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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



EE/RES project structures, part II: Risk identification and management, bank guarantees, main evaluation tools & indicators; Erste Group

**Vienna, Austria
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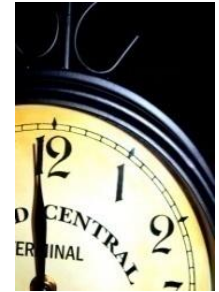
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1. EE& RES Financing & Project Structures
2. Internal Workflows
- 3. Risks & Risk Mitigants**
4. Financial Modelling in Practice
5. ERSTE Group – An Introduction
6. Case Study



EE/ RES Financing & Project Structures

Main Risks & Mitigants (I)



Documents

Workflows

Due Diligence

Bankability

Risks & Mitigants

Risks

Mitigants

Cost Overrun Risk	<ul style="list-style-type: none">▪ Direct sponsor support (ie. equity injection undertaking)▪ Cash Deficiency Guarantees: additional payment obligations from sponsors
Construction/ Completion Risk	<ul style="list-style-type: none">▪ Sponsor's guarantee, completion guarantee and progress reports; warranties▪ Equity in advance and penalty payments; contingent equity; liquidated damages▪ Fixed-time turnkey contracts (EPC contracts)▪ Independent experts' reports on design and construction
Environmental Risk	<ul style="list-style-type: none">▪ Environmental assessment or audit as part of feasibility or DD▪ Warranties and covenants
Technological Risk	<ul style="list-style-type: none">▪ Involvement of advisors during planning, construction, operation▪ Use of suitable and proven technology
Force Majeur	<ul style="list-style-type: none">▪ Insurance

EE/ RES Financing & Project Structures

Main Risks & Mitigants (II)



Documents

Workflows

Due Diligence

Bankability

Risks & Mitigants

Risks

Mitigants

Operational Risk

- Performance warranty, insurance, operating & maintenance agreement
- Project covenants, performance standards
- Incentive based O&M contracts

Technological Risk

- Involvement of advisors during planning, construction, operation
- Use of suitable and proven technology

Market / Demand Risk

- Occupancy guarantees
- Long term sale contracts at agreed (adjustable) prices;
- Take or pay contracts; put or pay contracts; pass-through agreements; cash traps

Political Risks/ Regulatory Risk

- Export Credit Guarantees
- Involvement of International Financing Institutions / Multilaterals
- Involving public partners, cooperate with local official bodies
- Legal opinions as to the applicable laws and the enforceability of contracts with government entities

EE/ RES Financing & Project Structures

Main Risks & Mitigants (III)



Documents

Workflows

Due Diligence

Bankability

Risks & Mitigants

Risks

Mitigants

Credit Base/ Financial Standing of Project Investors

- In-depth assessment of sponsor (competences and industry knowledge);
- Agreement of completion criteria between construction and operating companies;
- Lending against ready to build and fully permitted project

Credit Risk

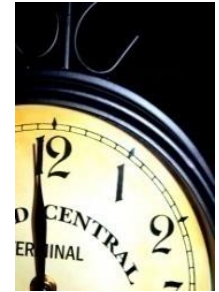
- Well functioning risk management; accurate CF and BS analysis
- Cash buffers as Debt Service Reserve Accounts
- Cash Sweep
- Collaterals and guarantees

Financial Risks

- Hedging
- FX-indexing in project contracts
- EPC-contract currency matches revenue currency (construction phase)
- Revenue currency matches supply/ debt currency



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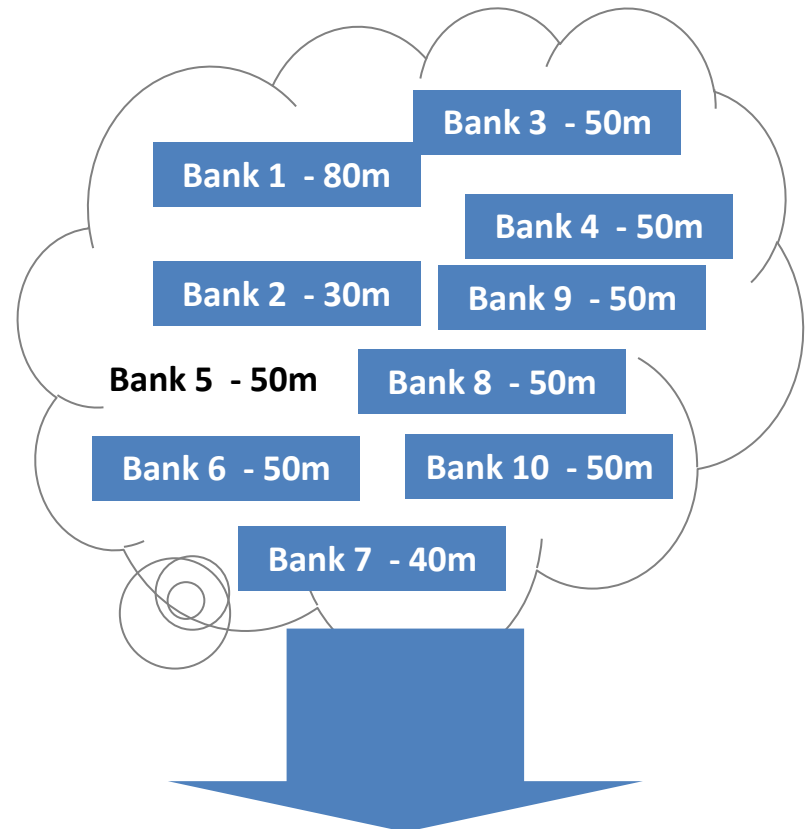


