

Improving Access to Green Funding in CEE and Ukraine

Country fiche on Access to Green Funding

CZECH REPUBLIC

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REGIONAL ENVIRONMENTAL CENTER

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II. Overview of financing in the following areas:

1. Financing for Sustainable Energy

Focus: This subsection will cover energy-related dimensions with focus on energy efficiency improvements and investments in renewables.

1.1. Strategies and national financial mechanisms for low-carbon economic development

- The **Law on the Promotion of Power and Heat Generation from Renewables** requires power distributors to buy electricity from renewable sources at pre-determined prices: **15-year feed-in tariffs and green bonuses** were introduced in 2006. Producers who choose green premiums have to find their own customers, while in the case of feed-in tariffs, producers benefit from purchase obligations on the part of the regional distribution system operator (*Czech Republic 2011*).
- The **State Programme in Support of Energy Savings and the Usage of Renewable Energy Sources** promotes energy savings, the reduction of energy intensity, increased energy efficiency and the use of RES. Subsidies from the state budget are provided, for example, for developing the use of combined electricity and heat production, renewable and secondary energy sources, the modernisation of energy production and distribution installations, modern technology and materials for energy-saving measures, and the development of energy recovery of municipal waste (*Fifth National Communication*).
- The **Draft Climate Protection Policy** emphasises the need for an increase in the energy efficiency of buildings, industry and transport; a 50% cut in the use of coal; the construction of two new combined-cycle gas turbine plants; an increase in the share of RES; electricity and heat cogeneration from gas and biomass; and the efficient utilisation of existing nuclear power plants. Concrete policy initiatives to be adopted include carbon tax, a special plan to lower CO₂ emissions from industry, the right for biogas owners to be connected to the grid and subsidies for biomass producers (*Ministry of Environment*).
- The incumbent government has adopted the new **Law on Renewable Sources of Energy** (due to take effect in 2013). The regulatory tool is the **National Action Plan for Renewable Energy Sources**, which sets objectives for the share of energy from RES in transport, electricity, heating and cooling by 2020 (*2011 Survey of Resource Efficiency Policies*). The National Action Plan also sets limits on the overall amount of energy generated from RES. If exceeded, all government support in the form of buy-out prices would be withdrawn (*www.enviweb.cz*).
- The **Concept for Agricultural Policy in the Czech Republic after EU Accession for 2004–2013** stipulates an increase in the share of RES from agriculture in the general domestic consumption of primary energy sources, with the long-term target of an energy-independent countryside (*EEA 2011*).
- The **OP Environment** supports the installation of RES, including wind generators, solar panels and biomass furnaces.
- The **OP Enterprise and Innovations**, the third largest Czech operational programme, supports the construction, modernisation and reconstruction of facilities for the production and distribution of electricity and heat produced from renewable energy (*Fifth National Communication*).
- **Tax exemptions** were introduced to boost the development of private, renewable installations generating power for personal use. However, a similar tax exemption concerning solar power plant operators was abandoned in December 2010.
- Higher **reductions in taxation** available for the electricity produced from renewable and alternative energy sources, biogas, combined heat and power energy production in addition to **the increase in tax**

on solid fuels supplementing the existing excise duty on mineral oils would further support RES development in the country.

- A recent change in legislation **undermined further RES development** by establishing a ceiling for RES capacity and introducing a higher price for connecting RES to the electricity grid. Taxes introduced on industrial solar panel installations, aimed at narrowing the gap between the real investment and the profit, have significantly undermined investors' confidence in the sector (*EIO 2010*).
- The **development and construction of nuclear power plants** has been endorsed by the government since 2006. The country is currently realising a very aggressive USD 25 billion nuclear expansion programme.
- The **Green Savings Programme** grant scheme, financed through the State Environmental Fund by the sale of emission quotas under the ETS, was initiated in 2009 and will run until the end of 2012. It supports eligible applicants, either the owners or constructors of houses/apartment buildings, with a grant for energy-saving appliances or measures such as insulation, alternative heating appliances or passive house principles etc. (*EC 2009a*).
- **Biofuel blending requirements**

*Act of 7 July 2007 No 180/2007 Coll. amending Act No 86/2002 Coll. on Air Protection
Government Resolution No 1080 of 20 September 2006*

Date Effective	2007
Penalty	Sanction of CZK 75 per litre of undelivered biofuel
Description	<p>An amendment to the 2002 Act on clean air protection introduced minimum biofuel blending requirements for petrol and diesel used for transport. The obligation is stipulated for companies distributing petrol and diesel transport fuels on the market of the Czech Republic to assure that a minimum quantity of biofuels is included. This obligation can be fulfilled either in the form of a low-percent mixtures of biofuels with petrol and diesel (in accord with the Directive 2009/30/EC and the standards EN 228 and EN 590) or by distributing a pure biofuel (FAME/RME - rapeseed oil methyl ester) or blended fuel (blended diesel fuel – SMN 30, fuel E85, fuel E 95) into a free tax circulation.</p> <p>The amendment introduced the following minimum values of biofuels blended with fuel: as of 1 September 2007, 2% of the total amount of diesel fuel; as of 1 January 2008, 2% of the total amount of petrol fuel; as of 1 January 2009, 3.5% of the total amount of petrol fuel and 4% of the total amount of diesel fuel;</p> <p>Monitoring of minimum amounts is conducted by customs authorities and the Czech Commerce Inspectorate.</p>

Source: <http://www.iea.org/dbtw-wpd/Textbase/pm/?mode=re&id=4291&action=detail>

1.2. Public financing schemes and sources for supporting low-carbon development

A list of the current programs in 2013 can be found on the following website (In Czech language):

<http://www.mpo-efekt.cz>

Date effective Orgainzation responsible	Funding	Description
Green Investment Scheme		
Date Effective: April 2009 Date Ended: December 2012	CZK 25 billion in 2009-12; CZK 10 billion in 2009	<p>Target:</p> <ul style="list-style-type: none"> • Solar Thermal • Water Heating <p>Launched in April 2009 and reformed in August 2009, the Czech Green Savings programme provides householders (family houses and apartment buildings) grants of up to half of the cost of insulating their homes. It also provides grants for new construction meeting passive house standards, as well as for the installation of heating equipment using renewable sources of energy. Improvement measures must result in specific annual heat savings to qualify.</p> <p>A bonus subsidy amount is provided when insulation (full or partial) or new construction is combined with the installation of renewable energy heating equipment, or if more than one renewable energy-source equipment is installed in new construction. The bonus is of CZK 20 000 for single houses and CZK 50 000 for apartment buildings.</p>
Feed-in tariffs for PV ends in 2013!		
<p>The Czech Republic has announced that it will no longer be offering feed-in tariffs for solar arrays installed after 2013. The Czech Republic had a target of 2.167 gigawatt-hours of electricity from photovoltaics for 2013, a level that had already been surpassed in 2011. The government has therefore announced the discontinuation of feed-in tariffs for new solar arrays installed after 2013. At the end of April 2013, the country had surpassed the two gigawatt threshold, with 2,097 megawatts of PV capacity installed.</p> <p>Source: http://www.renewablesinternational.net/czech-republic-discontinues-feed-in-tariffs-for-pv/150/510/63171/</p>		
EFFECT 2013 - State program to promote energy saving and renewable energy for 2013		
Maintained by: Ministry of Industry and Trade	<p>The program budget EFFECT 2013 is CZK 30 million. Although this figure is not high the program focuses on training and positive examples of energy saving. It is believed that even with a relatively small budget</p>	<p>The state program is established under Act No. 406/2000 Coll., On energy, and its provisions are a direct implementation of European legislation. It is also part of the national action plans. The EFFECT Program is designed to encourage energy efficiency and use of renewable energy sources in the Czech Republic. It places great emphasis on education and public awareness (energy consulting centers EKIS that advises the public free of charge, educational seminars, technical publications). The results of these activities cannot be measured, but it is hoped that the public will use the information positively in saving energy. The</p>
Date effective: 2012-2013		

will achieve the same results as in previous years		program effect is too small to support investment projects in the manufacturing and energy savings. This program provides funding for events in Prague, which is excluded from the operational programs. The specialty of the program is the possibility to receive subsidies in advance - not until after the event, as is the case with most other programs. Program EFFECT works primarily with small and medium-sized businesses and municipalities.
	<p>Grant applications could be submitted by 28 February 2013. The exception is a request for inclusion in the network EKIS where the deadline was 31st December 2012.</p>	<p>In 2013, activities are aimed primarily at energy savings in public administration. It is the opportunity to save energy through high-quality energy management for buildings owned by counties, or by the EPC method, which allows acquisition of energy-saving technology without own investments, which can gradually repay suppliers of accumulated operating funds.</p>
<p>Source: http://www.mpo.cz/dokument115386.html http://www.mpo-efekt.cz</p>		

Eco-energy program

Maintained by Czech Invest	Program support for businesses (especially SMEs), designed to reduce the energy intensity of production and greater use of renewable and secondary energy sources. The program is part of the Operational Programme Enterprise and Innovation 2007-2013.																		
Date effective: 2008-2012	<table border="1"> <tr> <th colspan="2" data-bbox="319 1153 1404 1198">Eco-energy – Call I.</th> </tr> <tr> <td data-bbox="319 1198 550 1344">Programme description</td> <td data-bbox="550 1198 1404 1344"> <ul style="list-style-type: none"> • support to energy savings • support to renewable energy resources • support to pellet production </td> </tr> <tr> <td data-bbox="319 1344 550 1422">Who can apply for subsidy</td> <td data-bbox="550 1344 1404 1422"> <ul style="list-style-type: none"> • small and medium-size and large enterprises </td> </tr> <tr> <td data-bbox="319 1422 550 1579">How much can be obtained for a project</td> <td data-bbox="550 1422 1404 1579"> <ul style="list-style-type: none"> • <u>grant ranging from CZK 500 thousand to CZK 100 million</u> • grant depending on project type, ranging between 15% and 40% (to be specified in detail in the Call) </td> </tr> <tr> <td colspan="2" data-bbox="319 1579 1404 1624"> <p align="center">Source: http://www.czechinvest.org/en/eco-energy-call-i</p> </td> </tr> <tr> <th colspan="2" data-bbox="319 1624 1404 1668">Eco-energy – Call II.</th> </tr> <tr> <td data-bbox="319 1668 550 1825">Programme description</td> <td data-bbox="550 1668 1404 1825"> <ul style="list-style-type: none"> • utilisation of renewable and secondary energy sources • increasing efficiency during the production, transfer and consumption of energy </td> </tr> <tr> <td data-bbox="319 1825 550 1937">Who can apply for subsidy</td> <td data-bbox="550 1825 1404 1937"> <ul style="list-style-type: none"> • small and medium-sized enterprises – for activities a), b) • large enterprises – for activity b) </td> </tr> <tr> <td data-bbox="319 1937 550 2083">How much can be obtained for a project</td> <td data-bbox="550 1937 1404 2083"> <ul style="list-style-type: none"> • <u>grant ranging from CZK 500 thousand to CZK 100 million</u> • grant depending on project type, ranging between 30% and 60% (to be specified in detail in the Call) </td> </tr> </table>	Eco-energy – Call I.		Programme description	<ul style="list-style-type: none"> • support to energy savings • support to renewable energy resources • support to pellet production 	Who can apply for subsidy	<ul style="list-style-type: none"> • small and medium-size and large enterprises 	How much can be obtained for a project	<ul style="list-style-type: none"> • <u>grant ranging from CZK 500 thousand to CZK 100 million</u> • grant depending on project type, ranging between 15% and 40% (to be specified in detail in the Call) 	<p align="center">Source: http://www.czechinvest.org/en/eco-energy-call-i</p>		Eco-energy – Call II.		Programme description	<ul style="list-style-type: none"> • utilisation of renewable and secondary energy sources • increasing efficiency during the production, transfer and consumption of energy 	Who can apply for subsidy	<ul style="list-style-type: none"> • small and medium-sized enterprises – for activities a), b) • large enterprises – for activity b) 	How much can be obtained for a project	<ul style="list-style-type: none"> • <u>grant ranging from CZK 500 thousand to CZK 100 million</u> • grant depending on project type, ranging between 30% and 60% (to be specified in detail in the Call)
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Source: <http://www.czechinvest.org/en/eco-energy-call-ii>

Eco-energy – Call III.

