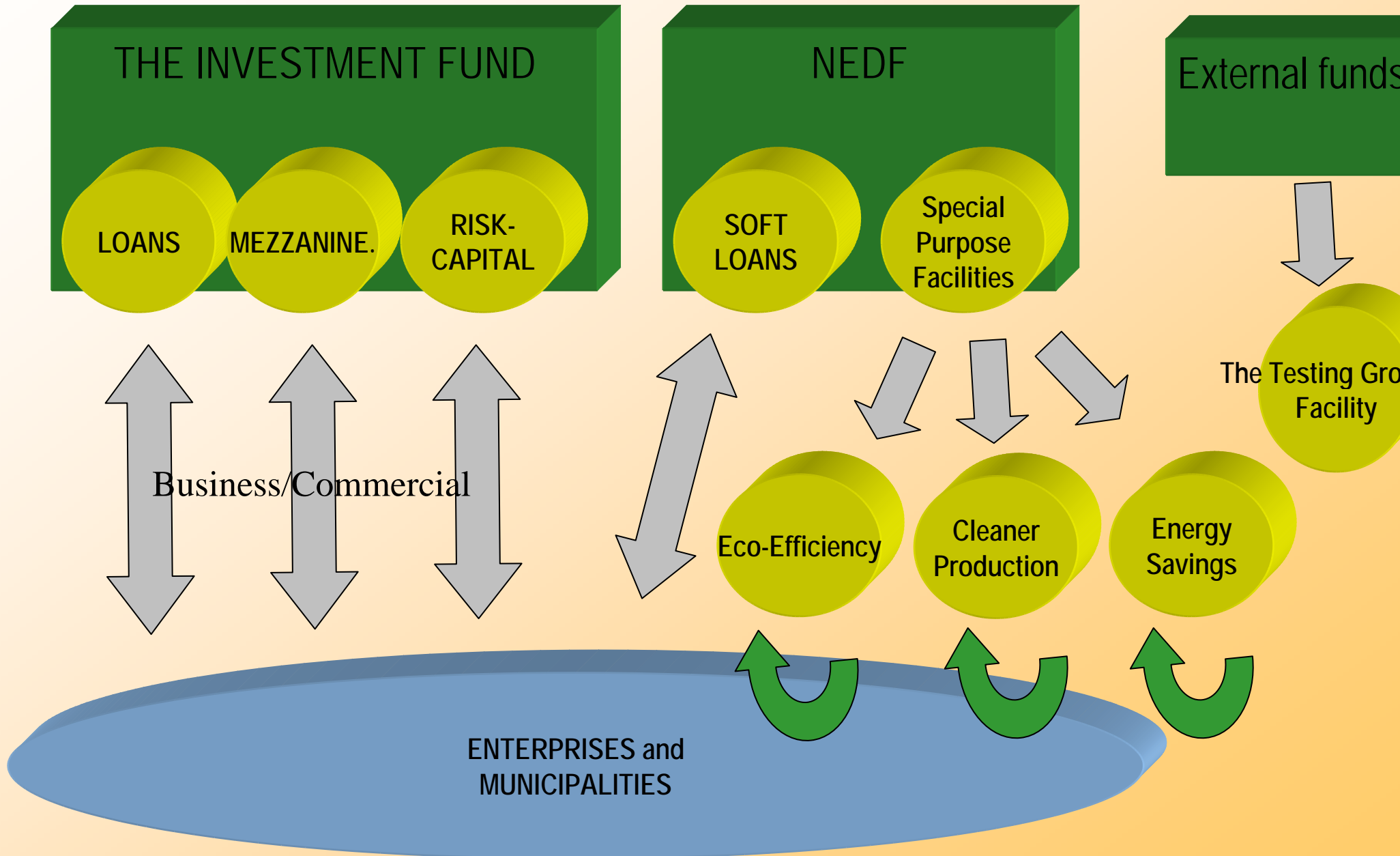


Nordic Environment Finance Corporation

Financing Energy Saving Projects in Northwest Russia

Moscow 13 - 14 November 2006

- NEFCO is a multilateral financial institution established in 1990
- Owned by the five Nordic countries Denmark, Finland, Iceland , Norway and Sweden
- Finances environmental investments in Russia, Ukraine and the Baltic States
- The project must result in positive environmental effect and be economically viable





- Mainly focuses on small and medium sized projects
- Risk capital financier
- Countries of operation
 - Russia (primarily Northwest), Ukraine and Belarus
 - Estonia, Latvia and Lithuania (limited)



- Must demonstrate relevant environmental effect
 - emission or effluent reduction, soil remediation etc.
- They are economically, financially, institutionally and technically sound and viable
- They have preferably a Nordic business partner or investment partner

