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# **USELF /EBRD Workshop**

## **“Development and Financing of Renewable Energy Projects in Ukraine – an Example for Local Banks?”**



**May 29, 2013**



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# Lessons learnt from the USELF due diligence process



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**May 29, 2013**



# Project Cycle

**Submission of the Technical Application Questionnaire**



**Project Eligible**



**Preliminary technical screening**

**Mandate Letter with EBRD**



**Technical, commercial, regulatory, financial and environmental due diligence**



**Decision on loan approval (EBRD)**



**Project implementation and monitoring**



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# USELF Due Diligence (1)

Assessment of a RES Project in loan approval process for and on behalf of EBRD and as first step of EBRD review process from different angles

- Technical perspective (“Technical Advisor”)
- Commercial and contractual perspective
- Regulatory, legal & permitting process perspective
- Environmental & social perspective
- Financial perspective



# USELF Due Diligence (2)

## Ultimate Purpose



Risk assessment and mitigation of risks:

- Identify possible risks
- Assess mitigation measures taken by the developer / investor
- Recommend improved & additional mitigation measures, if found available
- Discuss recommended mitigation measures and possible improvement of risk profile with developer



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# USELF Due Diligence (3)

## Unique features of Due Diligence by USELF Advisory Team

- Support in development of the project
- Contribution to improvement of the project's technical, commercial and contractual basis

→ This was often required as a result of lack of expertise in Project Financing and related technical and commercial issues

→ Financing banks need to ensure proper advisory support for Developers and Project Companies



# Technical Due Diligence

Main technical issues and shortcomings identified during technical due diligence depend on RES type

- Solar Power (PV):

- In general technically well-developed and sound technology
- Module manufacturer might need further assessment
- Very recently PID has emerged as possible serious impact

➔ With modules from reputable manufacturer, PID tested, and experienced EPC contractor PV projects should not fail for technical reasons



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# Technical Due Diligence

Main technical issues and shortcomings identified during technical due diligence depend on RES type

- Wind Power Plants

- Wind measurement in line with international standard and appropriate time not available
- Reputation and standing of wind turbine supplier
- Interface between tower and foundation



Wind power plants usually not problematic from a technical perspective, if sound wind measurement is available and reputable manufacturer selected



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# Technical Due Diligence

Main technical issues and shortcomings identified during technical due diligence depend on RES type

- Hydropower Plants

- Uniqueness of hydropower sites needs to be acknowledged
- Sound hydrological data very important
- Selection of appropriate type and size of turbine
- Technical advisors for SHPP rare in Ukraine
- Environmental impacts



SHPP less risky, when implemented by small group of experienced developers in the country or with international advisors; less risky, if existing SHPP are refurbished



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# Technical Due Diligence

Main technical issues and shortcomings identified during technical due diligence depend on RES type

- Biomass / Biogas Plants:
  - Complex technology, often with many interfaces
  - Generally EPC contractors not available for projects in Ukraine
  - Quality of equipment
  - Implementation schedule / commissioning
  - Security and quality of feedstock supply



**Biomass / biogas projects usually more risky than other RES; comprehensive technical advice required**



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# Financial Due Diligence

Obstacles for projects on the financial side:

- Lack of sufficient equity
- Cooperation with foreign investors difficult due to economic framework and country risk
- Too many “dead” projects
- Complicated organisational and ownership structure; difficult to identify beneficiary



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# Commercial Due Diligence

Strong commercial structure and contractual provisions are not always given

- Developers often lack experience in contract preparation and negotiation
- Contracts and contract structures might not be suited for project finance
- Guarantees of suppliers / EPC contractors often not sufficient for financing banks (availability / performance)
- Integration of EPC / supply and O&M contract



Assessment of contracts indispensable for reduction of risks



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# Regulatory & Permitting Due Diligence

Regulatory and permitting issues in due diligence can be very tricky and complicated

- Unclear / ambiguous regulatory provisions
- Appropriate determination of designated land use purpose
- Grid connection requirements and contract
- Compliance with local content requirements
- For biomass / biogas projects: definition of organic waste
- Green tariff granted after commissioning of the plant (“ex-post”)




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# Environmental Due Diligence

USELF projects need to meet local and EU standards

- Impacts from construction and operation of the facility
- Also impacts from transmission lines to be considered
- Impacts differ from one RES type to the other
  - More critical for hydropower / biomass / biogas
- Habitat / biodiversity / environmentally sensitive areas of particular importance; resettlement generally not critical
- Stakeholder participation, public hearings indispensable

 RES projects generally less critical than fossil alternatives, but individual projects can face problems



# Thank you for your attention!

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