

Financing Alternatives for Clean Power Generation in CEE

**UNECE-e8-EBRD-WEC
Clean Electricity Production Forum**

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Agenda



Summary of Key Discussion Points

Power Generation Assets from Bankers' Perspective

Financing Partners in various Phases of Investment Cycle

Hungarian Track Record since mid 90ies' Privatization

Post Crises Trends in Financing – Key Issues

Summary of key discussion points (2/1)

Industry from Bankers' Perspective

- Long asset life typically fits to long term financing (10years<)
- Stable and forecastable regulatory framework required
- Required government support dependent on the broader regulatory context
- Foreign Exchange Risk: was/is a key factor to be considered

Role of different Financing Partners

- Supranationals: EIB, EBRD, IFC, Worldbank, ADB. etc.
- Export Credit Agencies (ECAs) and Eximbank(s)
- Strategic industry investors
- Financial investors
- Commercial Banks, Capital markets

Summary of key discussion points (2/2)

Hungarian Experience

- Rehabilitation of outdated facilities financed by Worldbank programmes w/o tested regulatory environment in the early 90'ies
- Privatization & launch of single buyer market model coupled with transparent regulatory framework
- Entry of large creditworthy industrial players from the mid 90ies
- Successful new projects supported by international and domestic commercial banks from mid 90ies
- Introduction of EU driven market liberalization measures requires new approach in financing

Current Trends

- Financial crisis significantly changed financing parameters
- Following some break banks are prepared to lend to quality projects
- Well prepared projects with strong sponsor support receive funding
- Fossil fired projects are more difficult due to uncertainties regarding carbon pricing in EU
- Shift in project pipeline to renewables (wind, biomass)

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Summary of Key Discussion Points



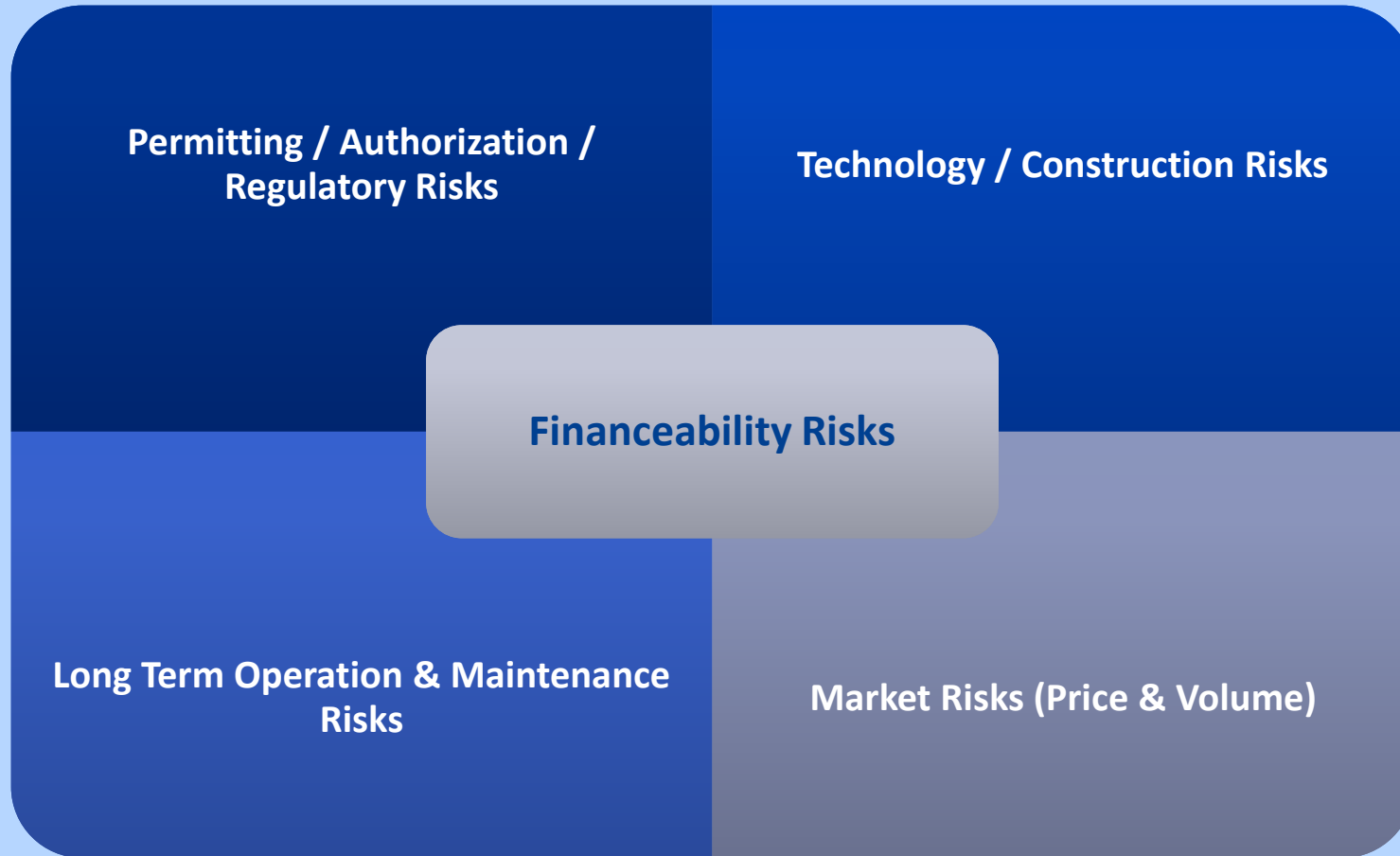
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Post Crises Trends in Financing – Key Issues