Programme description	<ul style="list-style-type: none"> • utilisation of renewable and secondary energy sources • increasing efficiency during the production, transfer and consumption of energy
Who can apply for subsidy	<ul style="list-style-type: none"> • small and medium-sized enterprises – for activities a), b) • large enterprises – for activity b)
How much can be obtained for a project	<ul style="list-style-type: none"> • grant ranging from CZK 500 thousand to CZK 250 million • grant depending on project type, ranging between 30% and 60% (to be specified in detail in the Call)

Source: <http://www.czechinvest.org/en/eco-energy-call-iii>

Eco-energy – Call III. – extension

Supported activities	<ul style="list-style-type: none"> • Increasing the efficiency of energy generation, transmission and consumption (energy savings) • The use of renewable energy sources (RES)
Who can apply for subsidy	<ul style="list-style-type: none"> • small and medium-sized enterprises – for both activities • large enterprises – for supported activity <i>Energy savings</i>
How much can be obtained for a project	<ul style="list-style-type: none"> • grant ranging from CZK 500 thousand to CZK 30 million (Energy saving)/CZK 60 million (RES) • grant depending on project type, ranging between 30% and 50%

Areas	Aided activity – project type	Maximum subsidy
ENERGY SAVINGS	Increasing the efficiency of energy generation, transmission and consumption and others, see clause 2.1 of the Call	small enterprise 50% medium-sized enterprise 40% large enterprise 30%
RENEWABLE ENERGY SOURCES	Small hydroelectric plants (SHP) – electricity production	30%

Source: <http://www.czechinvest.org/en/eco-energy-call-iii-extension>

Source for the EcoEnergy programme on the CzechInvest website (in English): <http://www.czechinvest.org/en/search?q=eco-energy>

New Green Savings

Managed by the State Environmental Fund

The Green Savings programme focuses on supporting environmentally sound methods for producing heat and hot water for households, reducing the energy intensity of residential buildings (comprehensive or partial thermal insulation) and constructing passive houses.

The Czech Republic obtained financial resources for this programme through selling 'Emission Credits' under the Kyoto Protocol on reducing greenhouse gas emissions. A total

allocation of up to CZK 25 billion is envisaged for the programme. The GS support has been set up so that the funds can be used throughout the period from the programme's launch until 31 December 2013.

Aid can be obtained by individuals, associations of flat owners, housing cooperatives, towns and municipalities including town districts, businesses and other legal entities. Detailed information about the programme is available at <http://www.zelenausporam.cz/sekce/582/about-the-green-savings-programme/>

Source: <http://en.sfzp.cz/sekce/570/green-savings-programme/>

State programme for energy saving and the use of renewable energy sources

Investors in renewable electricity can receive aid from the State programme for energy saving and the use of renewable energy sources. Subsidies from Part A of the programme (coordinated by the Ministry of Industry and Trade) involve:

- **Investment projects** - they may cover a maximum of 40 % of capital costs, but no more than CZK 2.8 million.
- **Non-investment projects** – they may cover a maximum of 100 % of capital costs, but no more than CZK2.8 million.

Subsidies from Part B of the programme (coordinated by the Ministry of the Environment) may be a maximum of 90% of the basis for the calculation of the aid in the case of local government units (municipalities) and non-profit organizations. In 2007, subsidies for the support of renewable electricity production totalling CZK 33.9 million were granted from the Ministry of Environment resources and the Ministry of Industry and trade. Subsidies under Part B of the State Programme may, in the case of businesses, amount to 40% of the capital costs.

Source:

www.erec.org/fileadmin/erec_docs/Projcet_Documents/RES2020/CZECH_REPUBLIC_RES_Policy_Review_09_Final.pdf

The Operational Programme Environment

Managed by the State Environmental Fund

The Operational Programme - Environment projects are financed from the European Regional Development Fund (ERDF) and from the Cohesion Fund (CF). Under priority axis 2 and 3 are also financed energy projects. There is 5.2 billion euros prepared, which is 18.4% of the total support of European funds for the Czech Republic. The OP - Environment is the second largest operation programme after OP - Transport in the programme period of 2007-2013.

Source: <http://en.sfzp.cz/sekce/565/op-environment/>
See details below

PANEL PROGRAM

Managed by: State Fund for Housing Development

The program provides financial support for the renovation and reconstruction of prefabricated houses with achieving applicable code requirements for the energy performance of buildings. Support can then be used to implement energy-saving insulation, replacement of windows and implementation of other measures to reduce consumption of heating. In the years 2001 - 2011 contracts have been concluded for the payment of interest subsidies in the amount of CZK 13.85 billion. In the period 2001 - December 2011 4.37 billion CZK has been paid. After adjusting for under-loans, reducing interest subsidies and termination of contracts so far signed the remaining contracts volume of 9.13 billion CZK. The payment of interest subsidies from contracts concluded in the years 2001 - 2011 will be the year 2026.

The program is designed for all owners of residential buildings, regardless of construction technology (panel, brick). The program can take advantage of cooperatives, owners, natural and legal persons, as well as cities and municipalities that have owned apartment building. The program offers low-interest loans for repairs and modernization of residential buildings. Emphasis is placed on complex repairs, so owners expending funds effectively.

	<p>Interest - since the reference rate of the European Commission, which is from 1 March 2013 0.88% per annum</p> <p>Fixation of interest over the entire maturity that can be set for up to 30 years.</p> <p>Reinsurance - standard form of guarantee obligation and other forms of protection according to the amount of the loan</p> <p>The Panel Programme, therefore, motivate owners of apartment buildings for home repairs in the form of interest subsidies. Because of the necessary limitations of forms of state assistance (grants) due to the deterioration of the state budget the support of the new panel in the form of interest rate subsidies will not be possible.</p> <p>Source: http://www.sfrb.cz/programy/archiv-programu/bytove-domu/ http://www.sfrb.cz/programy/uvery-na-opravy-a-modernizace-domu/</p>
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Other grant programs	
Tax regulation mechanism	
<p>Operators of renewable heating plants are exempt from real estate tax.</p> <p>Source: http://www.res-legal.eu/search-by-country/czech-republic/tools-list/c/czech-republic/s/res-hc/t/promotion/sum/120/lpid/119/</p>	

1.3. EU funds for low-carbon measures

Intelligent Energy Europe Programme (IEE II)	
<p>Managed by the Executive Agency for Competitiveness & Innovation / Ministry of Industry and Trade</p>	<p>The program Intelligent Energy Europe is to promote sustainable production and consumption of energy and contribute to achieving the general objectives of security of energy supply, competitiveness and environmental protection. The program focuses on energy efficiency and combined heat and power and the introduction of renewable energy sources.</p> <p style="text-align: center;">Programme "Intelligent Energy - Europe" – projects</p> <p>The aim of the programme Intelligent Energy Europe is to support the sustainable generation and consumption of energy and contribute in a balanced way to the attaining of general goals of security in energy supply, competitiveness and environmental protection. In the area of energy efficiency and combined sources of heat and electricity, to significantly contribute to:</p> <ol style="list-style-type: none"> 1. improving energy efficient and rational use of energy, in particular in construction and industry; 2. support for the preparation of legislative measures and their application; 3. reduction in energy demand by 1% per year so that by 2010 2/3 of the 18% of potential energy saving is attained; 4. reduction of CO2 emissions according to Kyoto targets; 5. increasing share of combined electricity and heat generation. <p>In the area of introducing renewable energy sources (RES):</p> <ol style="list-style-type: none"> 1. supporting new and renewable energy sources used for centralised and decentralised generation of electricity and energy intended for cooling and thus for diversification of energy sources; 2. involve new and renewable energy sources in the local environment and

	<p>energy systems;</p> <ol style="list-style-type: none"> 3. support for the preparation of legislative measures and their application; 4. contribution to increase in proportion of RES out of gross consumption from 6 to 12% by 2010; 5. contribute to increase in share of electricity generated from RES to 22.1% by 2010; 6. creation of best possible conditions for accelerating investments in order that installed capacity for energy generation from RES is increased. <p>Participation in projects in the individual programmes is open to any legal person ("legal person" means every subject founded either by the national law of the place of their inception, community law or international law which is a legal entity and which is competent in its own name for rights and duties of all kinds), public or private, living and registered on the territory of the EU member states.</p> <p>Successful proposals are supported in the amount of:</p> <ul style="list-style-type: none"> • Grants for specific target groups: up to 75% of total acknowledgeable costs • Creation of new energy agencies: up to 75% of total acknowledgeable costs • Events with standardisation offices: up to 95% of total acknowledgeable costs • Coordination events: 100% financing. <p>Financing of projects from European sources in the framework IEE 2007 — 2013 is higher than in the preceding period and is up to 75% compared with the preceding maximum 50%. The remaining amount must be ensured from national sources.</p> <p>Running until 2013, the programme is open to all EU Member States, plus Norway, Iceland, Liechtenstein, Croatia and the Former Yugoslav Republic of Macedonia. A budget of € 730 million is available to fund projects and put into place a range of European portals, facilities and initiatives.</p> <p>Source: http://www.mpo.cz/dokument46572.html http://ec.europa.eu/energy/intelligent/about/iee-programme/index_en.htm</p>
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EU Structural Funds

From 2007, investors in renewable electricity production had the opportunity to obtain aid from the EU's Structural Funds via the Operational Programmes. The Operational Programme (OP) for 2007-2013 focused – amongst other - on the construction and restoration of plants using RES.

1. OP Enterprise and Innovation (2007 – 2013)

Program Eco-energy - support is focused in addition to the utilization of renewable and secondary energy sources to increase efficiency in the production, transmission and energy consumption. Subsidies may reach a maximum of 50 % of capital costs, but no more than CZK 100 million.

1.1. Priority axis 3 – “Effective energy”

Priority axis 3 of the OPEI contains one area of intervention aimed at stimulating the activity of entrepreneurs in reducing the energy intensiveness of the production processes, reducing the consumption of primary fossil fuels and at supporting new entrepreneurs in activities leading to a higher use of renewable

and secondary sources of energy. The support provided will be oriented to increasing the effectiveness of the production, transmission and consumption of energy, in addition to the use of renewable and secondary energy sources. For the most part, SMEs will be beneficiaries of aid.

Areas of intervention

Energy Savings And Renewable Sources Of Energy

This area will focus on supporting entrepreneurial activities in the area of energy savings, renewable and possibly secondary sources of energy (with the exception of direct support of incinerators). The objective of the support is to reduce energy intensiveness per unit of production while maintaining the long term stability and accessibility of energy to entrepreneurs, to put limits on the dependence of the Czech economy on imports of energy commodities, to reduce the consumption of primary fossil sources of energy, to support entrepreneurs in the use of renewable sources of energy and to contribute to increasing their competitiveness. The intention is also to utilise the important potential for energy savings and for the use of renewable energy in larger firms.