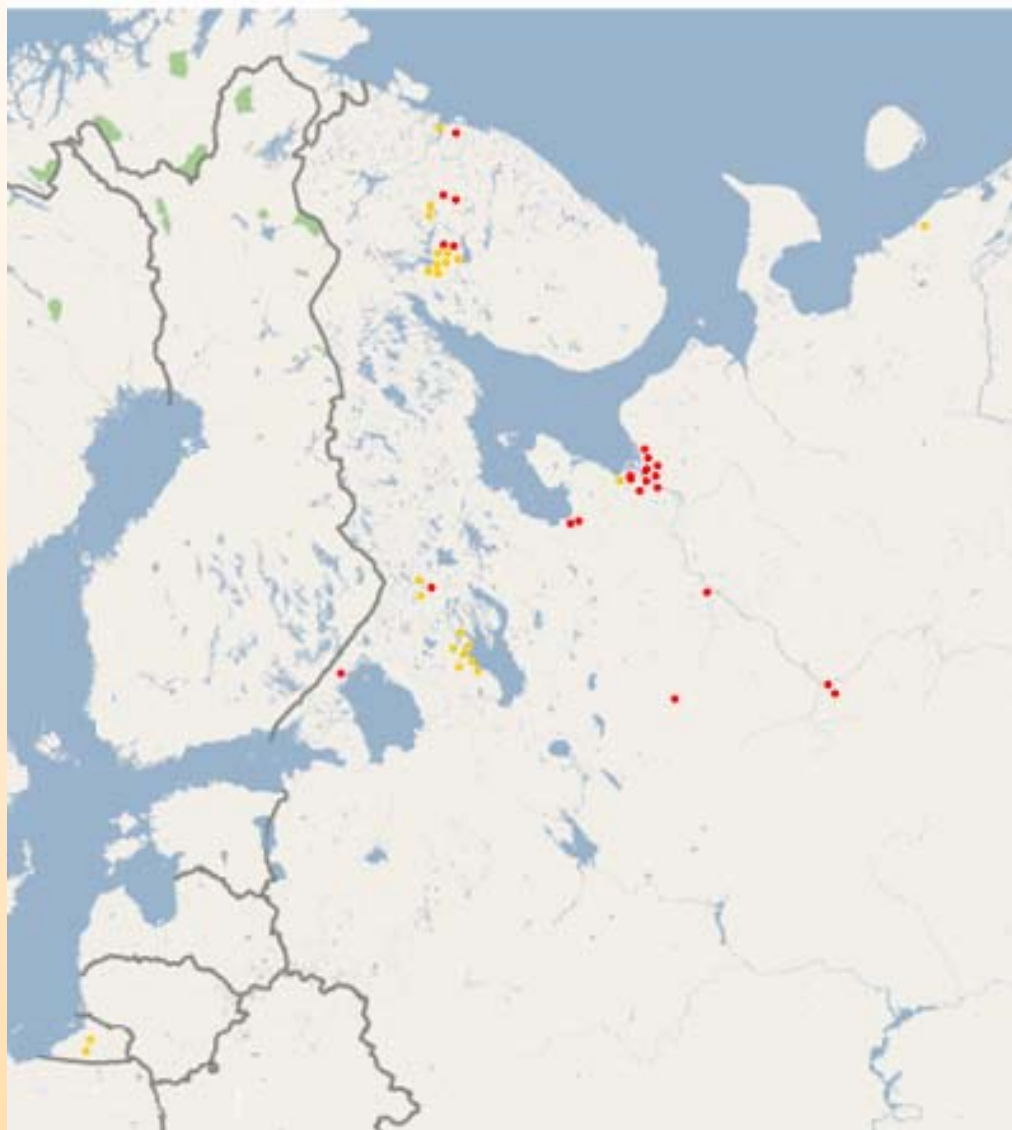
- Provides concessional financing for priority environmental projects.
- Complements and supplements other finance organizations both bilateral and international and supports the realization of projects that otherwise would not materialize.
- Countries of operation
 - Russia (primarily Northwest) and Ukraine

Special Purpose Revolving Facilities for NW Russia and Ukraine

- Energy Savings Programme 1997-2005
- Energy Savings Credit Facility 2004 -
- Eco-Efficiency Loan Facility 2004 -
- Cleaner Production Loan Facility 1999-

Geographical distribution of Energy Saving projects

ESP (yellow), ESC (red)



Energy Savings Programme

EUR 2,6 million

Grant financing, NEFCO 50%, local funds 50%, repayment to local revolving fund. 30 projects financed by NEFCO, in addition 5 projects partially or completely by revolving funds.

Most common measures: renovation of heat substations in social sphere buildings, in combination with insulation of windows and doors

Heating Sub-central Renovation



Before project implementation...



... and after project implementation...

