
Power Projects - Financing

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Power Projects - Financing

- Power projects are very capital intensive and require huge investments. Therefore, the financing of these projects is generally very complex – particularly in developing countries such as India
 - Traditional source of financing has been the government budget or government-sponsored borrowing
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Equity and Debt Financing

■ Equity

□ Sources

- Sponsors' or owners
- Strategic investors / Equity funds
- Others or passive investors including general public and individual investors

□ Returns

- Dividends

□ Security of investment

- None
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Equity and Debt Financing

■ Debt

■ Sources

- Financial Institutions
- Commercial Banks
- Multilateral agencies
- Suppliers credit
- Public borrowings

■ Return

- Interest

■ Security of investment (Non recourse)

- Assets of the project
- Assignment of PPA

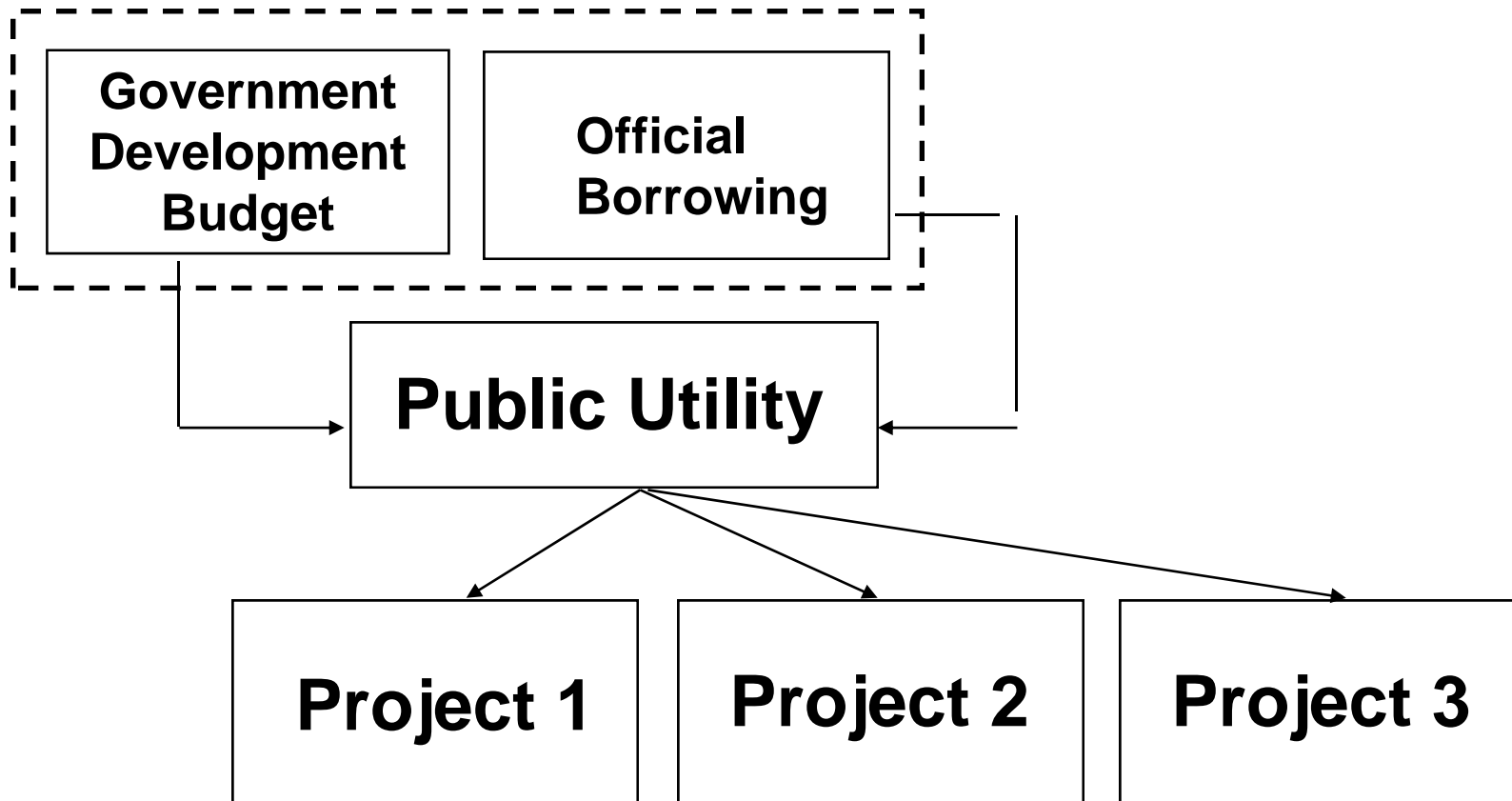
■ Security of investment (Recourse)