Tab. 15 - Financial allocation for the OPEI for the period 2007-2013 (in EUR)

PA No	Priority axis	Fund / degree of co-financing related to	Contribution of the Community	National sources	Indicative distribution of national sources		Total sources	Degree of co-financing	For information	
					National public sources	National private sources			EIB	Other sources
			A	b=(c+d)	c	D	e=a+b	f=a/e		
PA-1	Establishment of firms	ERDF/public	79,074,126	13,954,257	13,954,257		93,028,383	85.0%		50,026,345
PA-2	Development of firms	ERDF/public	663,006,134	117,001,083	117,001,083		780,007,217	85.0%		477,719,182
PA-3	Effective energy	ERDF/public	243,305,004	42,936,177	42,936,177		286,241,181	85.0%		234,197,336
PA-4	Innovation	ERDF/public	680,155,247	120,027,397	120,027,397		800,182,644	85.0%		745,771,630
PA-5	Environment for enterprise and innovation	ERDF/public	1,076,624,642	189,992,584	189,992,584		1,266,617,226	85.0%		743,886,306
PA-6	Business development services	ERDF/public	209,546,434	39,978,783	39,978,783		246,525,217	85.0%		90,257,866
PA-7	Technical assistance	ERDF/public	89,600,959	15,811,933	15,811,933		105,412,892	85.0%		0
Total			3,041,312,546	536,702,214	536,702,214		3,578,014,760	85.0%	0,0	2,341,858,665

The degree of co-financing is related to public sources.

Source of table: OP E&I Page 118

Source: OP E&I <http://www.czechinvest.org/data/files/oppi-msc-en-29-11-schvalen-ek-674.pdf>

2. OP Environment (2007 – 2013)

It is the second largest program in the Czech Republic. In 2007-2013 it offered 5.2 billion euros from the Cohesion Fund and the European Regional Development Fund. In 2007, 1 288 applications for grants were registered for a total amount in excess of 21 billion CZK. The Operational Programme "Environment" allocates investment grants from the Cohesion Fund to individual (up to € 50 million) and large projects (more than € 50 million). Renewable energy projects are eligible under Priority Axis 3.1 "Construction of new facilities and the modernisation of the existing facilities with the aim to increase the use of RES for the generation of electricity, heat and CHP". Almost EUR 363 million have been reserved for this area, representing 54% of Priority Axis 3's resources.

Amount: The subsidy must not exceed 20% of the total project costs and is subject to a maximum of CZK 50 million (approx. € 2 million) (chapter 3.3.4. OP Environment – Implementation Document).

Source: <http://www.res-legal.eu/search-by-country/czech-republic/single/s/res-e/t/promotion/aid/subsidy-iii-operational-programme-environment-1/lastp/119/>

OP Environment - Priority Axis 3

Grants from the OPE for the Sustainable Use of Energy Sources

Resources totalling almost EUR 673 million are available from the Cohesion Fund in the Operational Programme Environment (OPE) for such purposes. The aim of support is to increase the use of renewable energy sources for generating heat and electric energy, as well as the use of waste heat.

Areas of Intervention

3.1 The construction of new facilities and the modernisation of the existing facilities with the aim to increase the use of renewable energy sources for heat generation, electric energy generation and for combined heat and electric energy generation- Almost EUR 363 million have been reserved for this area, representing 54% of Priority Axis 3's resources.

3.2 Realisation of energy savings and the use of waste heat - More than EUR 310 million have been reserved for this area, representing 46% of Priority Axis 3's resources.

Amount of Support: Grants up to 85% of a project's total eligible expenditures. A project's minimum amount of eligible expenses has been set at CZK 0.5 million.

1.4. The role of international financing of low-carbon development

EBRD - Graduation of EBRD operations

The Czech Republic is an open market-oriented economy and continues to meet all the conditions specified in Article 1 of the Agreement Establishing the Bank. The government of the Czech Republic has expressed, in a letter dated 19 March 2007, "the desire that EBRD operations in the Czech Republic be considered to have 'graduated'". Thus, the EBRD does not finance projects anymore in the Czech Republic.

Risk-sharing facilities

Introduction

One of the most important barriers to EE financing by commercial banks and financial institutions is their perception that EE projects are inherently more risky than traditional investments. Risk-sharing facilities address this perception by providing participating LFIs with partial risk coverage in extending loans for EE projects. The risk-sharing facility directly facilitates increased financing of EE projects by overcoming the barriers to structuring the transactions and by building the capacity of LFIs to finance EE projects on a commercially sustainable basis. The most common examples of risk-sharing facilities are publicly-backed partial risk guarantees or partial credit guarantees (Mostert, 2010).

IFC/GEF Commercializing Energy Efficiency Finance (CEEFF)

One example of successful implementation of a risk-sharing facility was the Commercialising Energy Efficiency Finance (CEEFF) Programme offered as a joint programme of the IFC and GEF, with IFC acting as the Executing Agent for the GEF (Danish Management Group, 2010). The CEEF programme was designed to meet the GEF objectives to promote and enhance commercial financing of EE projects, thereby leading to reduction of GHG emissions and creation of a sustainable market in the CEEF countries for EE project development and financing. The programme covered six countries in Eastern and Central Europe (Hungary, Czech Republic, Slovak Republic, Latvia, Lithuania, and Estonia).

The Commercialising Energy Efficiency Finance (CEEFF) Programme was launched in April 2003 as a joint programme of the International Finance Corporation (IFC) and Global Environment Facility (GEF), with IFC acting as the executing agent for the GEF. CEEF was initiated, based on the experience from the "Hungarian Energy Efficiency Co-Financing Program" (HEECP), which had been initiated in Hungary in 1997. The countries included in CEEF were the Czech Republic, Slovakia, Estonia, Latvia, and Lithuania. In 2005, Hungary was added, and HECP was merged into CEEF. The CEEF Programme was successfully completed in December 2008.

Countries	<i>Czech Republic, Slovakia, Hungary, Latvia, Lithuania, Estonia</i>
------------------	--

Participating banks	14
Project developers/ESCOs	41
Projects financed	700 (includes 600 blockhouse projects)
Project investment	USD 208 million
Value of guarantees provided	USD 49.5 million
Estimated CO2 reduction	145 700 tons per annum
Cost per ton of CO2 reduction	US D 2.50
Investment in leveraged projects	US D 122 million
Project investment including leveraged projects	US D 330 million
Estimated CO2 reduction including leveraged projects	310 500 tons per annum

Source: Publication: Joint Public-Private Approaches for Energy Efficiency Finance
<http://iea.org/publications/freepublications/publication/finance-1.pdf>

Table IV: Projected Level of Cost-Effectiveness of Energy Savings and their Associated Avoided GHG Emissions

[Assumption: full disbursement of GEF contribution and full first stage commitment of IFC guarantee facility contribution yields a \$45 million facility (GEF funds \$15 million, IFC funds \$30 million). Table IV does not reflect ultimate CEEF goal of obligating a full guarantee facility of \$90 million, which would double CO₂ savings.]

Cost-Effectiveness Estimates	CEEF GEF Program Budget (000s)	Potential Avoided GWh (Most Likely Case) (1)	Estimated (Most Likely) Avoided CO ₂ (million tons) (2)	Best case: Cost CO ₂ Avoided (\$/tons) (3)	Most likely case: Cost CO ₂ Avoided (\$/tons) (4)
Czech Republic	\$3,830	1,954	1.8	\$0.2	\$0.5
Slovakia	\$3,220	1,563	1.1	\$0.3	\$0.7
Latvia	\$3,400	1,758	1.4	\$0.2	\$0.6
Lithuania	\$3,400	1,758	1.3	\$0.2	\$0.6
Estonia	\$3,400	1,758	1.7	\$0.2	\$0.5
Total CEEF	\$17,250	8,791	7.4	\$0.25	\$0.67
[Note: If only 1st tranche GEF contribution is realized, then:] (Note 5.)	\$11,250	5,275	4.2	\$.40	\$0.86

EIB Energy Projects

- **ENERCAP POWER FUND**

Description: Equity fund to make equity and subordinated debt investments in renewable energy projects in Central and South-East Europe

Amount: EUR 25,000,000

Signature date(s) 28/09/2007: EUR 25,000,000

The Enercap Power Fund will support projects based on the use of mature technologies in the wind sector, as well as in the biofuel and other renewable energy sectors considered to be environmentally beneficial and contributing to the reduction of greenhouse gas emissions. The Enercap Power Fund is expected to reach a total size of EUR 100 million-150 million. This operation is being implemented in the framework of the EIB's Structured Finance Facility (SFF), an innovative financing solution that enables the Bank to support priority projects bearing a higher lending risk than would traditionally be assumed by the EIB.

- **CEZ PHOTOVOLTAIC POWER INVESTMENTS**

Description: Financing of 2010-2011 photovoltaic power generation investment programme

Amount: EUR 180,000,000

Description: Investment programme comprising a series of similar land-based, multi-megawatt photovoltaic power plants located in the Czech Republic.

Signature date(s) 27/01/2011 : EUR 80,000,000

18/11/2010 : EUR 100,000,000

EIB Credit lines

- **RBCZ GREEN ENERGY LOAN FOR SMES**

Promoter – Financial Intermediary: RAIFFEISENBANK AS

Description: A loan to finance small and medium-size energy efficiency projects carried out by SMEs as well as other projects of limited size undertaken by SMEs, mid-caps or other public or private promoters mainly in the Czech Republic. The share of projects carried out by SMEs and mid-caps shall be at least 70%.

Objectives: Financing of projects carried out by SMEs and mid-caps as well as eligible projects of limited size undertaken by other promoters. The loan is also expected to be accompanied by a grant component to support energy efficiency projects undertaken by small and medium-sized enterprises, including eligible housing associations (SME Finance Facility Energy Efficiency Window).

Comments: SME Finance Facility Energy Efficiency Window contains three types of grant support: (i) investment incentive paid to eligible projects; (ii) administrative fee to cover costs incurred by the financial intermediary; and (iii) remuneration for the energy efficiency consultant.

Proposed EIB finance (Approximate amount): EUR 100 million

Status: Signed - 11/07/2013.

- **Unicredit Czech Republic Renewable Energy**

Promoter – Financial Intermediary: UniCredit Bank Czech Republic, a.s.

Description: Dedicated credit line for renewable energy installations in the Czech Republic.

Objectives: The proposed credit line would be primarily used to co-finance small to medium-sized photovoltaic plants, with the residual balance to be used for other renewable energy investments (mainly in the area biomass).

Proposed EIB finance (Approximate amount): Up to EUR 100 million.

Status: Signed - 04/01/2011.

- **CS Risk Sharing Energy Efficiency GL**

Promoter – Financial Intermediary: Česká spořitelna, a.s.

Description: Risk sharing credit line for the financing of small- and medium-scale projects in the field of rational use of energy, energy efficiency, renewable energy as well as research, development and innovation in energy.

Objectives: Financing of small- and medium-scale investments by private or public final beneficiaries of any size. The large majority of final beneficiaries are expected to be SMEs located in assisted areas.

Proposed EIB finance (Approximate amount): EUR 100 million.

Status: Signed - 29/04/2010.

Swiss Funds

The Swiss-Czech cooperation programme enables the Czech Republic to receive financial assistance from Switzerland until 2017, in the amount of 109.78 million Swiss francs, which is roughly 1.9 billion Czech crowns. Of this amount, roughly 30 million francs, i.e. nearly half a billion crowns, is designated for the area of the environment and infrastructure. The implementation of this area of support was entrusted to the Ministry of the Environment. The Ministry entrusted a set of tasks to the State Environmental Fund to realize according to the Delegation Contract. From a regional perspective, the implementation has to follow condition of concentration on three peripheral and less developed regions in which at least 30% of the contribution shall be spent (Moravia-Silesia, Olomouc and Zlin regions).

The Fund supports smaller projects between 10'000 and 250'000 CHF and contributes through the exchange of know how and best practices to tackle development challenges in the Czech Republic.

The open call for applications for sub-projects within the Partnership Fund was launched on 26 October 2009. The next round will be launched probably in November 2013 when the remaining available funds are known.