Renovated school in Petrozavodsk



Energy Savings Programme

Background:

- Establishment of Energy Efficiency Centres, bilateral support from Nordic countries
- Choice of projects based on Energy Audits in municipal buildings
- Close monitoring by specialized consultants: local and Nordic
- Calculation and capturing of the positive effects
- Cash flow from savings

Case Study - Petrozavodsk, Rep. of Karelia starting 2002

First project: Installation of energy meters in 113 municipal buildings in combination with Energy Management System.

- Establishment of Project Management Team, including a representative of the local Energy Efficiency Centre
- Establishment of Revolving Fund

Case Study - Petrozavodsk, Karelia

- Savings: difference between billing according to the norm and the cost of actually consumed heat
- Savings from the metering project established a platform of savings, generated by heat costs based on actually consumed heat energy - not according to norm
- Long negotiations before the heat company accepted the new principles for billing
- The next project was financed partly by NEFCO, partly by the Revolving Fund

Case study - Petrozavodsk, Karelia

- Upgrading of heat sub-centrals in schools combined with insulation of windows
- NEFCO provided grant amounting to 50% of the investment, the City Administration the other 50%, partly from budget, partly from RF
- School projects co-financed with GEF (replaced CA's contribution to a certain amount)

Case Study - Petrozavodsk, Karelia

Implemented projects: Investment

- Installation of heat meters \$ 210 000
- School no 3 \$ 36 000
- Derzhavin Lyceum (incl.GEF grant 25') \$ 77 500
- School no 4 (incl.GEF grant 25') \$ 66 700

New projects to be financed only by the RF

- Three musical schools, heat sub-centrals \$ 38 100
- Children's school of Arts, heat meters \$ 6 300
- City Library sealing windows \$ 12 200

Total

\$446 800

Derzhavin Lyceum - Petrozavodsk, Karelia

Energy and fuel consumption before and after project implementation:

**Energy Consumption
(kWh/year)**

**Mazut consumption
(t/year)**

Before

After

Before

After

1 007 158

641 089

151

96

The project contributes to the reduction of 140 tons of CO₂/year

Derzhavin Lyceum - Petrozavodsk, Karelia

Savings:

ES Measures	Investment US\$	Savings kWh/y	US\$/y	Payback,y
1. Heating balancing system, thermostatic valves installation	26 000	117 315	4 400	5,9
2. Heating substation up- grading with temperature setback	32 125	16 147	4 350	7,4
3. Sealing of windows	19 375	132 607	4 975	3,9
Total	77 500	366 069	13 725	5,6

Energy Saving Credits

New Credit Facility DKK 40 million (EUR 5 million)

- **Subsidized finance** to social objects (schools, kindergartens, hospitals, sports facilities etc.)
- **Annual savings** of at least 25% of the investment cost
- **Significant environmental effects** shall be achieved
- **Repayment directly tied to the savings** of the investment
- **Borrower:** Municipality or municipal company (MUE)

Terms of the loan:

- **In local currency (RUB or UAH)**
- **Min. 50,000 and max EUR 260,000 equivalent**
- **Amount max 90% of the project cost**
- **Interest 3% p.a.**
- **Municipality acts as borrower, or**
- **Loan secured by municipal guarantee**
- **Repaid in equal quarterly instalments (serial loan)**
- **Maturity 4-5 years (period tied to the savings of the project)**
- **Grace period during construction.**
- **Standard Loan Agreement (not negotiable)**

- 5 projects under implementation in Northwest Russia
- 15 new projects in pipeline
- The project implementation is monitored by local and Nordic consultants in order to secure good quality
- Continuous demand for NEFCO financing
- Negotiations with Russian intermediary bank ongoing

Eco-Efficiency Loans

NEFCO offers finance mainly to public enterprises for projects that have a positive environmental effect both on demand and supply side

For a project to qualify for an Eco-Efficiency loan it must produce

- Annual cost savings of at least 25% of the investment cost when considering both direct and indirect cost savings.
- Annual direct cost savings of at least 12,5%
- Significant environmental benefits

Terms of the Eco-Efficiency loan:

Loan amount min EUR 200,000 and max EUR 400,000

- Loan amount max 90% of the project cost
- Interest fixed at 6% p.a.
- Security 125% of the loan amount and/or municipal guarantee
- Repaid in equal quarterly instalments (serial loan)
- Maturity up to 9 years (repayment 8 years)
- Possible grace period during construction.
- Standard Loan Agreement (not negotiable)
- Competitive procurement – Nordic companies can bid

Cleaner Production Revolving Loan Facility

NEFCO offers finance (max. EUR 350 000) on reasonable terms to businesses that want to modernise their production to make it more efficient and less wasteful.

Annual savings of at least 25% of the Investment Cost required, Maturity 4-5 years

NEFCO offers a variety of financial instruments for energy saving measures

www.nefco.org

Visit our web-pages for more information