New ITS Project
Combined Event on Sustainable Energy Policy

Facilitation of Investments in the promotion of RES and EE
Latvian Environmental Investment Fund
Riga, Latvia, September 24, 2013

BUILDING PARTNERSHIPS FOR ENERGY SECURITY

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Latvian Environmental Investment Fund

Facilitation of Investments in the promotion of renewable energy and energy efficiency

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24.09. 2013
Riga
Special funds

State creates a long-term financing scheme instruments that will facilitate implementation of EE projects

- Example in Latvia:
  - **Latvian Environmental Protection Fund** – provides grant financing
  - **Latvian Environmental Investment Fund** – provides loan financing:
    - starting capital was granted by the Latvian Environmental Protection Fund
    - additional loan financing was attracted signing credit lines with NEFCO
    - additional grant financing was attracted bundling projects—like UNDP etc.
Latvian Environmental Investment Fund

MONEY FLOW TO THE LATVIAN ENVIRONMENTAL INVESTMENT FUND

EU PHARE

LATVIAN ENVIRONMENTAL PROTECTION FUND 8.5 MECU

2 MECU

28% OF TOTAL INCOME PER YEAR

LATVIAN ENVIRONMENTAL INVESTMENT FUND

SOFT LOANS

WATER PROTECTION

WASTE HANDLING

ENERGY SECTOR

NATURAL RESOURCES TAX
Latvian Environmental Investment Fund

• Mission – to reduce environmental pollution by promoting implementation of the environmental protection projects and increasing capacity of municipalities and enterprises in preparation and implementation of qualitative and effective environmental projects from idea to it’s realization

• Our activities are directed at achieving maximum environmental improvement, investing financial resources in implementation of environmental infrastructure development projects
Main facts about Latvian Environmental Investment Fund [LEIF]

• LEIF was established by the Ministry of Environment in 1997 and have accumulated more than 15 years of experience in the implementation of environmentally friendly projects

• LEIF’s share capital is more than €6.7m

• Prudent credit management history – zero credit losses

• LEIF is a reliable partner with a high reputation:
  – Nordic Environment Finance Corporation 1st credit line – €3.5m (1998)
  – Nordic Environment Finance Corporation 2nd credit line – €3.0m (2005)
  – Nordic Environment Finance Corporation 3rd credit line – €5.0m (2010)

• LEIF (since 2004) has received the coveted ISO 9001:2008 certificate of quality management systems
Directions of the LEIF activities

• **Financial service** – combining local and foreign financial resources, to issue loans in order to support municipalities and commercial organizations in implementing environmentally favorable projects.

• **Program management** – to distribute financial resources and provide the appropriate:
  • Qualitative project identification
  • Project implementation supervision

• **Development cooperation projects** –
  • to promote and transfer the Fund's amassed experience on environmental project preparations.
  • Sharing post monitoring and implementation results with other countries
Directions of the LEIF activities

• **Supervision on implementing the Climate change financial instrument (CCFI) co-financed projects** – to promote the most effective and transparent use of resources provided by CCFI

• **Awareness raising**
  — to identify and promote environmentally favorable projects including their preparation for financing.
  — To increase the level of awareness about the opportunities and benefits of implementing environment projects.
Financial services

Main financing sources for the implementation of environmental sector projects in Latvia.

• **Grants:**
  – EU Structural funds (Cohesion fund and European Regional Development Fund)
  – Green investment schemes (Climate change mitigation financing instrument)
  – Other programs (*LIFE*+ *etc.*,)

• **Loans:**
  – *Latvian Environmental Investment Fund (LEIF)*
  – State Treasury
  – Banks
Financial services

Feasible projects:

- **Significant quantitative environmental improvements**, for instance:
  - **Drinking water** – the quality conforms to the environmental standards including an improved uninterrupted supply of drinking water ensured.
  - The **supply of clean centralized drinking** water to inhabitants increases.
  - **Waste water** – the quality of waste water treatment conforms with the required standards, thus the quantity of collected waste water increases.