Source: http://www.swiss-contribution.admin.ch/czechrepublic/en/Home/Thematic_priorities/Partnership_Fund
<http://en.sfzp.cz/sekce/567/swiss-funds/>

Thematic priorities

1. Security, stability and support for reforms
 - A. Regional Development
Regional development initiatives in peripheral or disadvantaged regions
 - B. Judicial management
Modernisation of the judiciary
 - C. Fight against Corruption/organised crime
Strengthening institutions and capacity for combating corruption and organised crime
 - D. Natural Disaster Management
Prevention and management of natural disasters
2. Environment and infrastructure
 - A. Basic Infrastructure
Rehabilitation and modernisation of basic infrastructure (public transport)
 - B. Improvement of the Environment - Environment Expertise Fund
Improvements in environmental conditions, reduction of harmful emissions, development and enforcement of ecological monitoring standards and norms
3. Promotion of the private sector
4. Human and social development
5. NGO Block Grant
6. Partnership Fund

1.5. Main barriers in terms of financing low-carbon economy

- About Energy efficiency:
http://ec.europa.eu/energy/efficiency/doc/financing_energy_efficiency.pdf
(page: 55-56)
- Evaluation of PPP implementations:
<http://iea.org/publications/freepublications/publication/finance-1.pdf>
(page 48, 62)
- Joint Public-Private Approaches for Energy Efficiency Finance, Policies to scale-up private sector investment, International Energy Agency: PDF page 46, 62, 65-66

1.6. Financing for supporting green jobs creation in the sector

Rural Development Programme of the Czech Republic for the period 2007 - 2013

5.2.3 AXIS III - QUALITY OF LIFE IN RURAL AREAS AND DIVERSIFICATION OF RURAL ECONOMY

Table - Priorities, objectives and measures under Axis III

Priority	III.1. Creation of employment opportunities and support of use of renewable energy sources	
Objective	To create employment opportunities and provide for higher incomes of rural population through the development and diversification of activities in rural areas and promotion of rural tourism, to provide for fulfilment of the Czech Republic commitments in the area of use of renewable energy sources.	% of the axis 50
	III.1.1. Diversification into non-agricultural activities	22.5
	III.1.2. Support for business creation and development	15
Measure	III.1.3. Encouragement of tourism activities	12.5

Financing by Rural Development Programme measure from the perspective of public and private expenditures (in euro, for the entire period)
EURO in 7 years

Measure number	Council Reg. article	Measure	Measure code	Total public expenditures (EU + national)	Total private expenditures	Total expenditures
III.1.		Measures for diversification of the rural economy				
III.1.1.	52 a (i)	Diversification into nonagricultural activities	311	142 999 568	142 999 568	285 999 136
III.1.2.	52a (ii)	Support for business creation and development	312	95 333 045	95 333 045	190 666 090
III.1.3.	52 a (iii)	Encouragement of tourism activities	313	79 444 204	65 320 790	144 764 994

Source: Rural Development Programme of the Czech Republic for the period 2007 – 2013

The program document can be reached here:

http://eagri.cz/public/web/file/10574/RDP_November_2008.pdf

6.0	6.1	6.5	7.4	7.6	8.5	9.2	9.4	13.0
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Energy import dependency/energy resilience (percentage of energy use/TPES)

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
23.0	25.3	26.6	25.3	25.7	28.3	27.8	25.0	27.9	27.1	25.6	27.0

Energy dependency shows the extent to which an economy relies upon imports in order to meet its energy needs. The indicator is calculated as net imports divided by the sum of gross inland energy consumption plus bunkers.

2. Financing for Sustainable transport

Focus: Urban public transport and intercity road and rail transport. The section will present the sources of financing for the road, railway and public transport sector as well as the blockages for future financing.

2.1. National mechanisms and strategies for public transport development

- The **Czech Republic's Transport Policy for 2005–2013** sets out the main strategic and conceptual goals for transportation and transportation networks. It places an emphasis on the wider use of public transport and on providing good-quality and environmentally sustainable transport (*REC 2008*).
- The **Schedule for Transport Infrastructure Build-up 2008–2013** contains a detailed financial outlook for transport network development and an updated list of investment projects. A mid-term plan for transport infrastructure development with a time horizon of the next 15 to 20 years is included in the document "Supporting Sector Strategies for OP Transport".
- The **OP Transport 2007–2013** is the main financial framework supporting the improvement of transport infrastructure quality and interconnections between rail, road and river transport in the TEN-T framework. A total of EUR 5.77 billion has been earmarked from EU funds for this programme, corresponding to approximately 21.6% of all EU funds set aside for the Czech Republic.
- As of March 31, 2011, a total of 131 transport projects (with total costs of EUR 6.8 billion) have been approved in the Czech Republic, with an expected EU share of 84.9%. Payments for projects has so far reached EUR 3.9 billion (58% of the entire OP Transport allocation) and the expected EU share has reached EUR 3 billion (52% of the expected entire EU allocation).
- The **State Programme in Support of Energy Savings and the Use of Renewable Energy Sources in the Transport Sector** guides the modernisation and development of transport infrastructure, energy savings and energy efficiency in power production units and the organisation of public transport (*Fifth National Communication*).
- The **Long-Term Programme to Support the Further Use of Biofuels in Transport** requires a minimum of 4.5% of bio-diesel or 3.5% bio-gasoline to be included in motor fossil fuel and promotes the use of biofuel through a reduction in VAT on biofuels from the basic rate of 19% to 10% in 2010 and the provision of financial support for biogas production projects (*NRP Report*).
- The **tax for road use** in the Czech Republic is applicable for all cars used for business purposes above 3.5 tons. However, vehicles with alternative propulsion systems, such as **CNG, LPG, electric and hybrid vehicles have been exempt from road taxes** since 2009 in order to promote their wider application. A reduced fuel tax rate is also applied to fuels containing a certain proportion of biofuels (*Fifth National Communication*). A tax refund is available for public transportation using green electricity.

- In the field of multimodal transport, support of CZK 90 million from the state budget was earmarked in 2009 in the framework of the **Combined Transport Support Programme**.

2.2. Public finance sources for supporting public transport

SAFE Safe and Economic Transport

Bezpečná a ekonomická doprava

Type: Funding programme

Origin: National (Czech Republic)

Duration: 2004 - 2009

Main thematic topics covered are as follows:

1. Optimisation of transport means
2. Improvement of the conditions of transport infrastructure and modernisation of transport means
3. Development of the transport system
4. Improvement of sustainable mobility and safety
5. Updated technologies for development, reconstruction and maintenance of roads.

Most projects and funds are for the thematic topics No. 2 and 4.

Leading institution(s), Public institution: Ministry of Transport & Communications

Type of funding: Public (national/regional/local)

Programme funding arrangements and funding conditions

Most transport RTD projects are totally funded by the Government.

For the *current Transport RTD Programme (2004-2009)* a total budget of some 641 million CZK is foreseen with some 105 million CZK to be financed by the National Research Programme II (to be started in 2008) as part of the projects shall be carried forward to the National Research Programme II.

The funds provided for the 5 thematic topics which started in 2004 are as follows:

1. Topic 1: 26.0 million CZK
2. Topic 2: 86.5 million CZK
3. Topic 3: 14.5 million CZK
4. Topic 4: 94.2 million CZK
5. Topic 5: 34.6 million CZK

MDCR Support of Sustainable Transport Development Implementation

Type: Funding programme

Origin: National (Czech Republic)

Duration: 2007 - 2011

Background & policy context

The Programme of the Centre for Transport Research (CDV) is a representation of evolved transport policy in response to the prevailing condition of modern transport requirements. The Institute Programme reflects a 50-year development of transport expertise formally articulated originally upon the inception of the separate Czech Republic (from the former Czechoslovakia) in 1993; and again during 1997 in the Czech Ministry of Transport Committee approval of "The Conceptual Purposes of CDV," which formally set institute activities, developmental direction, and the necessary means for their accomplishment. In January 2002, the Ministry of Transport Committee reaffirmed Institute purposes within the approval of the

document "Programme for CDV Development," which specifically outlines the operational framework until the year 2010.

Leading institution(s) Research agency: Centrum Dopravního Výzkumu, v.v.i. (CDV) - Transport Research Centre

Type of funding: Public (national/regional/local)

Total programme budget: 119.2 million CZK

Programme funding arrangements and funding conditions

Annual funding:

- 2005: 24 040 000 CZK
- 2006: 31 512 000 CZK
- 2007: 33 081 000 CZK
- 2008: 30 578 000 CZK

Cycling Infrastructure

Support for the construction and maintenance of bicycle paths follows from the Law No. 104/2000 Coll., The State Transport Infrastructure Fund. Rules for the contributions to the construction and maintenance of bicycle paths for each year: <http://www.sfdi.cz/poskytovani-prispevku>

SFDI first contributed to the construction of bike paths in 2001 of only 12.0 million CZK, which supported seven shares. Since then, the situation has changed considerably. Every year the support has increased steadily - in 2005, when it was supported 30 projects reached almost CZK 90.0 million, in 2006, the STIF has supported 44 projects and their implementation was spent CZK 107 million in 2007 provided SFDI contribution to the 36 shares in the limit of CZK 114 million. In 2008, the STIF budget funded 68 shares for the construction and maintenance of bicycle trails in the amount of CZK 259,748 million. In 2009, the budget SFDI supported 74 projects in the amount of CZK 265,726 million. In 2010, it was given a further 183,435 million CZK for 41 shares. In 2011, it supported 34 projects totaling 94 million CZK. Overall, it was in the years 2001 - 2011 supported 397 shares of 1218, 738 million CZ and in 2012 was supported by 35 shares for a total amount of CZK 130 million.

SFTI of the grant program "Bike paths" can only support the construction and maintenance of trails, which can be explained by increasing the safety of cyclists.

The grant program "Improving security" can support projects aimed at increasing traffic safety and its accessibility for persons with reduced mobility, the number of such measures simultaneously address the safety of cyclists in urban areas. Since 2013 it is also possible to apply to actions aimed at modification of infrastructure aimed at increasing traffic safety and traffic calming

Cyklodata: Finance: SFDI - Financing cycle paths

Source: <http://www.cyklodoprava.cz/finance/statni-fond-dopravni-infrastruktury/#zakladni-info>

2.3. EU funds for public transport development

The **OP Transport 2007–2013** is the main financial framework supporting the improvement of transport infrastructure quality and interconnections between rail, road and river transport in the TEN-T framework. A total of EUR 5.77 billion has been earmarked from EU funds for this programme, corresponding to approximately 21.6% of all EU funds set aside for the Czech Republic. See OP Transport page 157-159.

2.4. The role of international financing of public transport

Swiss Contribution

Switzerland is investing around CHF 30 million in six projects aimed at promoting public transport in the Czech Republic. Some twelve million passengers stand to benefit from three new transport terminals, one tram line and one trolley bus line, as well as a better transportation network connectivity. Four of the six projects are taking place in structurally weak regions in the east of the Czech Republic.

A. Construction of a trolley bus line in Ostrava

In Ostrava, Switzerland is supporting the construction of a three-kilometre trolley bus line and five bus stops suitable for disabled passengers. This will result in better connections into the city centre and a reduction in the high levels of air pollution.

Purpose

Air quality and living conditions in Ostrava are to be improved by expanding the public transport offering.

Activities

A trolley bus line spanning some three kilometres will be built. Five bus stops will be converted to accommodate disabled passengers.

Target group

7,500 passengers stand to benefit from the improved public transport services on a daily basis, including people with impaired mobility. The 300,000 inhabitants of the city of Ostrava will be less affected by air pollution and noise.

