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# **"INOGATE Technical Secretariat & Integrated Programme in support of the Baku Initiative and the Eastern Partnership energy objectives" Project**

**BUILDING PARTNERSHIPS FOR  
ENERGY SECURITY**

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# INOGATE Study Tour/Workshop

## Energy Efficiency & Renewable Energy Sources



## **Making EE/RES financing attractive to banks: Sources, tools, methods, forms**

**Vienna, Austria**

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# FINANCING OF EE/RES PROJECTS – TOPICS (1)



- Basic decision: On-Balance Sheet – Off-Balance Sheet - Financing
- Project financing
  - Non-recourse / Limited recourse
  - What Lenders do worry about
  - Key Success Factors
- Bankability
  - Project Documentation
  - Partner Set-up of the Project Company
  - Feasibility Study and Business Plan
  - Contracts:
    - ) Construction Contract
    - ) Fuel Supply Contract
    - ) Operation & Maintenance Contract
    - ) Off-Take Agreement



## FINANCING OF EE/RES PROJECTS – TOPICS (2)



- Financial Risk Management in the Project Development
- Financial Modelling and Sensitivity Analysis
- Optimization of the „Debt / Equity – Ratio“
- Project Information Memorandum for Financial Risk takers / Investors
- Structuring and Arranging of the Equity Financing / Investor search
- Structuring und Arranging of the Debt Financing
- Possible Conditions Precedent from the Financial Point of View
- Financial Closure / Project start



# What lenders do worry about– possible reasons for projects collapsing

- Delay in completion (higher interest cost in the construction financing, delayed revenues for repayment of loans, etc.)
- Cost overruns
- Technical problems
- Financial problems of the general contractor
- Political influence
- Non insured damages from incidents
- Absence of / or very expensive feed stock
- Technologically outdated plant
- No proven technology
- Losing of the competitive position of the plant in the market
- Non professional management
- Expropriation
- Market interest in / or overvaluation of the securities to be assigned
- Political or financial problems in the client's country
- Etc.



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# Important Criteria for successful Project Financing

- bankable satisfactory feasibility study and business plan
- reliable partner set-up in der project company – Special Purpose Company (SPC)
- sufficient equity participation of the sponsors/investors, satisfactory shareholder agreement
- experienced and reliable general contractor
- experienced reliable operator
- experienced reliable management in the SPC
- proven technology
- all means required for the production (feed-stock, water, etc. ) are secured at calculable market prices
- the project represents sufficient value as security
- stable political environment
- all licences and approvals are available
- acceptable country risk, no risk of expropriation
- environmental risks under control, cost overruns, delay and force majeure risks considered
- infrastructural connection of the project acceptable
- etc.



# Bankability



➔ The project has to be bankable („bankable project“):

The lender is convinced that:

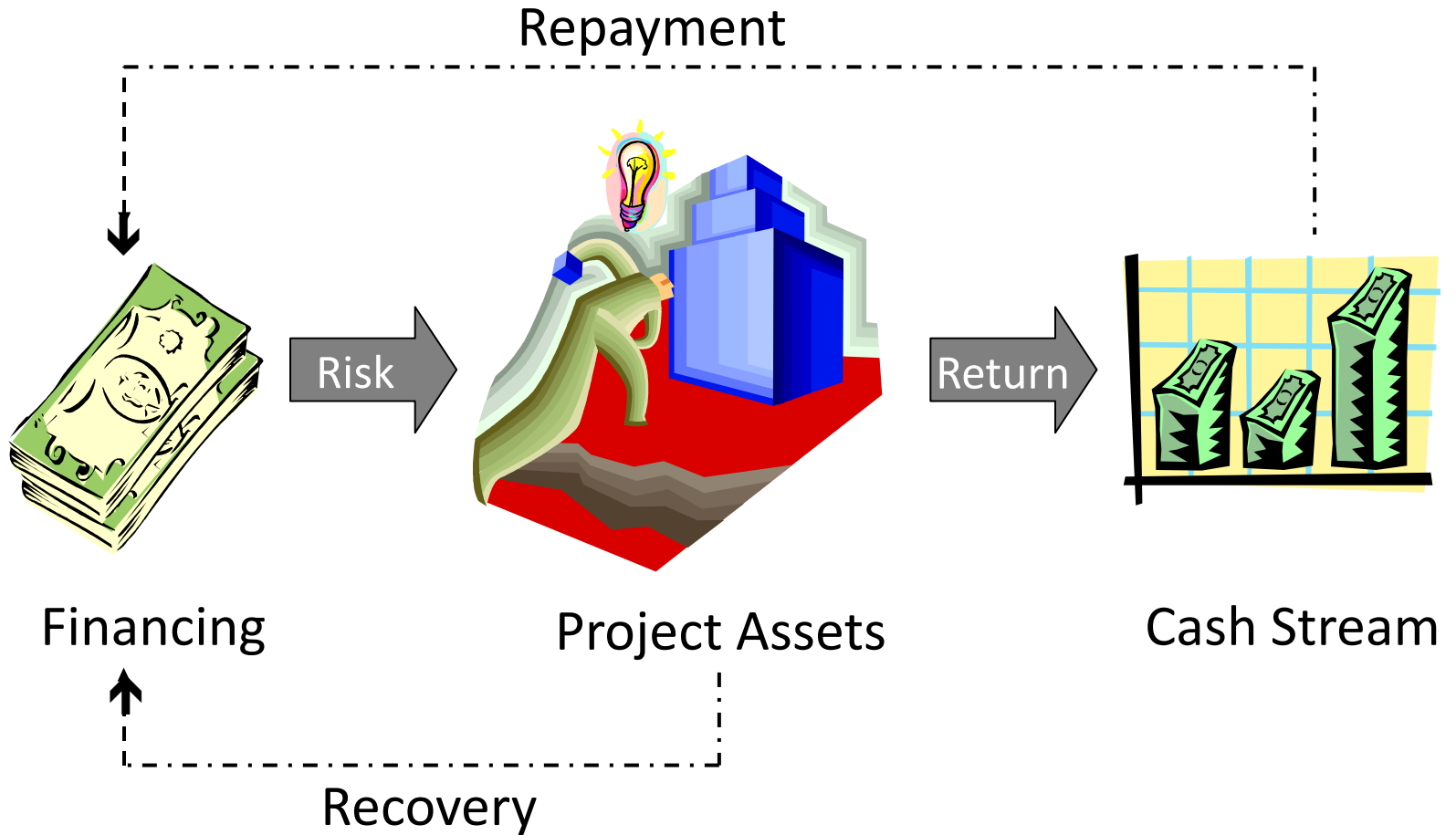
- the project will be a successful one, the borrower will benefit from the project and will be in the position to repay the loan plus interest
- the contractual risk allocation ensures the completion and operation of the project to a maximum possible extent even in case of difficulties (each risk shall be borne by the party who can handle it best)



# Credit risk - What is bankable?



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# Bankable Project Documentation

In the financing documentation lenders do (inter alia):

- not accept change of law risks (insurance of the political risk!?)
- not accept the risk of extraordinary project specific taxation
- require that the project company shall bear only those risks it is in the position to handle
- require an adequate investors' equity participation in the project company in proportion to the total project costs (depending on the project feasibility)
- not allow for early equity repayment to the investors (before start of repayment of the loans or achievement of defined debt service coverage ratios)
- require the right to directly step into all major contracts (construction contract, operation agreement, off-take agreement, fuel supply agreement, concession agreement, etc.) instead of the project company in the event of loss
- etc.



# Bankable Feasibility Study and Business Plan

- realistic assumptions (input data) confirmed by an independent expert (e.g.: engineering cost, construction cost, production cost, market report, etc.)
- conservative cash flow projections have to cover operational cost, debt service (principle + interest) and calculable working capital as well as contingencies
- sensitivity analyses, to show different worst case scenarios
- etc.

**Bankable feasibility study und business plan:  
elaborated by a renowned reputable consultant or  
respective second opinion of him**



# Typical Project Risks and Risk Mitigation for a Power Plant



## Construction Phase

Typical Risks include:

- delay
- cost overrun
- geology
- technology
- suppliers
- functionality & interface of Project lots
- “Political Risk Events” (e.g. prevention or delays of permits, licenses, etc.; restriction of grid access)

## Operation Phase

Typical Risks include:

- plant performance
- unavailability due to shortcomings in O&M
- (market) prices of electricity
- creditworthiness of off-takers
- Political Risk Events (e.g. restriction of grid access or of power exports)
- grid losses
- grid capacity