- Balance sheet
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Methods of Financing Power Projects

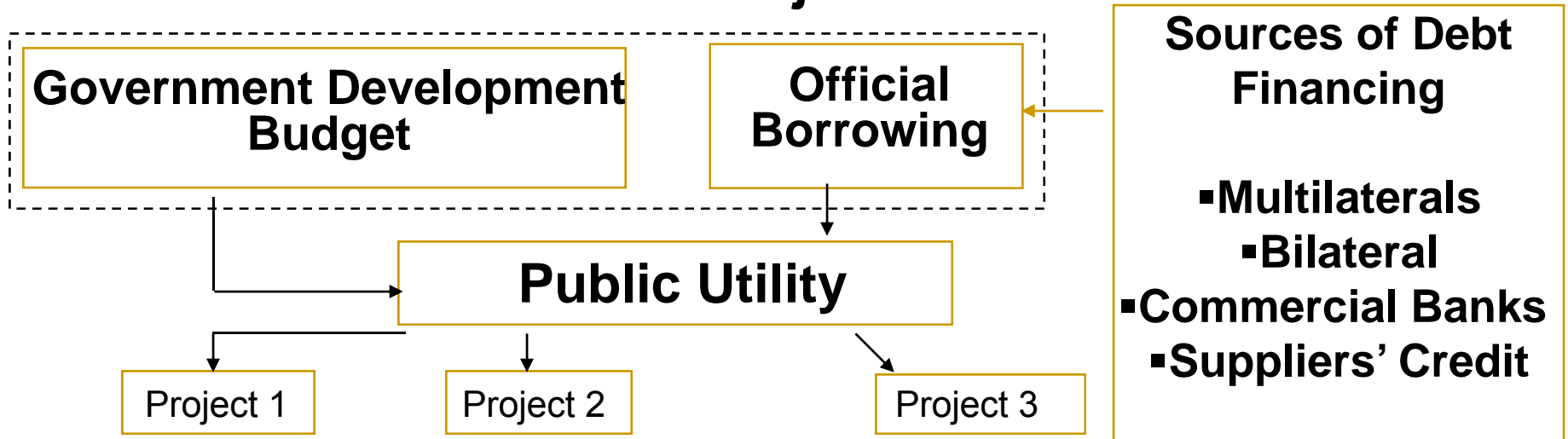
A: Traditional Power Project Financing

State Government



Methods of Financing Power Projects

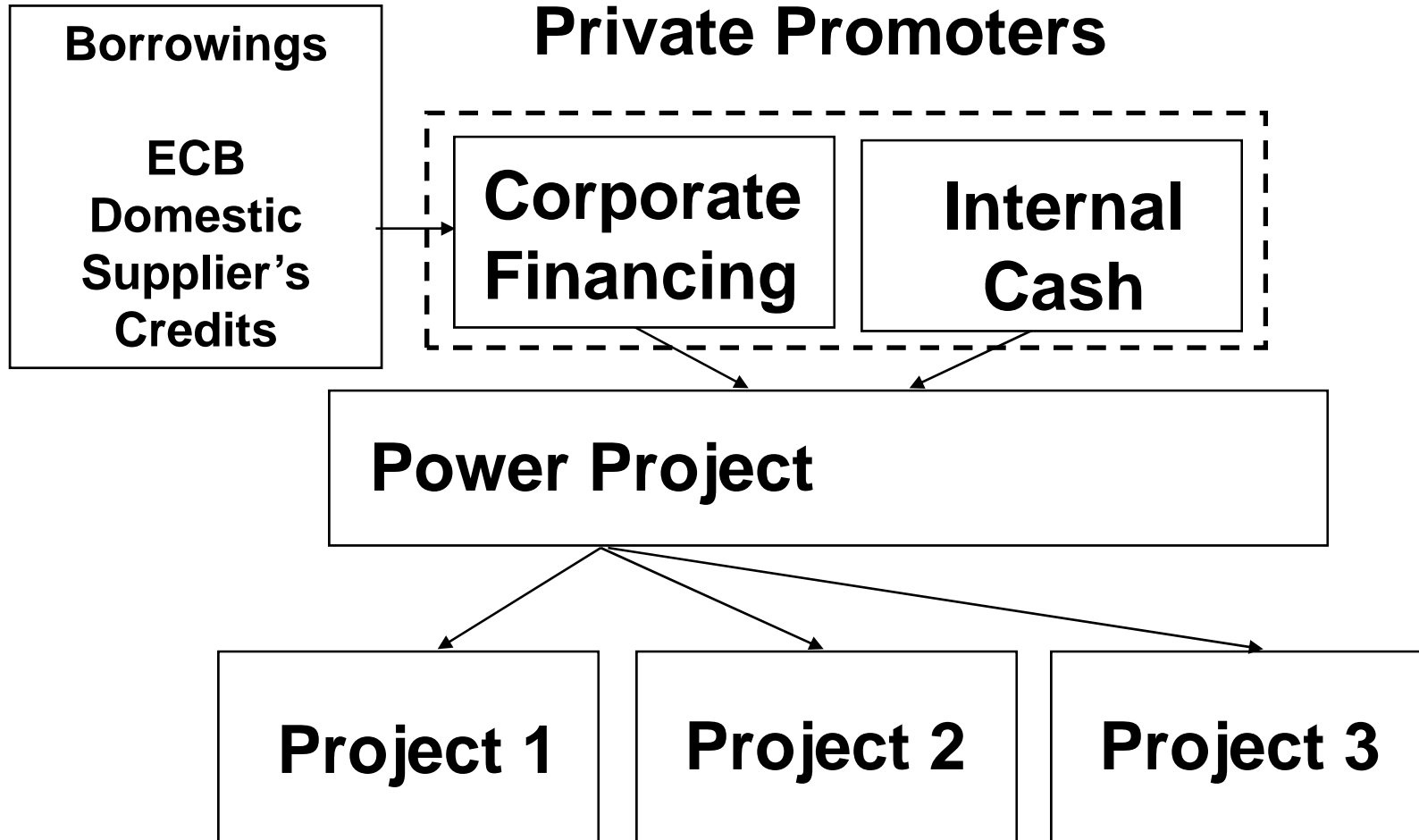
Central Sector Projects



Methods of Financing Power Projects

- Resource crunch in supporting power sector investments entirely from government funds has
 - Necessitated and facilitated the entry of private sector investment and
 - Encouraged public utilities to borrow from commercial sources and even to raise equity on international and domestic capital markets.
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Methods of Financing Projects – Private Sector



The Concepts of Recourse Financing

Power projects in developing countries are traditionally built as extensions of the assets of an existing company

- ❑ Funds are provided on the account of the entire company rather than on the account of the new plant.
 - ❑ As loan security, lenders have full recourse to the assets and revenues of the entire company, rather than recourse only to those funds related to the new power plant.
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The Concepts of Recourse Financing

Corporate loan or On-balance-sheet financing

- Mechanism/Structure
 - Project sponsor takes out the loan to finance the project
 - Loan is reflected on the balance sheet of the sponsor
 - Conditions/Security arrangement:
 - Acceptable D/E ratio
 - Collateral/guarantee to cover the amount of the loan
 - Documentation
 - Documents related to the creditworthiness of the sponsor
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The Concepts of Recourse & Nonrecourse Financing