- **Clear financial viability** – sufficient resources and revenues to repay the loan and interest

- LEIF carries out **post implementation monitoring of projects implemented within** the whole loan repayment period
Portfolio of Financial services

- Loans approved – ~ €36m (~265 projects with total investments of ~ €85.0m)

- Loans portfolio – ~ €4,8m as of 31 December 2012

- Fully repaid loans – ~ €18.6m (146 projects)

- **Fund does not have or hold any bad debts** – according to the independent auditors’ reports (audited by internationally recognized auditors)
Drinking water
Waste water treatment
Cleaner production
Waste recycling
Insulation of buildings
Environmentally friendly heat supply
Programme management

2003-2004

Financing scheme "Reconstruction of boiler houses promoting fuel switch to biomass" supported by the United Nations Development Program (UNDP) (UNDP co-financing – 0.2 million USD)

2003-2004

Program "Energy Efficiency Initiative in Housing in Latvia" supported by German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety – Project Implementing Unit (KfW loan – €5.0 million, donation – €2.0)
Programme management

2006-2008
Project "Environmentally sound disposal of PCB containing equipment" supported by the UNDP – National Project Implementing Agency (UNDP co-financing – 0.7m USD)

2010-2011
Project "Demonstrating and promoting best techniques and practices for reducing health-care waste to avoid environmental releases of dioxins and mercury " – National Project Implementing Agency (UNDP co-financing – 0.6m USD)
Development Cooperation projects

The Fund has accumulated extensive knowledge and experience on implementing environmental projects such as:

- Expert supervision and post-implementation monitoring of projects.
- The development of financing mechanisms for environmental projects.

Therefore, activities related to development cooperation of projects is the latest direction of the Fund's operations targets on:

- **Cross-border cooperation in EU programs**
- **Transfer of Fund's experience** to countries that are progressing towards developing an efficient environmental protection system
- **Cooperation in development cooperation programs**
Development cooperation projects (II)

Transfer of Fund's experience:

The Fund’s staff have participated in development cooperation projects as short term experts in Kosovo, Moldova, Serbia, Azerbaijan, Georgia, Kirgizstan, Kazakhstan, Ukraine, Kurdistan Region of Iraq on the following topics –

• Environmental policy development

• Environmental projects financing schemes

• Sectorial policies – water sector development

• Waste management etc.,
Development Cooperation projects (III)

Cross-border cooperation in EU projects:

- Passive and Renewable Energy Regions (PassReg)/*Intelligent Energy – Europe*
- Efficient Energy Building Roadmap for Latvia (Build Up Skills)/ *Intelligent Energy – Europe*
- Commercial Mussel Farming, processing and end-use in the Baltic Sea Region/ *Central Baltic INTERREG IV A*
- "Adding to SEAP – more participants, more content across Europe" (SEAP-PLUS)/ *Intelligent Energy – Europe*
- "Bioenergy Promotion 2 – from strategies to activities" (Bioenergy Promotion 2)/ *Baltic Sea Region Programme*
- Procurement in Municipalities focusing on Energy Efficient Solutions (PRIMES)/ *Intelligent Energy – Europe*
- Monitoring and management of flowing rain water in Baltic Sea catchment areas (Baltic Flows)/ *FP7*
- **Industrial Energy Efficiency Cluster** – National support program
Bioenergy Promotion 2 – from strategies to activities (Bioenergy Promotion 2)

• Co-financed by Baltic Sea Region Programme
• Budget ~ EUR 1.5M. LEIF contribution ~ EUR 102k (including self-financing 15%)
• 13 partners from 7 countries
• The overall objective of the Extension Stage is to implement key final results of the Main Stage via demonstration, testing and transfer activities. The objective is to extend the strategic outputs of the main stage project into the Baltic Sea Region and national political arenas including also local and regional administration and utility companies.
• Bioenergy regions/ SEAP development
Adding to SEAP – more participants, more content across Europe (SEAP-PLUS)

• Co-financed by IEE
• Budget ~ EUR 2M. LEIF contribution ~ EUR 102k (including selffinancing 25%)
• 12 partners from 11 countries
• To bring more Signatories and Covenant Supporters or Coordinators in CoM, assist and help them in the preparation of more and better SEAPs, but also trigger cooperation of Local Authorities with Regional Authorities and Energy Stakeholders and cooperation between experienced and learning CoM participants.
• 5 SEAPs in Latvia
Awareness raising (I)

Awareness raising about **successful realization of the environmental projects**

The main components are:

• Organization of informative **seminars** (including – visits to project realization places)

• Preparation of **guidelines for the project beneficiaries** and **special training courses** – for instance, for water system managers

• Specialized interactive site – [www.videsrisinajumi.lv](http://www.videsrisinajumi.lv)
www.videsrisinajumi.lv – Environmental solutions for all

- Informs about technologies and principles of operations in various environmental fields
- Provides understanding about common problems and possible solutions
- Contains current legislation regarding implementation of environmental projects
- Informs about various financial sources for project implementation
- Contains information on completed projects in order to promote knowledge sharing
Environmental impact

The environment in which we live is affected by four fundamental elements: water, air, earth and – within the last few millennia – man.

This website consists of four sections. Each section provides an overview of the regulatory base, the basic principles of the operation of the systems, a summary of information on the latest technologies, offers solutions to existing problems in the system, as well as features a calculator for calculating the costs of the solutions and a list of implemented projects.

In the section Water you will find information about the drinking water supply system and the sewerage system.
In the section Air you will find information about the energy efficiency of buildings, the heating system and renewable energy resources.
In the section Earth you will find information on waste management.
In the section Human you will find information on the ways how each of us can reduce the impact of our activities on the environment.
House insulation

When living in the Latvian climate, one has to anticipate high energy consumption for heating. The heating season lasts approximately six months per year. If we look at the traditional construction of buildings, we can observe that heat energy primarily escapes in three ways:

- Through the enclosing structures of the building, such as walls, roofs, foundations, windows, etc.
- By penetration through gaps and openings on the building façade.
- Through the ventilation system.

The greatest effect in reducing energy consumption can be achieved by applying comprehensive solutions that include improvements to all the weak elements of the building, thus increasing the energy efficiency of the building. However, energy efficiency measures generally require a substantial investment, which is why one needs to assess what the minimum tasks would be, which are also economically beneficial, to achieve the maximum impact. Thus finding a balance between the cost of the investment and the gains through energy economy is the most important thing so that a monthly reduction of costs can be achieved.

The benefits of implementing measures that enhance the energy efficiency of buildings are as follows:

- Financial savings
**Principles of operation of the calculator**

This calculator has been developed based on an overview of technology available in Latvia and is intended for the modelling of costs and technologies for settlements with population up to 2,000 based on typical cases (in specific cases, there may be significant variations in the calculations).

The results of the calculation are for demonstration purposes only and do not eliminate the need of developing appropriate technical documentation prior to reconstruction/construction.

The results of the calculations performed here are of informative nature and do not constitute a commercial offer.

<table>
<thead>
<tr>
<th><strong>Basic information</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>House name/address</strong></td>
</tr>
<tr>
<td><strong>Building manager</strong></td>
</tr>
<tr>
<td><strong>Year of construction of the building</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Detailed information</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average heat consumption</strong></td>
</tr>
<tr>
<td><strong>Central heating</strong></td>
</tr>
<tr>
<td><strong>Building type</strong></td>
</tr>
<tr>
<td><strong>Building location</strong></td>
</tr>
</tbody>
</table>
Climate change financial instrument (CCFI)

- Prevent global climate change
- Adaptation to the effects of climate change
- Contribute the reduction of greenhouse gas emissions (e.g., implementing activities to improve the energy performance of buildings in both public and private sectors)
- Green investment scheme
CCFI Framework

Energy efficiency
Use of RES

Fossils
Greenhouse gas emissions

“greening” purposes:
• increase of renewable energy use;
• improvement of energy efficiency in buildings;
• application of innovative low carbon technologies;
• capacity building for climate change policy design and implementation;

Kyoto protocol 17. article of ETS
Climate change financial instrument (CCFI)

The financing of the Tenders is formed by the Proceeds from the Assigned Amount Units Purchase Agreements which are made within the international emissions trading under the Kyoto Protocol.

Kyoto Protocol for period of 2008-2012 for the enforcement of obligations (8% total reduction compared to 1990 levels) Latvia will not need all available AAU, and the potential excess will be at least 40 million units.