Costs

Total project budget:

CHF 3.56 million

Swiss contribution:

CHF 3.03 million

Responsibility for Project Implementation

Ostrava Transport (Dopravni Podnik Ostrava) joint-stock company

Duration

2012 – 2014

B. Improving Tram Transport Infrastructure in Ostrava

Amount of the Swiss grant: **CHF 3'472'021**

Total budget of the project: **CHF 4'084'730**

Context

The overall project objective is to reverse the current trend of declining public transport patronage in Ostrava by improving safety, comfort and the environmental record of the public transport system. In particular, the Krajsky Urad und Krizikova tram stops have been identified as potentially dangerous for public transport users due to interaction with motorists and are in urgent need of substantial safety upgrades. Besides, the Dopravni Podnik Ostrava aims to reduce atmospheric pollution created by its own vehicles and therefore pursues the strategy of expanding the tram network and mitigating diesel bus operation. Hence, the project aims to improve safety by rebuilding the aforementioned tram stops plus creating a new tram link between Dubina and Vyskovice. The goal of the project is to improve and reconfigure tram routes and services which are the most popular means of public transport in the city of Ostrava.

Activities

- Extension of the tram network
- Introduction of a new tram link
- Curtailment of bus line no. 41 at Dubina where a connection to tram line 3 will be enabled

- Reconstruction of tram platforms at Krajsky Urad by providing separation from adjacent road traffic and barrier-free access
- Reconstruction of the tram platforms at Krizikova by providing separation from road traffic and barrier-free access

Results

- Reduction in the number of accidents involving pedestrians at Krizikova and Krajsky Urad
- Extension of the Ostrava tram network
- Mitigation of atmospheric emissions from carbon oxides, nitrogenous oxides, hydro carbonates and particulate matters by 6.4 tons per annum
- Increase in public transport ridership to around 6'600 per day
- Improvement of comfort for public transport users

C. Tram Project Olomouc - Nove Sady B

Amount of the Swiss grant: **CHF 11'352'902**

Total budget of the project: **CHF 13'356'356**

Date of grant approval: **26.04.2012**

Status: ongoing

The overall project is to renew and enhance the public transport infrastructure of Olomouc and thus improve air quality and living standards in the parts of the town linked to the project. The district of Nové Sady has a population of 15'000 inhabitants and is one of Olomouc's largest urban districts. In terms of public transport, the district is only served by buses. The goal of the project is to enhance the public transport infrastructure of Olomouc and to improve the living conditions and the air quality of the city.

Activities

- Construction of the tram line between the "Tržnice" stop in the city centre and the "Trnkova Street" stop in the district of Nové Sady
- Construction of a bridge over a channel linking two areas of the tram line
- Redevelopment of former factory premises on parts of the project's land
- Power supply for the new tram line

Results

- Extension of the tram system in an area of high residential density
- Rise in the number of public transport passengers to around 5'600 per day
- Improvement of comfort and availability of public transport
- Mitigation of local atmospheric emissions along the project corridor
- Social and environmental revitalisation of the Mlynska Potok River bank
- Fostering economic use of abandoned industrial premises and giving access to a new commercial and arts centre

EIB

PRAGUE METRO II - AFI

Description: Extension of line C of the Prague metro

Amount: EUR 300,000,000

Signature date(s) 22/09/2003 : EUR 75,000,000, 07/09/2007 : EUR 225,000,000

PRAGUE METRO III

Description: Double-track extension of line A of Prague metro between Dejvická and Motol

Amount: EUR 335,689,744

2.5. Positive examples of public-private partnerships in the transport sector

A. AIRCON – CONNECTION BETWEEN THE AIRPORT AND THE CENTER OF PRAGUE, INCLUDING OPERATION AND MAINTENANCE

Project: Airport Connection (AirCon) – Upgrade of the Prague-Kladno railway line and construction of a railway connection to the Ruzyně Airport, including operation and maintenance. The project will be implemented as a PPP.

Public authority: Ministry of Transport together with the Railway Infrastructure Administration (SZDC) – owner of railway infrastructure.

Other stakeholders: Prague City Hall, Central Bohemia Region, Prague 6 District, Prague 7 District, Prague 1 District, Czech Airport Administration, Czech Railways, municipalities: Hostivice and Jeneč.

Provide a system of train connection with a fixed, easy-to-remember schedule that would offer a fast, comfortable and environmentally friendly connection between the center of Prague and the Ruzyně Airport.

Project description Preparation for the construction (upgrade) of a fast railway line between the Prague Airport and the city center. The exact design with technical and economic details will be specified in Outline Business Case.

Capital value The projected investment costs are about CZK 20 billion.

PPP form* BOT or DBFO – form of a long-term project agreement on the construction, operation and maintenance of the line and a project agreement on traffic operation, with the state's financial participation of about 10%.

Contract duration* A long-term agreement for 30 to 40 years is expected.

Risk transfer* The private partner should bear all major risks, including construction risks and risks of infrastructure availability. The demand risk is envisaged to be shared with the Authority.

Payment mechanism* Income from fares collected from the passengers, fees for infrastructure availability and payments for the use of the railway infrastructure should be key sources of income.

More PPP Projects under Discussion...

Rail:

- 1st operational section of Metro line "D", Náměstí míru – Nové Dvory (completion:2016, total cost approx. EUR 1,2 billion)
- Extension of Metro Line A Dejvická-Prague International Airport (completion:2017, total cost approx. EUR 1,4 billion)

2.6. Examples of good practices on the above points

GP14 Integrated Transport System

Moravia – Silesia, Czech Republic (5 427 km², 1.250.000 inhabitants)

United urban and regional public transport system, provides services to 95 % of inhabitants in Moravia-Silesia (CZ). Connects 240 municipalities; associates 10 crucial public transport operators and consists of 120 zones with unified tariffs. The system optimizes and synchronizes public transport lines (bus, train, tram, trolley) within the whole region, ensures public transport availability in all provinces (including border and low-density areas) and facilitates public transport travelling. It is managed by the Regional Authority together with regional capital (Ostrava) and coordinated by authorised body (KODIS). Source: <http://www.pimms-capital.eu/en/good-practices/good-practices.html>, http://www.pimms-capital.eu/files/pimmsc_gp14_moravia-silesia_integrtransport.pdf

2.7. The main barriers in terms of financing public transport improvement

General Problems of PPP Concept in Transport

- **Efficient protection of public interest**
- **Transparent and sustainable structure of PPP and clear balance of public payments/repayments**
- **Clear conditions of service quality, claims, sanctions for non-compliance etc.**
- **Functional dispute prevention and resolution, conditions for contract update, for termination of partnership etc.**
- **Demand and return conditions of a PPP project must be always impartially and independently verified!**
- **PPP for services (without private investment) are possible almost everywhere, only efficiency of solution matters!**

Summary

- **The existing system of transport infrastructure financing in the Czech Republic is unsustainable – changes must be made and new resources searched for**
- **PPP is an interesting and useful concept especially for the transport industry**
- **PPP can be generally used where the revenue is sufficient for the reproduction of private capital, the quality of services can be considerably raised and a sustainable concept of public repayment of the investment exists**
- **The most successful PPPs can emerge in new sections of motorways and high speed roads and in rail station developments**
- **Demand and return conditions of a PPP project must be in all cases verified by impartial financial models**
- **Public sector interest must get a good contractual protection**

See also:

- <http://www.casopisstavbnictvi.cz/clanek.php?detail=249>
- http://www.academia.edu/187252/Sustainable_Transport_Policies_in_South_Eastern_Europe_-_Needs_Priorities_and_Lessons_Learnt_from_EU_Countries (page 31-39)
- <http://www.wseas.us/e-library/conferences/2011/Prague/USCUDAR/USCUDAR-25.pdf>
- <http://bankwatch.org/bwmail/53/czech-transport-investments-going-nowhere-fast>

2.8. Indicators

Modal split of passenger transportation (also by purpose), measured in passenger-km and percentage.

time	1993	1994	1995	2000	2005	2006	2007	2008	2009	2010
Trains	12 ^e	11.7 ^e	10.8 ^e	8.3 ^s	7.3	7.5	7.3	7.1	6.8	7.5
Passenger cars	68.9 ^e	71.3 ^e	73.4 ^e	73.1 ^e	75.5 ^e	75.2 ^e	75.7 ^e	76 ^e	76.2 ^e	72.6 ^{be}

Motor coaches, buses	e 19.1	e 17.0	e 15.8	18.6	17.2	17.3	17 ^r	16.9	16.9	r 19.9 ⁱ
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Modal split of freight transport (also by group of goods), measured in ton-km and percentage.

	1994	1995	2000	2005	2006	2007	2008	2009	2010	2011
Railways	48.7	41.6	31.9 ^s	25.5	23.8	25.3	23.3	22.1	21	20.7
Roads	50.3	57.5	68	74.4	76.1	74.7	76.7	77.8	79	79.2
Inland waterway	1	0.8	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1

GHG emissions from transport (million tons CO2 equivalents)

1990	2000	2005	2007	2008	2009
8,4	13,1	19	20,4	19,9	19,6

Source: <http://ec.europa.eu/transport/facts-fundings/statistics/doc/2012/pocketbook2012.pdf> (page 121, PDF page 62)

3. Financing adaptation to climate change

Focus: on interventions that lead to reduction of the territory's vulnerability to climate change (e.g. measures that aim to reduce and manage the risk of floods, forest fires, droughts and other natural disasters. Despite the fact that this type of financing is still limited in the region and is mainly coming from the Cohesion Funds, this section will make an overview of available efforts.

3.1. National mechanisms and strategies for reducing the vulnerability to climate change

- The **National Programme to Abate Climate Change Impacts** in the Czech Republic contains a list of areas of adaptation in the country and adaptation activities in the water management, nature protection, agriculture, forestry, health service and spatial planning sectors (*Justice and Environment 2011*).
- The **United Nations Framework Convention on Climate Change (UNFCCC), Rio de Janeiro, 1992**, was signed by the Czech Republic in 1993 and ratified later the same year. It provides an international framework for the negotiation of possible solutions to the problems associated with ongoing climate change. It includes emissions reductions, responses to the negative impacts of climate change and financial and technical assistance for developing countries.
- The **National Forestry Programme up to 2013** supports the promotion of species and ecotypes of forest trees adapted to climate change; the ecologically advantageous afforestation of agricultural land based on fast-growing tree species stands in order to prevent soil and land degradation; and subsidies for adaptation measures that reduce the impacts of climate change (*Fifth National Communication*).
- The **Programme for the Renewal of the Natural Function of the Landscape** promotes the protection of landscapes against erosion; the stabilisation of watercourses; the protection of biological diversity; the promotion of ecological stability; and the improvement of the adaptation abilities of ecosystems and species.

- The **River System Restoration Programme** supports climate change adaptation efforts by renewing the functions of watercourses, floodplains and bank vegetation; restoring the ecological stability of the water regime; eliminating lateral obstacles on watercourses; and renewing the retention ability of the landscape.
- The **Flood Prevention Programme II for 2007–2012** promotes the creation of new retention areas on watercourses; and the reconstruction and modification of existing water reservoirs in order to increase the level of protection against floods.
- The **River Basins Management Plan** focuses on increasing the retention of water in the landscape. It also encompasses the preparation of a concept for the management of rainwater in urban areas.
- The **Operational Programme Environment**, based on Cohesion Funds and the European Regional Development Fund, deals with the co-financing of projects to improve water management infrastructure and reduce flood risks (*Fifth National Communication*).

3.2. Public finance sources for improving adaptation to climate change

Name of Instrument	Landscape natural function restoration programme
Year of Introduction	2009
Date last revision	
Website	http://www.mzp.cz/
Reference	
Contact -- name	Nejedla Monika
Contact -- phone / fax	
Contact -- email	monika.nejedla@mzp.cz
Organisation	Czech Ministry of Environment
Tax-bases or sub-schemes:	
115 162 - Management and care of specially protected areas, bird areas and sites of community importance	
115 163 - Recovery programmes / Action plans and management programmes for specially protected wildlife species	
115 164 - Climate change adaptation measures for water ecosystems	
115 165 - Climate change adaptation measures for non-forest ecosystems	
115 166 - Climate change adaptation measures for forest ecosystems	
115 167 - Background materials for enhancement of natural environment and monitoring	

I. National Forestry Programme up to 2013

For financial aid set out in the NFP, see the [document](#) on PDF page 19., table 2 and 3

II. River System Restoration Programme (Ministry of Environment Directive No.5/2006)

Principal financing mechanisms and investment programmes to mitigate the climate change impacts on water systems see: <http://www.oecd.org/env/resources/Czech%20Rep.pdf>

For a summary of measures to be implemented in the water protection, flood protection and in water services, including strategy for their funding set out in the plan of main river basins of the Czech Republic see *The Plan of Main River Basins of the Czech Republic* at [this link](#), PDF page 23-28

Program to support communities affected by floods Program support measures in areas affected by floods in 2010

The program is focused on rehabilitation of water infrastructure and its proper function in the territory affected by the floods in 2010.