Corporate loan or On-balance-sheet financing

- Advantages

- Can be arranged quickly if conditions are met
- Simple documentation and security arrangements

- Disadvantages

- Risks are mainly carried by the sponsors
 - Loan increases the debt burden on the balance sheet of the sponsors
 - Likely to be used only by strong corporate sponsors
 - Repayment periods are not long (normally < 10 yrs)
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The Concepts of Non recourse Financing

- An alternative is the formation of a Special Purpose Vehicle specifically for development of the power plant.
 - The project sponsors contribute equity.
 - The assets and cash flow of the project itself secure debt, not the sponsors' other available resources.
 - Since the repayment of the loan is primarily dependent on the success of the project, lenders pay close attention to project risks.
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The Concepts of Non recourse Financing

Project Finance

■ Mechanism

- Special purpose company takes out the loan to finance the project
- The source of debt service (interest & principal) is primarily the cash flow from the project
- Lending entity has no or limited recourse to the sponsors

■ Conditions

- Acceptable D/E ratio
 - Fuel supply security
 - Established viability on reliable cash flow projections
 - Acceptable debt service coverage ratio
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The Concepts of Non recourse Financing

Project Finance (contd..)

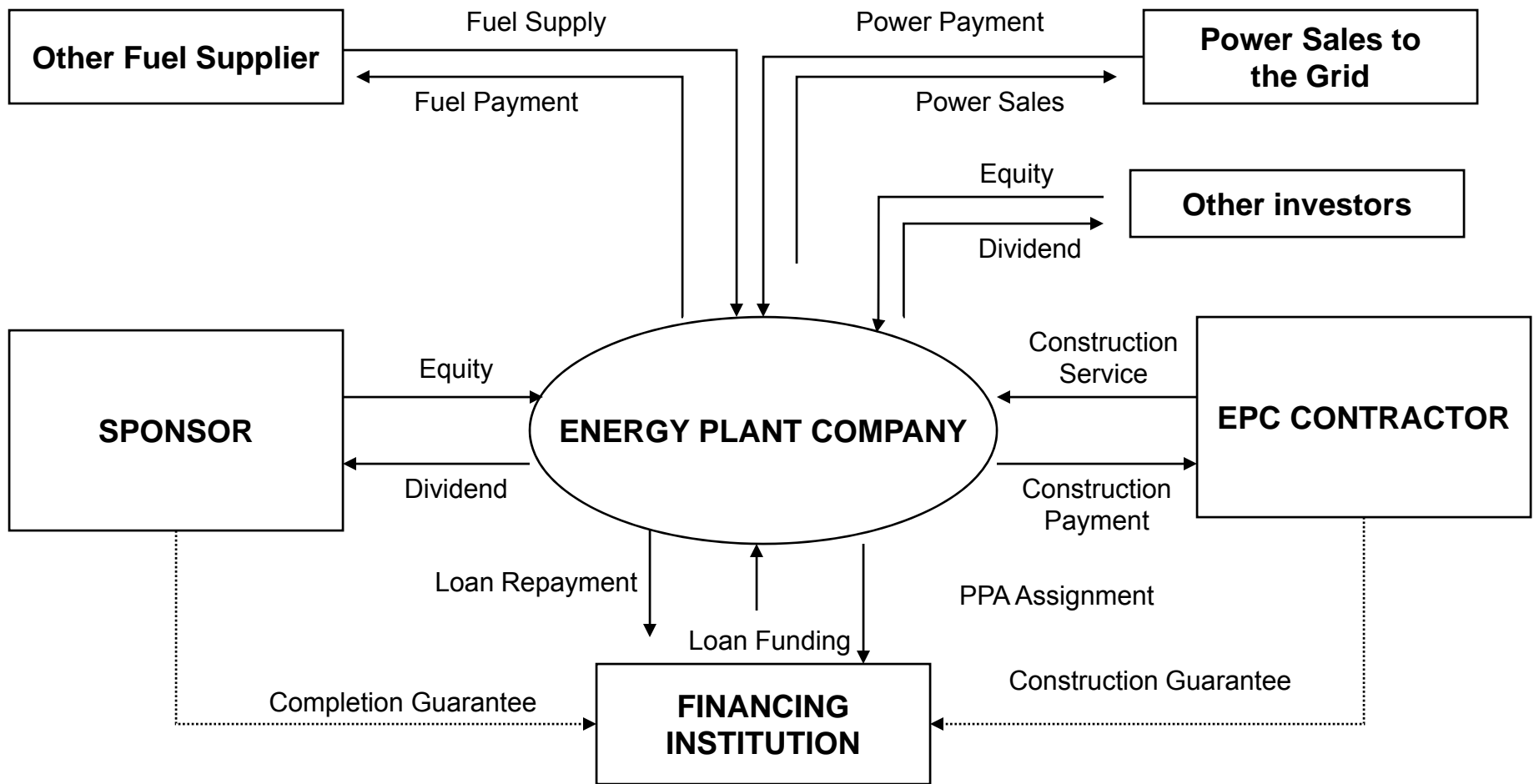
- Typical structure
 - Strong involvement of local banks
 - Use of both Rupee and foreign currency tranche
 - Maturity of > 10 years
 - Security arrangements:
 - Assets pledged as security to the bank
 - Assignment of contracts to the bank (PPA, SSA, etc.)
 - Covenants related to shareholding structure, issuance of dividends, additional loan
 - Accounts pledged to the lenders
 - Construction guarantee & Performance guarantee
 - Documentation
 - Information memorandum & Contracts (PPA, SSA, EPC, FSA, EIA)
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The Concepts of Non recourse Financing