Various risks considered by the banks



Technologies well known, but risk issues remain

Technology

- New technology risks
- Unique local circumstances
- Mitigation: commercially proven technology & local partners

Technology Vendor / EPC Contractor

- Equipment suppliers w/o EPC contractor
- Credit quality of EPC
- Mitigation: „Tier 1” EPC

O&M

- New technology risk for Sponsor
- Not experienced O&M contractor
- Mitigation: involvement of proven O&M firm

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Typical power plant project phases

Development

- Basic Design
- Permitting
- Negotiation of key supplier contracts (EPC)
- Negotiation of Fuel Supply Agreement(s) (FSA)
- Negotiation of Power Offtake Agreements (PPA)
- Negotiation of Green Certificate Offtake or Carbon Quota Acquisition arrangements
- Negotiation of financing arrangements

Construction

- Turn-key construction
- Grid connection works
- Test run
- Guarantee tests
- Commissioning
- Beginning of warranty period

Commercial Operation

- Start of normal commercial operation

Project Risks decrease over time

Taylored financing to specific investment phases

Funding Source	Preparatory Phase/ Development	Construction / Commissioning	Commercial Operation
Equity from Sponsor	X	X	X
Equity from Strategic Investor	X	X	X
Equity from Financial Investor		X	X
Senior Non-Recourse Debt		X	X
Corporate Debt	X	X	X
Supranational Institutions (EBRD, EIB, Worldbank, IFC)	X	X	X
ECAs, Eximbank(s)		X	X

- **Early phase investment activities** (basic design, permitting, etc.): financed by equity provided by sponsors/ government/ investment partner potentially supported by Supranational Agencies
- **Construction and commercial operation phases:** financed by a combination of equity provided by sponsor/government/industry investor/financial investor whilst senior project finance loan is a customary debt instrument
- **Capital markets** offer a late investment phase opportunity to finance power projects typically after construction risk is removed

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Regulatory Environment - Financial Structuring

Prior to Privatization in 1995

- Regulatory Environment deficiencies
- Rehabilitation of outdated fossil fired plants
- New CCGT units
- Equity injection by Government
- World Bank funding to MVM (the integrated state owned electricity utility)



From Privatization to EU Entry & Market Liberalization

- Single Buyer Market Model coupled with transparent regulatory framework
- New CCGT units
- Rehabilitation of old fossil (lignite, gas) fired units
- Industrial and CHP power plants
- Equity funding by strategic investors and accumulated cashflow of producers
- Debt funding by commercial banks via classical Project Finance facilities
- LT PPAs
- FCY Debt



Currently under Open Market Environment

- Liberalization triggered by EU Directives
- Energy policy driven by EU targets
- Focus on Co-Generation, Renewables (wind, biomass)
- Equity from utilities, financial investors, local investors
- Project finance, corporate debt via parent company
- FX risk becomes a main risk factor
- Robust project structures necessary

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Post Crises Trends in Financing – Key Issues

Significant Impact on Attitude of the Financial Sector

International Banks

- Increased funding cost, risk capital constrains, limited syndication market
- Uncertainties regarding long term interest rate development, shorter tenors
- Shift in strategy towards projects in developed and matured markets (EMEA and Asia Pacific were the worst hit regions and energy was the worst performing sector)

Domestic Banks

- Capital adequacy hurdles due to Basel III
- Deleveraging due to credit problems
- Foreign currency liquidity tight whilst limited depth of local currency markets in some countries still prevails

Capital markets

- Still limited depth of capital markets
- Competition for funding with other asset classes
- Some small sized capital market transactions successful on local markets

Suprationals / Multilaterals

- Significantly increased role of suprationals in EU member countries
- EBRD and IFC back to countries which were not any more priority investment countries
- Suprationals act complementary to other lenders and investors

ECAs & Exims

- ECA covered financial solutions are important not only in emerging markets
- ECA's cannot replace banks, but can help them
- ECA's role is to cover extraordinary risk and make sure good deals get done

Global project finance (Debt&Equity) **decreased by 38 per cent in 2009!**
But the good news is that funding is available for Quality Projects from 2010!

Relevant structural issues in financing (2/1)

Tier 1 Sponsor with track record

- Long term projects with significant long-term operation risks
- Banks focus on reliable sponsors with the ability to fund development and secure equity
- Track record in similar investments required

Construction Risk Mitigants

- Turn-key EPC contracts necessary
- Creditworthy EPC counterparties
- EPC contracts according to international standards (e.g. FIDIC)
- Adequate warranties
- Maintenance to be secured upfront at least for mid term

Relevant structural issues in financing (2/2)

Market Risks

- CEE electricity markets converge, but difficult to secure project finance on merchant basis
- Classical PPAs ('style in 90ies) not possible any more, but in an amended form a must for fossil projects
- Fuel supply to be arranged on FSA basis
- Carbon risks shall be addressed upfront for fossil fired projects
- Regulatory risk re. renewables and small sized CHPs is acceptable based on feed-in tariffs

Debt Structures / Pricing

- Equity/Debt : min. 20-40% Equity, 60-80% Debt
- Tenors: upto 14-15 years possible
- Currency: local (HUF) and EURO
- Upfront Fees: 150-250 bps
- Margins: 250-400 bps

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