X.1 . Program renewal of sewerage system and wastewater treatment plant

The aim of the program is to support the implementation of non-investment measures in areas affected by floods in 2010, where he was declared emergency (crisis) situation. This is a renewal of the sewerage network

and sewage treatment plants, primarily in relation to the restoration or reconstruction of other infrastructure.

X.2 . Recovery program for small water infrastructure

The aim of the program is to support the implementation of non-investment measures in areas affected by floods in 2010, where he was declared emergency (crisis) situation. This is a renewal retention capacity of water reservoirs (dredging, repair dams, etc.).

- *Who can apply for financial support?*

Legal persons established for non-business purposes:

- local authorities

- municipalities, associations of municipalities , legal entities incorporated or established by local authorities

- Schools and educational facilities

- foundations and endowment funds , charitable organizations and civic associations

- governmental organization

- organizational units of the state

- Other private entities owned more than 50 % owned by municipalities or other public entities , including public research institutions under special regulations

- borrower may be operator municipal wastewater treatment plants and sewerage

- in the case of the X.2 .

- a natural person not engaged in business

What are the forms of support ? Support is provided in the form of interest-free loans with a total maturity of 7 years. The quarterly installments with a grace period of up to two years within the overall maturity.

What can be the amount of support ?

The program X.1 . may be granted a loan of 100 % up to EUR 10 million per event

The program X.2 . may be granted a loan of 100 % up to EUR 5 million per event .

Source: <https://www.sfzp.cz/sekce/599/program-na-podporu-obci-postizenych-povodni/>

3.3. EU funds for reducing vulnerability and increasing adaptive capacity

OP Environment - Priority Axis 1

Grants from the OPE for Water Management Infrastructure and the Reduction of Flood Risks

Resources totalling almost **EUR 2 billion** are available for these purposes in the Operational Programme Environment from the Cohesion Fund.

The aim is to improve the condition of both surface and underground water, to improve the quality and supply of the population's drinking water, to reduce the amount of hazardous substances in water, and to reduce the risk of floods.

Areas of Intervention

1.1 The reduction of water pollution - Almost EUR 1.49 billion have been reserved for this area, representing 74.81% of Priority Axis 1's resources.

1.2 Drinking water quality improvement - Almost EUR 400 million have been reserved for this area, representing 20.15% of Priority Axis 1's resources.

1.3 The reduction of flood risks - Almost EUR 100 million have been reserved for this area, representing 5.04% of Priority Axis 1's resources.

Source: <http://en.opzp.cz/sekce/506/about-operational-programme-environment/>

3.4. The role of international financing for reducing the vulnerability and increasing adaptive capacity

EEA Grants

Biodiversity and Ecosystem Services & Environmental Monitoring and Integrated Planning Control & Adaptation to Climate Change

Objective:

- Halt loss of biodiversity
- Improved compliance with environmental legislation
- Reduced human and ecosystem vulnerability to climate change

Programme operator: Ministry of Finance

Programme number: CZ02

Donor programme partner: Directorate for Nature Management (DN),

Programme duration: 30 April 2017

Date of approval: 22 April 2013

Total grants amount: € 18,420,000.00

From EEA Grants: € 18,420,000.00

Programme areas:

- PA02 - Biodiversity and ecosystem services
- PA03 - Environmental monitoring and integrated planning and control
- PA07 - Adaptation to climate change

The results will be achieved by:

- Collecting and monitoring data from species and habitats in 8 Natura 2000 sites,
- Implementing 24 management plan measures, 3 environmental education programs and campaigns,
- Developing 3 new interpretative infrastructure,
- Developing 2 national biodiversity policy measures
- Conducting 3 surveys and analysis focused on the status of threats of the landscape
- Implementing 3 measures focusing on decreasing the threats and fragmentation
- Implementing monitoring programs in 2 geoparks that includes systems for information exchange,
- Developing web databases, implement workshops and conferences, surveys and monitoring systems to raise awareness on climate change,
- Conducting 5 impact assessments and cost and benefit analysis.

III. EIB - EIB Accelerated Flood Prevention Project (Czech Republic)

Snapshot

Financing Types	Stakeholders	Amount	Share	Sector
Loan	EIB	€ 319 million	58.8%	Disaster Risk Reduction
Other	Other financiers	€ 223.3 million	41.2%	Disaster Risk Reduction
Total:		€ 542.3 million	100%	

Project Summary: the project supports the "Strategy for Protection against Floods for the Czech Republic", approved by the Government in 2000. The main objective of this Strategy is to mitigate risks related to catastrophic flood events for key infrastructure. This is will be achieved through a wide range of preventive measures that are integrated at river basin level and selected in coordination between the State, the Regions, and Municipal Authorities in close association with the River Boards.

The Czech Republic was hit hard by six disastrous floods in the last decade, causing casualties and damage worth EUR 5 billion. The national flood prevention strategy (2002-2012) aims at the increased protection of over 800,000 people and of key infrastructure. The project is implemented under the responsibility of the Czech Ministry of Agriculture and concerns a wide range of investments in all major river basins including the rehabilitation, desludging and upgrading of existing pond systems to better utilise them for retention of flood waves. The main aim of the European Investment Bank (EIB) loan is thereby to contribute to the reduction of the potentially devastating effects of floods that are increasing in their frequency due to the effects of climate change.

Financing: The total investment cost for the project is calculated to be EUR 750 million with the EIB co-financing less than 50%, the remainder coming mainly from State budget and the River Boards' own funds.

Implementation: The schemes to be financed under this project will be implemented during the period 2002 to 2012.

3.5. The role of private financing in supporting adaptation to climate change

Insurances

Although multiple small disasters can slowly erode a nation's budget, all it takes is one major catastrophe to severely affect the economy. In 1999, for example, a major earthquake in Turkey caused economic damage estimated at 3–6% of GDP. In 2002 in the Czech Republic, flooding caused €3 billion in damages. Fortunately for the Czech Republic, 40% of losses were insured—a lesson the country learned from the floods of 1997. The Czech Republic, however, is unique for the ECA region. In general, ECA countries have budget but not insurance funds for such eventualities (see table 6) and have yet to develop more sophisticated financial instruments to cope with such losses on a systematic basis, especially since climate change effects may be increasing the frequency and intensity of hazards (Source: http://www.gfdrr.org/sites/gfdrr.org/files/publication/GFDRR_DRM_and_CCA_ECA.pdf).

Case study: The 2002 summer floods in Europe

The 2002 floods generated considerable economic losses but of which only a limited part has been passed on to the insurance industry. The floods that swept through Europe during the summer of 2002 rank among the most devastating and costly flood catastrophes in this region over the past century in terms of property damage and the loss of human life. During the flooding, some 60,000 residents were evacuated in Austria, 200,000 in the Czech Republic and 100,000 in Germany. Some 4 million German and 1.6 million Czech residents have been affected, and at least 112 fatalities have been registered across the affected region. In the Czech Republic the overall economic damage from weeks of large-scale flooding was estimated at the end of 2002 at around 2.2 billion Euro (70 billion CZK).

Although the damage costs for the floods in Europe account for billions of Euro, insured losses are much lower as only a relatively small part of the material damage and the resulting economic losses was insured. It is mainly due to the fact that flood damage does not form part of standard insurance cover in the affected regions. Because of the low market penetration and strict limits on flood covers in certain regions, the insurance industry faced up to 3 billion Euro of claims representing about 10-20% of overall economic losses. Reinsurers will pay for as much as two thirds of the insurance claims. Expected losses stem primarily from reinsurance contracts written in Germany and the Czech Republic followed by Austria and Italy. As a result, the German insurance market counted total insured losses of around 1.8 billion Euro, the Czech Republic approximately 1.2 billion Euro, Austria around 400 million Euro. The French insurance association estimated the damage stemming from heavy flooding in Southeast France at around 700 million Euro. Slovakian and Hungarian insurers faced more moderate losses.

Among insurance companies, the German insurer Allianz, operating throughout the flood-ravaged region sustained the biggest loss of any industry payer. It met claims in Germany due to the flood damage in excess of 770 million Euro. At present, Allianz has already settled claims of an amount of 635 million Euro. However, with reinsurance coverage, net cost of flood losses will represent 300 million Euro for the German group. Next would be the Italian's Assicurazioni Generali SpA, with losses of 79 million Euro; and the Czech insurance company

Pojistovna Ceske Sporitelny with 69 million Euro. The analysts anticipated that in reaction to the floods, most insurers were likely to raise the price of property insurance, particularly in the flood-prone areas in 2003.

In Austria, the Czech Republic and Germany, flood insurance coverage is provided exclusively by private insurance companies. As already discussed above, due to the low penetration level of insurance coverage (less than 10%), much of the damages caused by last summer's floods in Europe is being covered by States through direct government aid and extensively alleviated by the financial assistance from the European Union.

Following the flood disaster in the summer of 2002, four countries were eligible to receive aid packages from the European Solidarity Fund: Austria, the Czech Republic, Germany and France. The sum allocated varied according to the amount of damage caused by floods to a particular country. Accordingly, 444 million Euro were allocated to Germany, 134 million Euro were assigned to Austria; 129 million Euro were transferred to the Czech Republic and France received 21 million Euro.

Source: <http://www.oecd.org/finance/insurance/18074763.pdf>

For a Fact Sheet: Europe's Largest Weather-Related Catastrophes, 2002 Central European Floods, see the below paper, on PDF page 21-22.

CEA Insurers of Europe. (2007). "Reducing the Social and Economic Impact of Climate Change and Natural Catastrophes Insurance Solutions and Public-Private Partnerships." Brussels, June 2007.

3.6. Examples of good practices on the above points

Private sector

CatNet

CatNet is an interactive map tool from the insurance company Swiss RE44. It contains information on a number of natural hazards, including tornados, earthquakes, 'European winterstorm peak gust', hail, volcanoes, etc., but also flood risk and is regarded as a first attempt at a Worldwide Natural Hazard Atlas45. The CatNet flood zones are based on a wide variety of heterogeneous sources. Therefore, depending on the country, either storm surge and/or fresh water flood zones are displayed. The main page of the interactive hazard atlas of CatNet is shown in Figure 6.1 and the selection menu in Figure 6.2. The CatNet is accessible for external users who do have to register before they can use the information, but only for a trial period of 8 weeks, after which it is a commercial service.

CatNet covers a number of European countries. In the Czech Republic, fresh water flood zones are calculated by Swiss Re's proprietary multiple regression approach. Zones describe naturally flooded areas affected every 50, 100, 250 and 500 years. The effect of flood protection measures was not taken into account and flood zones along canals are not depicted.