Project Finance (cont.)

- Advantages:
 - Minimum risk carried by the sponsors
 - Loan does not appear on the balance sheet of the sponsor
 - Long maturity of loan possible to achieve
 - Disadvantages:
 - May take longer time to reach financial close
 - Involves complex legal documentation and contractual arrangements
 - Strict requirements for due diligence as well as legal and technical assessments
 - High compliance for administration & reporting requirements.
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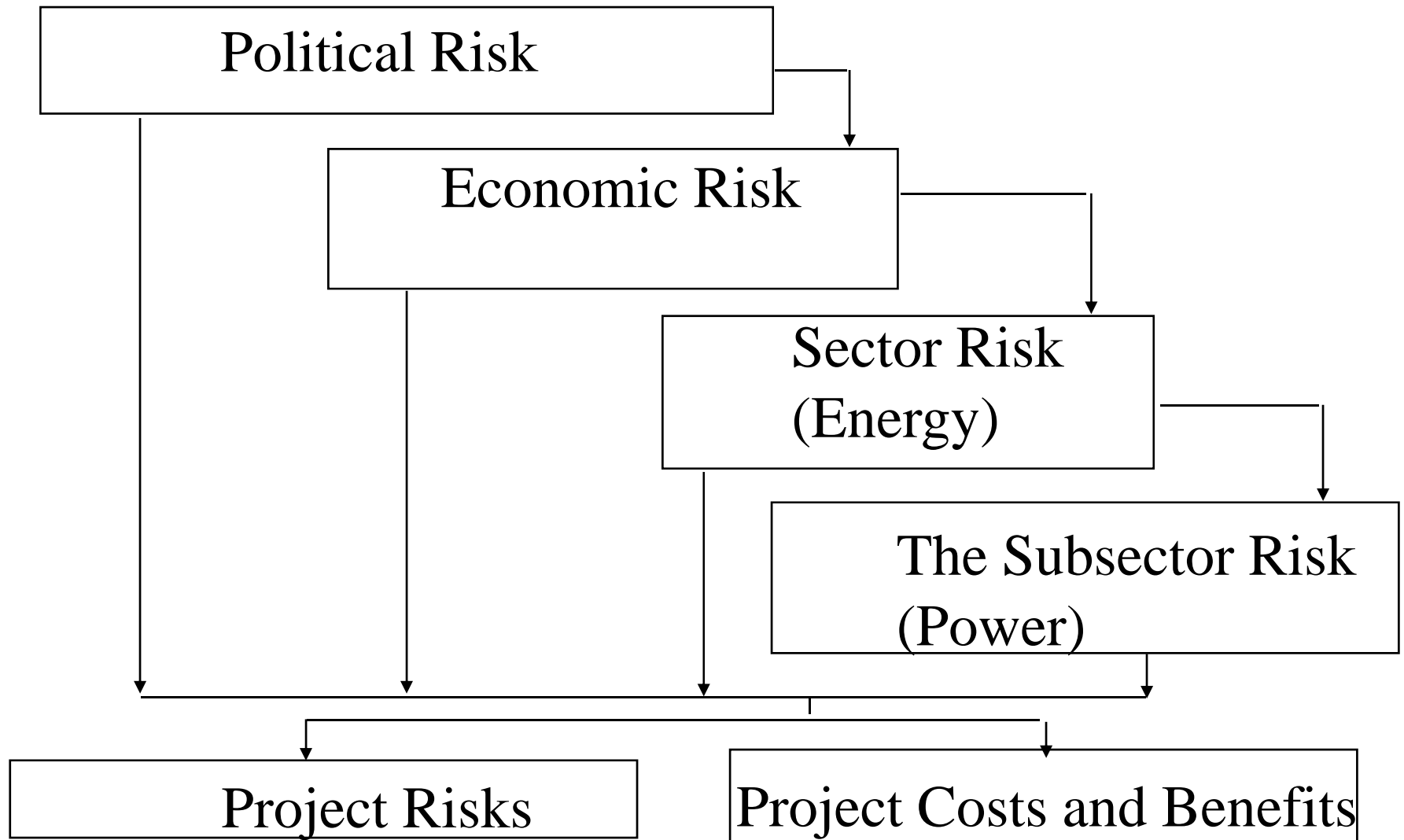
Non Recourse Financing Projects: Flow of funds



