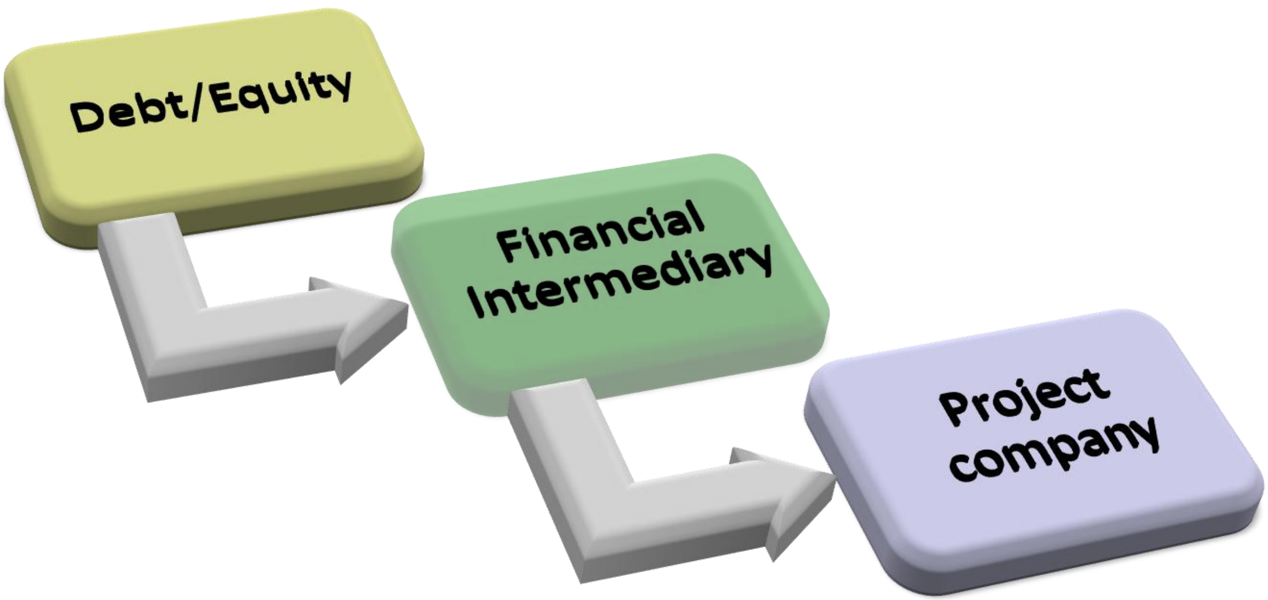
Financing Instruments

	Market-based Loans	Soft Loans	Grants	Equity Investments	Guarantees	Technical Assistance	Other
Multilateral Development Banks	X	X	Some	Some	X	X	
Bilateral Aid	X	X	Some	Some		X	
Funds/ Foundations	X	X	X				
Green Investment				X			X
National Development Funds	X	X			X	X	
Commercial Loans and Investments	X			X			

Direct Financing - **Debt and/or equity/quasi-equity finance from local or international provider to single company or project**



Financing through local or foreign financial intermediary, such as investment fund, which invests debt and/or equity (quasi-equity) in company/project



The Lender’s Perspective

Finance Basics

Institutions have different purposes, funding and structural criteria, financial products and eligibility

Commercial Banks

- **Loans and some Equity Investment**
- **Based on Acceptable Risk and Returns**
- **Market Interest Rates**
- **Market Pay-Back Periods**
- **More Flexible than Investment Funds**
- **More Expensive than Investment Funds**

Factors Lenders Consider

- Strategic Equity
  - Substantial investment from strategic equity validates viability
  - Likely to defend / support investment if unforeseen negative events occur; can offer financial fix and operational remedy
  - Equity funds prior to debt, during construction / ramp-up phases
- Experienced Management Team
  - History of success with similar projects is important
- Proven Technology
  - Underlying technology needs to be current and proven

Factors Lenders Consider

- **Demand and Supply**
  - **Independent market analysis as part of due diligence**
  - **Demand needs to exceed supply**
- **Lower-cost Producer**
  - **Independent validation project will be a lower-cost producer**
  - **Project should remain competitive and generate attractive cash flows even in stress scenarios**
- **Off-take contracts**
  - **Lenders prefer long-term contracts over speculative ‘merchant’ arrangements**
  - **Legislative, regulatory and legal environment considered to assess enforceability of contracts**

Factors Lenders Consider

- **Engineering, Procurement, Construction (EPC)**
  - **Contractor’s experience, timeliness and success with similar projects**
  - **Creditworthiness and warranty of workmanship**
  - **Independent engineer selected and engaged by lenders to monitor construction process and budget**
  - **Availability of contingent equity in the form of cash, letters of credit and/or completion guarantees**
  - **Milestones for releases of contingent equity obligations**

Factors Lenders Consider

- **Pledge of Shares**
  - **Lenders like project operating company to be owned by holding company, with pledge of operating company shares and guarantee of operating company obligations**
- **Debt Service Reserve**
  - **Minimum six months of principle and interest in a funded debt service reserve account, preferably held offshore**
- **Hedge for Significant Cost Items**
  - **Hedging agreements for components of project cost structure, e.g., energy costs and interest rates**

Lenders Also Consider the “Doing Business” Situation

- Starting a business
- Getting credit
- Registering property titles
- Paying taxes
- Trading across borders
- Enforcing contracts
- Dealing with construction permits
- Closing a business
- Protecting investors
- Employing workers

Infrastructure Funds

Typical Investment Fund Structure

- **Pass-through entity for tax purposes — usually limited partnership or LLC**
- **Fund entity can be established in-country for single-country funds with only local investors**
- **Regional and fund-of-funds organized offshore**
- **Foreign investors generally require fund established in offshore jurisdiction with low or no taxation/favorable tax treaties (Mauritius, Cayman Islands, Cyprus)**
- **Fund sponsor usually acts through several separate legal entities: offshore if foreign sponsor or investors**

Typical Investment Fund Structure

- **Fund Sponsor also General Partner, Management Company, Advisor and collects management fee on committed or invested capital and success fees (“carried interest”) and advisory fees**
- **Fund investors sign subscription agreements obligating them to pay the full amount of their capital contribution into the Fund when capital is called up by the General Partner.**
- **Funds can leverage their return through debt financing, either from fund investors or banks**

Advantages / Disadvantages of Infrastructure Fund Structure

- **Advantages - fund sponsors may have specialized knowledge of region, sector and market**
- **Advantages - fund sponsors may be able to mobilize capital more effectively than direct financiers for smaller, less well-known companies**
- **Advantages - fund sponsors are hands-on as managers of a business; take significant minority or majority stakes; provide technical and business assistance**
- **Disadvantages - more invested capital may be spent on fees than would be through direct investment**

Advantages / Disadvantages of Infrastructure Fund Structure

- **Limited life (8-10 years)**
- **Seek to divest as soon as investments become mature, through trade sales or public stock offerings**
- **May not invest in countries or sectors where exit isn' t perceived to be readily available**
- **Sponsors / investors need to be convinced that high financial returns can be earned in investment funds in emerging markets, particularly in non-traditional areas**

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Thank You

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