Source: http://ec.europa.eu/environment/water/flood_risk/flood_atlas/pdf/flood_maps_ch6.pdf

FRAT (Flood Risk Assessment Tool)

In the Czech Republic an exceptionally well-developed tool has been made available which allows the user to assess the flood risk at any location in the country using a map-based user-interface (Figure 6.9). This system, called FRAT (Flood Risk Assessment Tool), is now used by almost all property insurances in the Czech Republic, allowing them to identify high exposed risks and more accurately price flood risks. The tool was developed by Swiss Re, as the leading reinsurer and developer of catastrophe models, and MMC, the leading provider of GIS (Geographic Information System) technology47. It can now price selected properties according to their flood risk exposure and can also be used as a basis for improved flood accumulation reporting and control. The tool is designed as a stand-alone software solution (CD-ROM) and offers two basic functional modes:

- The user, for instance, a risk manager or insurance agent, enters data on the property location using the full address (street, house number, and city). The address, or part thereof, is located and transformed into geographic coordinates, which are used for zoning analysis. The system generates information on the flood risk exposure of the selected location and displays it on-screen.

- The tool distinguishes six different flood risk zones (zones 1 to 6, ranging from very low to very high risk), and the historically observed maximum flood boundary. The result is also translated into the CAP (Czech Insurance Association) format for designating tariff zones.

In August 2006 the FRAT 2.0 has been released. The new version of Flood Risk Assessment Tool, which focuses on property insurance risk assessment is distributed on DVD ROM media and contains address database for whole territory of the Czech Republic. The Address database is used for address verification and for geocoding of the property location. The product offers extended set of detailed city plans, covering in total over 160 cities of the Czech Republic.

The FRAT system is not freely available as it is a commercial product. Swiss Re and MMC have decided to offer FRAT 1.0 CD-ROMs for a nominal fee to Czech clients of Swiss Re, the Czech Insurance Association (CAP) and to all companies within CAP. Other insurance companies with insured interests in the Czech Republic can gain access to the application by written request to Swiss Re or MMC.

Source: http://ec.europa.eu/environment/water/flood_risk/flood_atlas/pdf/flood_maps_ch6.pdf
and
http://www.swissre.com/media/news_releases/Improved_flood_risk_selection_for_the_Czech_insurance_market.html

From EU funds

Rehabilitation of early warning systems (Adaptation option)

Source: http://climate-adapt.eea.europa.eu/viewmeasure?ace_measure_id=679

Green spaces and corridors in urban areas (Adaptation option)

Urban green areas can have positive effects for human health and climate change adaptation. The capacity of vegetation to retain water is an important flood prevention feature that can reduce peak discharges. Green spaces in cities can also provide cooling through shading and enhanced evapotranspiration and reduce the heat island effect. Green areas are often threatened by expanding city structures which have fragmented natural areas, creating small patches of green spaces in amongst buildings and roads. For example, patches of urban woodlands are generally separated from each other, which affects the ability of many woodland species to disperse, or move among different locations with similar habitats. Ecological corridors or connections between urban woodlands, gardens or other green spaces are recognised as a way to limit the negative effects of fragmentation. The creation of green areas and corridors can be applicable in most urban areas. The wide array of available techniques allows application in areas with very different characteristics and even where space is limited. Source: http://climate-adapt.eea.europa.eu/viewmeasure?ace_measure_id=2303

Pilot Project Natural Park Drahán - Troja, Municipal district Prague Troja within the INTERREG IV project: Periurban Parks Improving Environmental Conditions in Suburban Areas

Source:

<http://www.periurbanparks.eu/live/index.php?a=open&id=4fd87ea7203a6&ids=4d7e02cca465b&l=en>
<http://www.periurbanparks.eu/storage/files/5139eafadb1f5.pdf>

3.7. The main barriers in terms of adapting to climate change

Lessons learnt form major floods: Flood Risk Management and Flood Zones System in the Czech Republic

Paper is focused on contemporary state of flood risk management in Czech Republic. Huge floods (occurred in 1997 and 2002) influenced the approach of various institutions to flood risk dramatically. Those institutions are mainly: government, flood authorities, municipalities, insurance companies as well as natural bodies. Authors deal with following issues mainly: flood risk prevention, flood losses determination, flood losses minimization and flood risk financial backing. Possibilities of flood losses' minimization and insurance specifics connected with flood risk are judged. See short paper here:

<http://wmhe.gf.ukim.edu.mk/Downloads/PapersTopic3/A19-Hanak-Vitkova-Hromadka.pdf>

3.8. Indicators

Rate of afforestation/deforestation

Czech Republic: Trends in Natural Forest Cover (Deforestation), 1990-2010

FOREST COVER (excluding planted forests) (1000 ha)			
1990	2000	2005	2010
19	21	21	22
ANNUAL CHANGE RATE (1000 ha) <i>Negative number represents deforestation</i>			
	1990-2000	2000-2005	2005-2010
	0	0	0
ANNUAL CHANGE RATE (percent) <i>Negative number represents deforestation</i>			
	1990-2000	2000-2005	2005-2010
	1.1	1.05	0.48

– **Number of floods**

Natural Disaster Occurrence Reported from 1980 – 2010: 12

Source: <http://www.preventionweb.net/english/countries/statistics/?cid=46>

– **Percentage of agricultural land and arable land**

Agricultural land (% of land area)

Country Name	Country Code	1993	2000	2005	2006	2007	2008	2009	2010	2011
Czech Republic	CZE	55,41607	55,39019	55,13849	55,06796	55,00324	54,93851	54,87379	54,81616	54,7

Source: <http://data.worldbank.org/indicator/AG.LND.AGRI.ZS>

Arable land (% of land area)

Country Name	Country Code	1993	2000	2005	2006	2007	2008	2009	2010	2011
Czech Republic	CZE	43,12152	41,96972	41,53508	41,44984	41,35922	41,26861	41,16505	41,05386	40,9

Source: <http://data.worldbank.org/indicator/AG.LND.ARBL.ZS/countries?display=default>

4. Financing Ecosystems protection

Focus: Available mechanisms for different financing options for supporting investments in natural capital including protected areas and wider green infrastructure elements

4.1. Strategies and national mechanisms for nature conservation in the country

- The **National Biodiversity Strategy**, together with the general **State Environmental Policy 2004–2010**, constitute the strategic framework for the implementation of measures related to the protection of nature and biodiversity in the Czech Republic.
- The 2010 amendment of the **Nature and Landscape Protection Act** provides a legislative guarantee for the special protection of selected, rare or scientifically or culturally significant plant and animal species. It regulates administrative procedures and defines competences related to the approval of exemptions from Special Protected Areas and procedures for evaluating forest management plans for SCIs and bird areas (*Czech Environmental Information Agency*).
- The total amount of funding from the **European Fund for Rural Development** allocated to the Czech Republic is EUR 2.8 billion for the period 2007 to 2013. Of this, EUR 1.5 billion is allocated as Natura 2000 payments, agricultural and forest payments and support for non-productive investments.
- EUR 0.60 billion have been allocated under the **OP Environment** for improving the state of nature and the landscape, including the protection of wetlands and forest ecosystems.
- The Ministry of Environment has implemented Operational Programme Environment. The Priority Axis 6 - IMPROVING THE STATE OF NATURE has established the following specific objectives : implementation of the Natura 2000 network , restoration and protection of natural and semi-natural habitats and endangered plant and animal species, restoration of ecological stability , optimization of the landscape water regime , regeneration of the urban landscape , prevention of landslides and rock avalanches
- Projects focused on nature and landscape protection can be given also in the Financial Mechanism and Norwegian , also in the future of financial assistance Switzerland
- The EU fisheries policy is the European Fisheries Fund Operational Programme for Fisheries supported 2007 - 2013, which is also managed by the Ministry of Agriculture. As part of measures to protect the aquatic environment will be supported by friendly farming in ponds, focused primarily on areas of high natural value.

4.2. Public finance sources for supporting eco-systems protection

RURAL DEVELOPMENT PROGRAMME	
Managed by the State Agricultural Intervention Fund	<p>Existence and implementation of the Rural Development Programme will contribute to achieving the objectives of the National Strategic Rural Development Plan, ie to the development of rural areas of the Czech Republic on the basis of sustainable development, improve the environment and reduce the negative impacts of intensive farming.</p> <p>The program document can be reached here: http://eagri.cz/public/web/file/10574/RDP_November_2008.pdf</p>
Grant award to support the coordination of NGO projects in nature conservation and landscape for 2013	

<p>Ministry of Environment</p>	<p>Grant selection procedure of the Ministry of the Environment (the " Ministry ") to support the coordination of projects of NGOs in the protection of nature and landscape for 2013 was published on the website of the Ministry of Environment of 11 January 2013 \, with completion of applications to 11 February 2013.</p> <p>The aim of the selection process, the financial support of civic associations and non-profit companies, whose activities cover a substantial part of the territory of the Czech Republic and coordinate a large number of locally relevant projects.</p> <p>The funds allocated to this program for a total of 5 million CZK were divided into two sub-programs:</p> <p>I Coordination of projects to promote biodiversity - with a maximum grant amount of CZK 3 million .</p> <p>II Coordination with land trusts - with a maximum grant amount of CZK 2 million.</p> <p><u>Within the program I - Coordination of projects to promote biodiversity</u></p> <p>♣ subsidy of 343 000 , - CZK winning project of the Czech Society for Ornithology , entitled "Mapping and protection of synanthropic species of birds "</p> <p>♣ subsidy of 2,657,000 , - CZK second most successful project called Biodiversity Conservation in 2013 by Czech Union for Nature Conservation - Central Executive Board.</p> <p><u>The Sub-program II - Coordination of project land trusts</u></p> <p>♣ subsidy of 2,000,000, - CZK project entitled "Support for the establishment and development of land trusts in the Czech Republic - coordination of movement land trusts " by Czech Union for Nature Conservation - Central Executive Board.</p> <p>Source: http://www.mzp.cz/cz/vyberove_dotacni_rizeni_nno_2013</p>
<p>Programme of landscape in 2013</p>	
<p>Ministry of the Environment (the "Ministry") and the Agency for Nature Conservation and Landscape Czech Republic (ANCLP)</p>	<p>A call for applications to the program of landscape, the subroutine for improving the preserved natural environment and landscape (sub B) and subroutine for the provision of care for vulnerable and disabled animals (sub C). Applications for grants will be administered to 15 March 2013. Collection point for applications within the program for improving the preserved natural environment and landscape are regional centers ANCLP for applications within the program for the provision of care for vulnerable and disabled animals is a collection point Directorate ANCLP.).</p>
<p>Program to support the purchase of land in specially protected areas and their buffer zones of significant landscape elements - to ensure effective protection of nature in the most precious areas of the Czech Republic through ownership of professional institutions .</p>	
	<p>The program aims to ensure effective protection of nature in the most precious parts of the Czech Republic through ownership of professional institutions.</p> <p><u>Who can apply for financial support?</u></p> <p>Applicants for assistance may be Agency for Nature Conservation and Landscape Czech Republic, The National Park Czech Switzerland , Managing Giant Mountains National Park The National Park and Protected Landscape Area Administration and National Park.</p> <p><u>What can be the amount of the subsidy?</u></p> <p>Grants may be covered at 100%.</p> <p>How are the established criteria for selecting actions for support under this program? land , the purchase is carried out preferably :</p> <ul style="list-style-type: none"> • in national nature reserves • the national nature monuments • in national parks <p>Other buying lands :</p> <ul style="list-style-type: none"> • I. zones in protected areas • in nature reserves • the natural heritage

- in the protection SPA
- other land , if their purchase necessary to protect the critically endangered species of animals or plants , the protection of caves or significant geomorphic phenomena

Both groups need to take into account the following criteria:

- land requires special care to maintain the subject matter is not able to provide the current owner
- representativeness and uniqueness of the
- in territories whose existence is dependent on a regular or one-time insertion of large funds from public budgets
- land , which complements the integrity of the land in public ownership

When can I apply for a grant?

Running from 1 January 2010.

The amount of allocation: The approved allocation for the program for 2013 is 14 million CZK .

Source: <https://www.sfzp.cz/sekce/455/program-na-podporu-vykupu-pozemku-ve-zvlaste-chranenych-uzemich/>

Program support communities located in regions national parks

Program support communities located in regions national parks

What is the purpose of this program?

