KPFI
CLIMATE CHANGE
FINANCIAL INSTRUMENT

Climate Change Financial Instrument experience on low carbon technologies and solutions

Climate and Environmental Policy
Integration Department

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MINISTRY OF ENVIRONMENTAL
PROTECTION AND REGIONAL DEVELOPMENT

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- Energy production

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source: pictures form www.google.com and CCFI

Mechanism for the Allocation of CCFI Funds is Open tenders of project applications 2009-2012

- KPFI-1 “Increase of Energy Efficiency in Municipal Buildings”;
- **KPFI-2 “Development of Technologies Reducing Greenhouse Gas Emissions”;**
- KPFI-3 “Increase of Energy Performance in Higher Education Establishment Buildings”;
- KPFI-4 “Technology Conversion from Fossil to Renewable Energy Sources”;
- KPFI-5 “Complex Solutions for Greenhouse Gas Emission Reduction in State and Municipal Vocational Education Establishment Buildings”;
- **KPFI-6 “Complex Solutions for Greenhouse Gas Emission Reduction in Manufacturing Buildings”**;
- KPFI-7 “Complex Solutions for Greenhouse Gas Emission Reduction in Municipal Buildings”;
- KPFI-8 “Raising of Public Awareness Regarding the Importance and Possibilities of Greenhouse Gas Emission Reduction”;
- **KPFI-10 “Low Energy Consumption Buildings”**;
- KPFI-11 “Use of Renewable Energy Resources in Household Sector”;
- KPFI-12 “Use of Renewable Energy Resources for Reduction of Greenhouse Gas Emission”;
- KPFI-13 “Reduction of Greenhouse Gas Emission in the Lighting Infrastructure of Public Territories of Municipalities”;
- **KPFI-14 “Development of Technologies Reducing Greenhouse Gas Emissions and Implementing of Pilot Projects”;**
- **KPFI-15 “Complex Solutions for Greenhouse Gas Emission Reduction”.**

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Open Tender “Development of Technologies Reducing Greenhouse Gas Emissions”

Activities to be Supported in the Framework of the Tender

Within the framework of the tender development of pilot products or technologies, by implementation of which reduction of GHG emissions is promoted, shall be supported, including mastering, combination, adaptation and utilisation of scientific conclusions, technological, commercial and other relevant know-how and methods for carrying out and documenting the following:

- development, testing and demonstration of a new product or technology;
- improvement, testing and demonstration of an existing product or technology.

Example of Implemented Project (KPFI-2)

Title: Elaboration of innovative combined renewable thermal energy and electricity block and its implementation in production (LLC “Sun Investments”)
Total eligible costs: 84 448 lats
CCFI financing: 50 669 lats
Reduction of CO_2 emissions: 5.280 t per year

Design of the solar collectors, their development and production

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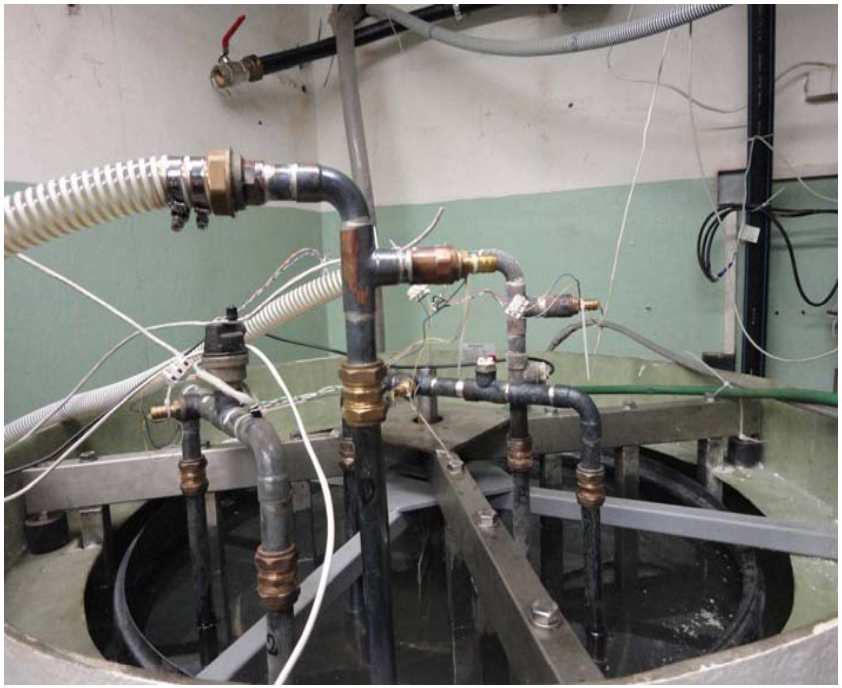
Example of Implemented Project (KPFI-2)