Can not use for all other purposes such as -
European Union Emission quotas

- AAU it is not possible to convert into emissions quotas or use instead of emission quotas.
CCFI legal basis

- Ministry of Environmental Protection and Regional Development coordinates the program;
- Latvian Environmental Investment Fund provides supervision of implementation and post-implementation monitoring of projects co-financed by (CCFI co-financing – 200 million EUR);
- Law on Latvia’s participation in Kyoto flexible mechanisms (2008);
- Cabinet of Ministers regulation on implementation of Kyoto protocol mechanisms projects;
- Cabinet of Ministers regulation on implementation of each specific tender;
Assigned Amount Units Purchase process
CCFI Targets

- Energy efficiency
- Complex measures in public buildings and industry
- Renewable energy technologies
- Low energy buildings
- Household microgeneration
- Efficient street lighting
- GHG technology development
- Renewables in transport sector

137 MLs, 2009 - 2013
CCFI essence

\( \text{kgCO}_2 \text{year} / \text{LVL} \)
Stages of project implementation

Contract

Implementation

3-side contract: Ministry + Fund+ beneficiary

t CO₂
CCFI implementation principles

- Open Public Tenders;
- Green Public Procurement principles (where applicable);
- Financing to projects is given to achieve concrete quantitative results – expected reduction of CO$_2$ emission (t CO$_2$)
- Project post implementation monitoring – instrument for assessment of sustainability of projects implemented

- Monitoring period – 5 years or 3 years
- Monitoring reports – every year
- On-site inspections – once in the monitoring period
Project implementation
CCFI projects

16 open project tenders (12 on-going)
2079 implemented and 83 still on implementation phase;
~140MEUR invested
~ 60MEUR
## Current Situation (I)

<table>
<thead>
<tr>
<th>NR</th>
<th>Tender title</th>
<th>Investment for Tender, LVL</th>
<th>Investment for Tender, EUR</th>
<th>Amount of projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Increase of Energy Efficiency in <strong>Municipal Buildings</strong> (1st stage)</td>
<td>23 762 460</td>
<td>33 810 935</td>
<td>56</td>
</tr>
<tr>
<td>2</td>
<td><strong>Development of Technologies</strong> Reducing Greenhouse Gas Emissions</td>
<td>1 757 010</td>
<td>2 500 000</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>Increase of Energy Performance in <strong>Higher Education Establishment Buildings</strong></td>
<td>7 028 040</td>
<td>10 000 000</td>
<td>20</td>
</tr>
<tr>
<td>4</td>
<td>Technology Conversion from <strong>Fossil to Renewable</strong> Energy Sources</td>
<td>8 082 346</td>
<td>11 500 142</td>
<td>51</td>
</tr>
<tr>
<td>5</td>
<td>Complex Solutions for Greenhouse Gas Emission Reduction in State and <strong>Municipal Vocational Education Establishment Buildings</strong></td>
<td>11 939 811</td>
<td>16 988 821</td>
<td>29</td>
</tr>
<tr>
<td>6</td>
<td>Complex Solutions for Greenhouse Gas Emission Reduction in <strong>Manufacturing Buildings</strong></td>
<td>8 125 242</td>
<td>11 561 178</td>
<td>48</td>
</tr>
<tr>
<td>7</td>
<td>Complex Solutions for Greenhouse Gas Emission Reduction in <strong>Municipal Buildings</strong> (2nd stage)</td>
<td>17 506 232</td>
<td>24909124</td>
<td>46</td>
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</table>
## Current Situation (II)