Overview of financing trends

- Private investment in the power sector – current trends
 - concentrated in generation.
 - some private participation in transmission and in distribution.
 - Financing for these facilities is expected to remain corporate-based, because most new investments are aimed at expanding existing networks and are financially intertwined with previously built assets.
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Factors impacting Investment



Environmental Issues

- Power generation projects are particularly subject to pronounced environmental concerns.
 - Financiers insist that project sponsors address relevant environmental impacts sufficiently because environmental problems can result in serious financial losses.
 - Financiers are increasingly focusing on environmental issues resulting from power projects and set strict guidelines for review of the environmental impacts of such projects.
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Power Projects Financing future trends

- Investors/Lenders actively scouting investments
 - Demise of “pass-through” era.
 - Focus on cost optimisation.
 - EPC Contract vs. individual packages
 - Interest cost.
 - Debt Equity Ratio
 - Comprehensive Risk identification & mitigation framework.
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Power Projects Financing

future trends

- Multi Party PPAs and Open Access :
 - Escrow Mechanism no longer a pre-requisite.
 - Competitiveness of power is the key
 - Termination payments on utility defaults no longer being sought.
 - 100% tie-up on long term not required – Short term sales provide equity upside
 - Credit risk of the off-taker not a very significant issue with ability to transfer power to other buyers.
 - Merchant plants without PPAs
 - Forward/backward integration of businesses to reduce risk (Mining → Fuel → Transportation → Generation → Transmission → Distribution)
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Financing Power Projects

Key Factors to Success (KFS)

- Financiers usually focus on the following elements:
 - Fuel – The availability of the Resource
 - PPA – The Power Purchase Agreement
 - Technology – The Power Plant and the contractor
 - Sponsor – The Developer
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Renewable Energy Financing

Renewable Energy in India

- More than 10,000 MW of RE projects installed in India
 - Wind power alone 8800 MW
 - RE Projects installation would be in the range of 1800-2000 MW per year in the coming period
 - RPS regulation & conducive 'open access regulations' for renewable in various states (Provision under EA 2003 (Sec 61(h) & Sec 86(l) e) would thus put an additional 8,000 - 10,000 MW RE projects by 2012
 - Investment worth Rs 8000-10,000 crore per annum
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Investment scenario in RE projects:

Majority of RE projects are wind energy based.