Title: Elaboration of prototype of sewerage sewage heat recuperation device (2K ENERGY Ltd.)
Total eligible costs: 117 960.23 lats
CCFI financing: 70 776.13 lats
Reduction of CO_2 emissions: 83.983 tons per year



- Development of new technology for heat recuperation in two dwelling houses in Jelgava

Some Activities of Submitted Projects

- Establishment of solar energy power plant using panel of composite materials with a solar battery of extensive absorption
- Elaboration of a prototype of LED street lighting luminaries with an intelligent management system
- Establishment of solar cooling and heating module for telecommunication stations
- Development of technologies reducing GHG emission in the process of rape oil fuel production
- Study and implementation of innovative solutions for increasing energy efficiency in the charcoal production process
- Elaboration of accumulator prototypes for new type electro mobiles with high energy capacity
- Elaboration of industrial prototype of 3 kW vertical axis small wind system
- Elaboration of gasification technology for biomass of high content of ashes
- Utilization of electricity obtained from wind in commercial transport
- Elaboration of new technology for the preparation of road surfacing thus reducing GHG emission

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Complex Solutions for Greenhouse Gas Emission Reduction in Production Buildings

Complex Solutions for Greenhouse Gas Emission Reduction

Activities to be Supported in the Framework of the Tender

- Investments in the environmental protection which allow to save energy:
  - Reconstruction or simplified renovation works improving the energy efficiency of buildings;
  - Additional investments in the existing manufacturing technology equipment which directly ensure the manufacturing process in buildings and which improve energy efficiency
  - Equipment for the effective primary and secondary use of heat;
  - Installation of power supply control and monitoring systems;
- Investments in the use of renewable energy resources in compliance with the following conditions:
  - Additional investments for the transition (including the reduction of the amount of the purchased energy) from the technologies where fossil energy resources are used to the technologies where renewable energy resources are used, including the following: boiler equipment using biomass, cogeneration plants using biomass, energy sources with heat pumps, solar collectors, solar PV and wind generators
  - when heat production technologies are replaced, the total installed heat capacity shall not exceed the total installed heat capacity of the existing heat production technologies (which use fossil energy resources, except the case if the planned heat production technology to be installed does not provide the required amount of heat due to efficiency or the planned amount of heat produced by the heat production technology to be installed shall not exceed the amount of heat which the project applicant has been buying from the heat supplier

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Example of Implemented Project (KPFI-6)

Title: Reconstruction-improvement of energy efficiency of the polyethylene processing line of LLC “Nordic Plast” (Nordic Plast LLC)

Total eligible costs: 287 143.66 lats

CCFI financing: 157 779.01 lats

Reduction of CO_2 emissions: 194.31 tons per year

- Conversion of the existing drying unit to a new, energy effiecient technology

The company produces qualitative LDPE granules by recycling used polyethylene films. The granules are then used for polyethylene film secondary production and, in smaller amounts, as additives to plastic goods.