<table>
<thead>
<tr>
<th>NR</th>
<th>Tender title</th>
<th>Investment for Tender, LVL</th>
<th>Investment for Tender, EUR</th>
<th>Amount of projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td><strong>Raising of Public Awareness</strong> Regarding the Importance and Possibilities of Greenhouse Gas Emission Reduction</td>
<td>597 384</td>
<td>850 000</td>
<td>16</td>
</tr>
<tr>
<td>9</td>
<td>Use of Renewable Energy Resources <strong>in Transport Sector</strong></td>
<td>3 522 621</td>
<td>5 012 238</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td><strong>Low Energy Consumption Buildings</strong></td>
<td>7 261 722</td>
<td>10 332 499</td>
<td>21</td>
</tr>
<tr>
<td>11</td>
<td>Use of Renewable Energy Resources <strong>in Household Sector</strong> (1st and 2nd stage)</td>
<td>11 399 481</td>
<td>16 220 000</td>
<td>2232</td>
</tr>
<tr>
<td>12</td>
<td><strong>Use of Renewable Energy</strong> Resources for Reduction of Green House Gas Emission</td>
<td>27 716 876</td>
<td>39 437 561</td>
<td>63</td>
</tr>
<tr>
<td>13</td>
<td>Greenhouse gas emission reduction in <strong>Municipal lighting</strong></td>
<td>2 811 216</td>
<td>4 000 000</td>
<td>24</td>
</tr>
<tr>
<td>14</td>
<td>Greenhouse gas emission reducing development of <strong>technologies and implementation of pilot projects</strong></td>
<td>2 793 646</td>
<td>3 975 000</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Summary</strong></td>
<td><strong>134 304 089</strong></td>
<td><strong>191 097 502</strong></td>
<td>2627</td>
</tr>
</tbody>
</table>
## Results achieved

<table>
<thead>
<tr>
<th>No</th>
<th>Public tender</th>
<th>CCFI financing EUR</th>
<th>CO₂ emissions t/per year</th>
<th>Number of buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Increase of Energy Efficiency in Municipal Buildings</td>
<td>33 810 935</td>
<td>2 205.02</td>
<td>222</td>
</tr>
<tr>
<td>2</td>
<td>Increase of Energy Performance in Higher Education Establishment Buildings</td>
<td>10 074 749</td>
<td>2 466.31</td>
<td>34</td>
</tr>
<tr>
<td>3</td>
<td>Complex Solutions for Greenhouse Gas Emission Reduction in State and Municipal Vocational Education Establishment Buildings</td>
<td>16 975 425</td>
<td>5 310.14</td>
<td>48</td>
</tr>
<tr>
<td>4</td>
<td>Complex Solutions for Greenhouse Gas Emission Reduction in Manufacturing Buildings</td>
<td>11 315 258</td>
<td>9 689.1</td>
<td>72</td>
</tr>
<tr>
<td>5</td>
<td>Complex Solutions for Greenhouse Gas Emission Reduction in Municipal Buildings (II round)</td>
<td>24 695 241</td>
<td>8 429.96</td>
<td>139</td>
</tr>
<tr>
<td>6</td>
<td>Low Energy Consumption Buildings</td>
<td>9 420 805</td>
<td>2 205.02</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL:</strong></td>
<td>106 292 412</td>
<td><strong>30 305.55</strong></td>
<td><strong>543</strong></td>
</tr>
</tbody>
</table>
EE solutions by CCFI investment

- 35% Municipal buildings;
- 23% usage of RES
- 10% Professional education buildings
- 5% Switch from fossil to RES
- 5% Low energy buildings
- 3% Public lightening infrastructure
Complex Solutions for Greenhouse Gas Emission Reduction in State and Municipal Vocational Education Establishment Buildings

Before

After

CCFI co-financing
EUR 225 427

Reduction of CO₂ emissions
72.88 t/per year

Dormitory of Vecbebru vocational secondary school
Transition from fossil to renewable energy resources at Allaži elementary school and Allaži sports centre

- Replacing the thermal energy production equipment at the elementary school and sports centre in Adazi
- The total installed capacity is 700 kW

CCFI financing – LVL 29170.00

CO₂ emissions reduction – 150.75 t per year
Risks of implementation

– Increase of project costs
  • result of Public procurement procedure
  • inaccurate estimated costs
  • weak quality of technical documentation

– Problems with supervision of construction process and construction work quality
CCFI for household sector
Entered contracts in household sector

Use of Renewable Energy Resources in Household Sector (I round)

Use of Renewable Energy Resources in Household Sector (II round)
CCFI for household sector

11 399 481 LVL planned
6 023 870.98 LVL implemented
1761 implemented projects

Supported technology:
– biomass boilers - 50 kW
– solar collector systems - 25 kW
– heat pumps - 50 kW
– wind power generators - 10 kW
– PV solar panels - 10 kW

Maximum of CCFI per project - 7000 LVL, 50%
Household technology choice

- 36% heat pumps
- 32% solar collector systems
- 23% biomass boilers
- 10% placed more than 1 technical device
From project idea to its completion – together with Environmental Investment Fund!

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