Investment Opportunities

- By process industries (mostly)
 - For Captive use leads to energy cost savings
 - By investment community:
 - Returns on a long term basis without much of operational risk (viz. fuel cost etc.) and short term benefits of income tax and CDM
 - Financing through
 - IREDA
 - Investor's bankers
 - Few nationalized & scheduled banks
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Prevailing method of financing RE

■ Balance sheet financing

- Promoter's/Investor's balance sheet is treated as an indicator for exposure, repayments & financing
- Analysis of project cash-flow streams are secondary issues

■ Reasons

- Least risk proposition for the lenders
 - Borrowing possible at a lower rate (since the risk is largely on the developer/investor)
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Advantages & dis-advantages of Balance sheet Financing Route

■ Advantages

- Lending institutions are not exposed to project risks
 - Regulatory risk
 - Energy sales risk
 - Fuel cost escalation (viz. biomass & bagasse)
 - Grid & Machine availability risk

■ Dis-advantages

- Repayment is linked to the health of the borrower
 - Repayment is not linked to project cash-flows
 - Market growth may become stagnant!!
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Advantages of non-recourse project financing

- Repayment can be linked to project cash-flows
 - Market expansion – as new investors would come into picture
 - Can bring in the required economies of scale
 - Culmination of large scale IPP projects (~\$100 Mio +)
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Barriers to project financing methods

- Lack of costing benchmarks for different technology
 - Rs/kW
 - Lack of technical due diligence capability for project analysis (energy generation)
 - Different in different states
 - Lack of understanding of the power sector reforms (viz. to ensure the cash-flows)
 - Lack of capability to quantify risks with respect to
 - Regulations (OA regulations can change from year to year)
 - PPA risk
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Change of set-up to adopt
non-recourse project
financing

Financial structuring

- Flexible amortization
 - DSCR would depend on CUF & regulations prevalent in the state
 - Structuring through 'sharia' model, i.e. equity linked

 - Securitisation of CDM revenue
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Regulatory (power sector) interventions

- RPS regulation for procurement from RE Sources
 - Feed-in tariffs
 - Delinking the preferential/cost-plus tariff into two different components
 - Base price (which may be the pool price)
 - Preferential price as a compliance tool for meeting RPS targets (viz. DISCOMs & all OA transactions) through RE Compliant Certificates
 - Nationwide RPS to increase the base for RE Compliant Certificates buyers
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Fiscal intervention

- Creating a framework for Transferable Tax Credit Certificates for IPPs that cannot avail accelerated depreciation
 - Reference to the IEP brought out by Planning Commission
 - Easy modalities for raising ECB
 - Allowing the benefits for mega-power policy for a smaller size RE based projects
 - Viz. 200-300 MW range
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What it may look like

- Tariff stream would have four components, thereby, distributing the risks associated with payments
 - E. Sales stream
 - Base Price (pool price within the state)
 - RE Compliant Certificates
 - Preferential Price (tradeable across India to any DISCOM or any OA consumer) – this finally would be market determined
 - Tradable Tax Credit Certificate
 - Tradeable Tax Credit Certificate, linked to e. generation for IPPs that cannot avail the benefits of accelerated depreciation
 - CDM revenue
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Conclusion

- Non-recourse project financing is still a rare phenomenon
 - Very few projects occurring in India, with low chance for replication
 - The sector needs to be put its effort to work and evolve a new set-up, in line with
 - Changes in power sector (viz. competitive bidding)
 - Only non-recourse project financing would put renewables in the mainstream and generate the right economies of scale in the coming period
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THANK YOU