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Low Energy Consumption Buildings

Activities to be Supported in the Framework of the Tender

- preparation of energy audit report and elaboration of technical survey report (in a building reconstruction project), and performance of the calculation of energy consumption of the building in a new construction project;
- preparation of the construction project and technical documentation and coordination thereof;
- construction of low energy consumption buildings (eligible costs – additional costs equal to the difference between the calculated low energy consumption construction costs and costs of the construction, which comply with the minimum requirements of the building standard);
- performance of reconstruction works improving energy efficiency;
- conversion of heat supply system from fossil to renewable energy resources, including installation and connection of renewable energy sources, if, after the implementation of the project, the installed heating capacity of the equipment does not exceed the calculated required capacity for ensuring heating and supply of hot water by 10%;
- inspection of the building envelope structures during construction stage (performance of air permeability tests and thermography);
- project publicity measures.

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Example of Implemented Project (KPFI-10)

Title: Construction of low energy consumption single family house (new construction) with consumption for heating not exceeding 15 kWh/kvm per year in "Daugaviņas", Daugavmala, Tīnūži parish, Ikšķile county (Voldemārs Jānis-Uplejs)
Total eligible costs: 44 744,43 lats
CCFI financing: 29 087,57 lats
Expected thermal energy consumption: 13,10 kWh/m^2

In the result of the project a new single family house is constructed, including, laying and thermal insulation of walls, insulation of socle, construction and insulation of roof, provision of air impenetrability, assembly of windows and doors, construction of glazing in southern facade in compliance with standards of passive building, installation of ventilation system with recuperation, installation of energy efficient lighting, instalation of wood burning fireplace, installation of solar collectors

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Some Activities of Submitted Projects

- Low energy consumption new construction "Valgunde sport hall" in Jelgava county
- Low energy consumption reconstruction of Garkalne Secondary School building by means of environmentally friendly technologies and construction materials
- Renovation of Ventspils Municipality building
- Construction of low energy consumption office buildings
- Reconstruction of railway communications building in compliance with low energy consumption requirements
- Reconstruction of Tiskādu special boarding elementary school complying with low energy consumption building requirements
- Newly erected energy efficient passive twin house

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Development of Technologies Reducing Greenhouse Gas Emissions and Implementation of Pilot Projects

Activities to be Supported in the Framework of the Tender

- elaboration, testing and demonstration of new and innovative product or technology, as well as improvement, testing and demonstration of an existing technology, if such technology has GHG reduction potential, as well as practical application options;
- transfer of national and international experience and knowledge of technologies in the form of pilot projects, in order to in practice demonstrate the operation of innovative GHG emission reducing technologies, including implementation of low carbon emission technologies and more effective use of renewable energy resources, including:
  - or electric acquisition or adjustment of transport vehicles, which use fuel obtained from renewable energy resources, as well as acquisition or use of transport vehicles operated only on electricity;
  - performance of additional investments for the promotion of renewable energy resources;
  - performance of additional investments in environmental protection, which allows to save thermal energy.

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Example of Implemented Project (KPFI-14)

Title: Improvement of the energy efficiency of the textile printing process at LLC “Mežroze””, LLC “Mežroze”
Total eligible costs: 359 189.07 lats
CCFI financing: 250 000.00 lats

Pproduction technologies that reduce emissions of greenhouse gas and to promote technology transfer to Latvia by the introduction of new digital printing technology to replace the current stamp-type printing technology. This will save a significant amount of energy required for drying the print and improve the company's products and an assortment.

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Some Activities of Submitted Projects

- Development of the technology of the treatment of Silicon waste
- Innovative technologies enabling the use of hydrogen and ozone in internal combustion engines
- Innovative low energy consumption buildings of precast structure with an autonomous micro generation system for the production of energy with surplus
- Production and certification of the test models of an innovative heat pump
- Development of the drive system of a new asynchronous electrical engine of a train
- Experimental development of an energy tower and its testing
- Development and testing of the technological units of an innovative rubber processing technology
- Lighting on the basis of concentrated light fibres
- Research of the technology of compression of gaseous biofuel and the development and demonstration of the technology for filling buses with biogas

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Thank You for Your Attention!