



PROGRAMME FUNDED BY THE EU



"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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Two exercises in developing EE/RES financing plans and lending conditions

AHEF GE.049 WORKSHOP:

“Capacity building for financing of EE / RES projects”

July 9-13, 2013

Tbilisi, Georgia

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Exercise #1

Renewable Energy Sources



Project information

Wind turbine (power)	0.8 MW
Confidence level	P75
Investments	1 200 000 €
Full-load operating time	2 800 h/yr
Tariff	0.125 €/kWh
O&M cost	5% of calculated generation
Company assets	3 600 000 €
Capital	2 400 000 €
Depreciation allowance	20 years

Exercise #1 - Create:



1. Financing Plan

- Investment sources (bank, IFI, own sources, grant)
- Investor's share
- Investment timesheet by sources
- List of acceptable values of project indicators (NPV, SIR, IRR, PBP, D/R)

2. Financing Conditions

- Financing tool (loan, leasing, equity investment, LC/LG)
- Lending period/term
- Annual interest
- Grace period
- Repayment schedule





3. Risk management/security

- Collateral / guarantees / security
- Solvency assessment
- Tariff / market risks
- Political risks
- Technical / O&M risks
- Ecological risks

4. Implementation management

- Project development, (engineering, licenses, expertise, environmental impact statement)
- Contracting
- Construction
- Equipment purchase
- Commissioning

Calculate Exercise #1 project indicators
(NPV, SIR, PBP, IRR)

Exercise #2

Energy Efficiency



Project information

Baseline consumption	3 100 000 kWh
New consumption	1 850 000 kWh
Investments	520 000 €
Full-load operating time	8 760 h/yr
Tariff	0.125 €/kWh
O&M cost	5% of annual energy cost
Company assets	2 200 000 €
Capital	1 400 000 €
Depreciation allowance	15 years

Information center uses 3 cooling units of 1180 kW ea. Energy auditor recommends changing technology to 1 free cooling unit @ 2110 kW.

Exercise #2 - Create:



1. Financing Plan

- Investment sources (bank, IFI, own sources, grant)
- Investor's share
- Investment timesheet by sources
- List of acceptable values of project indicators (NPV, SIR, IRR, PBP, D/R)

2. Financing Conditions

- Financing tool (loan, leasing, equity investment, LC/LG)
- Lending period/term
- Annual interest
- Grace period
- Repayment schedule



3. Risk management/security

- Collateral / guarantees / security
- Solvency assessment
- Tariff / market risks
- Political risks
- Technical / O&M risks
- Ecological risks

4. Implementation management

- Project development, (engineering, licenses, expertise, environmental impact statement)
- Contracting
- Construction
- Equipment purchase
- Commissioning

Calculate Exercise #2 project indicators
(NPV, SIR, PBP, IRR)