RES FINANCE STRUCTURES

Financing of Larger Energy Project Transactions in Current Times (IV) Funding Future Projects – Club Deals

Club deals are now the norm as underwriting is not available.

- Banks now **unwilling to underwrite** due to risk of failure in syndications market.
- **Club deals** are now required.
- Larger banks can hold up to €75-100 m, however, on average hold position **€50 m**
- A **€1 bn project** is likely to require **more than 10 banks** and is also subject to support by multilateral institutions!!
- Each bank requires “**seat at table**” and the result is often “lowest common denominator” terms – also very time consuming during negotiations.
- The more banks are required to finance a project – the more complex the **negotiation process** is, but if the banking club succeeds in “acting in concert” their bargaining power rises and therefore the possibility to negotiate “attractive” funding terms may increase.
- The problem can be intensified if **multiple bidders** – e.g., €1 bn project with 4 bidders requires €4 bn of financing at bid stage. Can result in lack of competitive terms and even bidders withdrawing.



Collectively negotiate with Public Authority and SPV



Financial Modelling in Practice

Why is Financial Modelling important?



Financial Modelling is important because:

- Only if investors and banks trust in the figures projects get built
- Projects compete with other investments for funding
- Decision support for development and financial structuring

Therefore the fundamental basis has to be clarified before any results can usefully be looked at:

- Using the right assumptions
- Using the correct tool
- Looking at the right ratios and returns



Financial Modelling in Practice

What is it for?

Guidelines

- 1) Calculating the project's **cash flow available for debt service (CFADS) / cash flow waterfall** and derive
 - financial covenants (ADSCR, LLCR)
 - Investors return etc.
- 2) Structure various different **(debt) repayment schemes** and **types**:
 - annuities, level repayments, sculpted instalments, bullet repayments
 - senior debt, junior debt, equity (bridge) tranches
 - Maturities, repayment free (grace) periods
- 3) Run different **scenarios** (scenario analysis) → **what IF ...**
 - revenues decrease / cost increase
 - interest / loan life change
 - changes in leverage/gearing set up (debt/equity ratio)
- 4) Run various **sensitivities** (sort of stress testing)
 - to what extent can revenues drop to maintain **min. debt service cover ratios** (min. ADSCR) or default ratios



Financial Modelling in Practice



Guidelines

Typical Set-up of a model

1) Input Parameters / Assumptions

- Time (project time)
- Revenues/ Cost (MWh produced)
- Financing (margins, hedging)
- Asset details (CAPEX)
- Tax/ Inflation

→ **Hard codes (no formulas)!**

→ „Data Quality“/ Sources

If you put crap in – you will get crap out ☺

2) Calculation Sheets

- Operating Revenues / Cost
- Cash Flow/ Balance Sheet / P&L
- Financing/
- Sensitivities

→ **Periodical demonstration**

→ **NO hardcodes – only formulas**

→ **Check on “circular references” and “formula quality”**

Avoid “over-complicated” formulas – others shall also be able to read and work with your model

→ ***Its not a “who is the smartest excel guy contest” ☺***

3) Output Sheets

- Executive Summary
- Charts and Graphs

→ **Presentation / Print out Purposes**

→ **No calculations/ No hardcodes**

→ **Only links from existing sheets**

→ **Make sure nice/ easy presentation**

→ **Not to be overloaded**

Remember: the simpler the better – your boss / client want to see a rather “self-explanatory” sheet

Glossary of Key Terms

Short	Description
(A)DSCR	<i>Annual debt service cover ratio</i>
LTV	<i>Loan to Value</i>
CFADS	<i>Cash flow available for debt service</i>
D/E Ratio	<i>Debt/Equity ratio</i>
CAPEX	<i>Capital expenditure</i>
OPEX	<i>Operational cost</i>
SPC / SPV	<i>Special purpose company / Special purpose vehicle</i>
EPC	<i>Engineering, procurement, construction</i>
P90, P75, P50	<i>Probability cases (wind measurements)</i>
PPA	<i>Power purchase agreement</i>
EIB	<i>European Investment Bank</i>
EBRD	<i>European Bank for Reconstruction and Development</i>
GCs	<i>Green certificates</i>
IFI	<i>International Financial Institutions</i>
TA/LTA	<i>Technical advisor/ traffic adviser/ lenders technical adviser</i>
DBFO / DBOM	<i>Design, build, finance and operate (and maintain)</i>



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