Compensation for loss of economic development communities located in areas of national parks. Support for the program is provided for the implementation of measures in four sub-programs:

1) Non-investment support for environmental education and awareness raising and counseling

The aim of this measure is to support the development of environmental education and awareness raising and environmental consultancy in national parks and protected areas by supporting the work of specialized centers.

What this subroutine support?

- operations and activities of environmental education , information and counseling centers in national parks
- activity guides in national parks
- camps aimed at exploring nature in national parks
- ekoporadenských development services in national parks for greener economy and business , etc.

Who can apply for financial support?

legal persons established for non-business purposes , except foundations and endowment funds , including:

- non-profit organizations
- civic associations, if cooperation proves to submit projects to the relevant municipalities partnership agreement
- local governments, municipalities, associations of municipalities
- legal entities incorporated or territorial governments (municipal organizations and organizational units)
- Other private entities owned more than 50 % owned by municipalities or other public entities

What amount of the grant , applicants can get ?

Non-investment support may reach up to 70 % of total eligible costs , which is bounded with at least CZK 300,000 and a maximum of 1.5 million CZK per share.

2) Support of small-scale

This sub-program covers the other four areas of support with its own objectives :

1. Maintenance and building technical equipment or small structures visitor infrastructure

What this sub-program area supports ?

Manufacture, installation , maintenance, information boards , or remove them in case of malfunction , such as bus stops, green lines - Cycle buses, ski buses, maintenance, repair or construction of barriers , railings , ladders and other equipment , regulative movement of visitors , except for roads, installation of equipment for selection for voluntary contributions to municipalities in national parks , etc.

What amount of the grant , applicants can get ?

Maintenance and construction of facilities for visitor infrastructure can earn up to 70 % of the total eligible costs which can be up to CZK 250,000 per share.

2. Measures to address previous negative actions or adverse effects , operating in specific regions

What this sub-program area supports?

Unauthorized removal of small landfills and removing non-functional technical equipment, buildings, etc.

What amount of the grant, applicants can get ?

On this measure, applicants can receive up to 70 % of the total eligible costs which can be up to 500 000 CZK per share.

3. Revitalization of residential green

What this sub-program area supports?

recovery and the creation of parks and green streets, alleys and other non-forest vegetation using native species geographically

restoration or creation of vegetation cover with a nature-friendly nature of the place of the removed buildings and equipment, load , etc.

liquidation or reduction of plants belonging to geographically non-native or invasive species

treatment of memorable and important trees and trees

What amount of the grant , applicants can get ?

The revitalization of green applicants may receive up to 70 % of the total eligible costs which can be up to CZK 250,000 per share.

4. Wastewater treatment

Sub-program support area: construction, reconstruction or intensification of wastewater treatment plants including vegetation in the category of up to 500 EO leading to a substantial reduction of pollution and eutrophication of surface waters, construction related sewer systems.

What amount of the grant can applicants get?

Wastewater treatment applicants can receive up to 70 % of the total eligible costs which can be up to 500 000 CZK per share.

Who can support this subroutine?

legal persons established for non-business purposes , except foundations and endowment funds , including:

non-profit organizations

civic associations, if cooperation proves to submit projects to the relevant municipalities partnership agreement

local government units

associations of municipalities

legal entities incorporated or territorial governments (municipal organizations and organizational units)

Other private entities owned more than 50 % owned by municipalities or other public entities

in the case of wastewater treatment and the population therefore a natural person not engaged in business

3) to promote energy self-sufficiency villages in the National Park

The aim of this measure is to support the construction of small infrastructure for the use of biomass for heat and hot water for their own use National Park region .

Sub-program support area: purchase pelletizing lines for processing biomass from areas that are part of Special Areas of Conservation (SAC) under the Natura 2000, investment in the revitalization of disused buildings of former agricultural buildings , drinking , local production for processing or storage of biomass from land (forest and non-forest) , which are part of EVL in Natura 2000, purchase of small machinery and technologies for biomass processing for the above purpose , etc.

What amount of the grant, applicants can get?

As part of this program for the bodies lying within national parks, the subsidy can be up to 70 % of the cost and is

bounded by the amount of CZK 5 million per event.

Who can apply for financial support?

local government units (municipalities) and their volumes

4) Increase Fund support projects with co-financing from the OPE

The aim of this measure is to increase the availability of subsidies provided to municipalities from the Operational Programme Environment .

What is the subject of this support?

Contribution of up to 5 % of the eligible costs of the project approved the Operational Programme Environment.

What amount of the grant, applicants can get?

Increase support from the Fund may be up to 5 % of eligible public expenditure of the project as approved the Operational Programme Environment, which can amount up to 3 million per event.

Eligible for financial support

local government units (municipalities) and their bundles lying in the region of the National Park

non-profit organizations

Other applicants only on condition that the project also involved the village in the national park

Based on the calls published on the website of the Fund section of national programs.

Source: <https://www.sfzp.cz/sekce/535/program-podpory-obci-lezicich-v-regionech-narodnich-parku/>

Program to support non-productive plant species diversity

Program to support non-productive plant species diversity and conservation of genetic resources

The program aims to strengthen the diversity of settlement and landscape vegetation with an emphasis on preserving the unique genetic material of endangered indigenous and culturally significant non-productive plants and increase public awareness of the importance of this issue.

Support is provided for the implementation of measures in five areas:

1) autochthonous and allochthonous plants to increase the diversity of residential and landscape vegetation

The measure aims to strengthen the diversity of settlement and landscape vegetation with preference for native species of plants and technologies friendly to the environment.

The object support include :

maintenance and development of existing plant collections

monitoring , documentation and evaluation of potentially invasive / environmental risk allochthonous species

and hybrids (cultivated in the Czech Republic and the newly introduced)

technical support and maintenance of conservation areas

2) Original and endemic species of the Czech Republic

The aim of the measures is to preserve the unique genetic material of endangered indigenous species, especially endemic and subendemic species important for biodiversity Czech countryside , and strengthen their currently depressed stocks.

The object support include :

monitoring sites endangered indigenous taxa

protection of ex situ gene pools

maintenance and development of existing archives species (comparative mother plants)

technical support and maintenance of conservation areas genofondových

3) Memorable and culturally important species of the Czech Republic

The aim of the measures is to preserve the unique genotypes and protected trees and other culturally significant species Czech , important for their biological , cultural, historical, landscaping or economic value and allow them to return back to the landscape .

The object support include:

search and monitoring of exceptional individuals

protection of ex situ gene pools
cultivation of plants for eventual return to the free and the urban landscape

4) Propagation of issues, awareness and education activities

The aim of the measures is to inform the public on the importance of botanical collections and their use in practice, but also the wider significance of biodiversity of plants to the environment. The object support include:

- offer training and educational activities for the public (eg school programs, workshops, guided tour of the collections, public events, etc.)
- consulting services
- popularization of the issue through promotional and informational materials

Name of Instrument	State Environmental Fund of the Czech Republic -- Protection of air programmes
Year of Introduction	2005
Date last revision	2012
Website	http://www.mzp.cz/
Reference	
Contact -- name	Nejedla Monika
Contact -- phone / fax	
Contact -- email	monika.nejedla@mzp.cz
Organisation	Czech Ministry of Environment
<i>Tax-bases or sub-schemes:</i>	
# -- Programme for reconstruction of air pollution sources in order to comply with the requirements of the Air Protection Act	
# -- Programme to assess environmental measures leading to a major reduction of greenhouse gases	
# -- Programme to decrease emissions of air pollutants from sources of air pollution operated for the purpose of public benefit activities	
# -- Programme to decrease the emissions of volatile organic compounds	
# -- Programme to realise regional programmes to reduce emission of air pollutants	
# -- Programme to reduce the emissions of air pollutants in regions	
Programme to protect the ozone layer of the Earth	

Source: <http://www2.oecd.org/eoicst/queries/ed.asp>

Taxes

Name of Instrument	# - Air pollution fee -- Medium stationary sources
Year of Introduction	1991
Date last revision	1.9.2012
Website	
Reference	The Czech Law nb. 86/2002 Sb., about air protection.
Contact -- name	Nejedla Monika
Contact -- phone / fax	
Contact -- email	monika.nejedla@mzp.cz
Organisation	Czech Ministry of Environment
Tax-bases or sub-schemes:	
Ammonia	
Carbon monoxide	
Heavy metals	

Hydrocarbons	
Methane	
Other polluting substances, class I.	
Other polluting substances, class II.	
Solid emissions (particulates)	
Sulphur dioxide	
Volatile organic compounds	
Name of Instrument	# -- Air pollution fee -- Major stationary sources
Year of Introduction	1967
Date last revision	1.9.2012
Website	
Reference	The Czech Law nb. 86/2002 Sb., about air protection.
Contact -- name	Nejedla Monika
Contact -- phone / fax	
Contact -- email	monika.nejedla@mzp.cz
Organisation	Czech Ministry of Environment
Tax-bases or sub-schemes:	
Ammonia	
Carbon monoxide	
Heavy metals	
Hydrocarbons	
Methane	
Nitrogen oxides	
Other polluting substances, class I.	
Other polluting substances, class II.	
Solid emissions (particulates)	
Sulphur dioxide	
Volatile organic compounds	
Name of Instrument	# -- Air pollution fee -- Small stationary sources
Year of Introduction	1991
Date last revision	1.9.2012
Reference	The Czech Law nb. 86/2002 Sb., about air protection
Contact -- name	Nejedla Monika
Contact -- email	monika.nejedla@mzp.cz
Organisation	Czech Ministry of Environment
Tax-bases or sub-schemes:	
Other small sources -- Emission sources of solid pollutants	
Other small sources -- Emission sources of volatile organic compounds	
Small combustion sources -- Black coal	
Small combustion sources -- Brown coal	
Small combustion sources -- Coal sludges, morgans	
Small combustion sources -- Heating oils	
Small combustion sources -- Other liquid fuels and substances	
Name of Instrument	Air pollution fee
Year of Introduction	2013
Date last revision	1.9.2012
Reference	The Czech Law no 201/2012 Coll., about air protection

Contact -- name	Nejedla Monika
Contact -- email	monika.nejedla@mzp.cz
Organisation	Czech Ministry of Environment
Tax-bases or sub-schemes:	
Nitrogen oxides	
Particulate matter	
Sulfur dioxide	
Volatile organic compounds	

Source: <http://www2.oecd.org/ecoinst/queries/ed.asp>

4.3. EU funds for eco-systems protection

OP Environment - Priority Axis 2

Grants from the OPE for Air Quality Improvement

Do you want to switch over to environmentally friendly heating or to install a device to capture emissions or dust particles discharged into the air? Resources totalling more than EUR 634 million from the Cohesion Fund are available for such purposes in the Operational Programme Environment (OP E). The aim of support is to improve or maintain air quality and reduce the emission of main polluting substances into the air, with an emphasis placed on the use of environmentally friendly of energy, generation, including energy savings.

Areas of Intervention

2.1 The improvement of air quality - More than EUR 348 million have been reserved for this area, representing 55% of Priority Axis 2's resources.

2.2 The reduction of emissions - Almost EUR 286 million have been reserved for this area, representing 45% of Priority Axis 2's.

Amount of Support: Grants up to 90% of a project's total eligible expenses. A project's minimum amount of eligible expenses has been set at CZK 0.5 million

Source: <http://en.opzp.cz/sekce/506/about-operational-programme-environment/>

OP Environment – Priority Axis 6

Grants from the OPE for Improving the State of Nature and the Landscape

Are you interested in revitalising a watercourse or reservoir, in renewing the greenery in your community or protecting it against water or wind erosion? Do you want to protect the biodiversity of both plants and animals? Resources totalling almost **EUR 600 million** from the European Regional Development Fund are available in the Operational Programme Environment (OPE) for such purposes. The aim of support is to stop the decline of biodiversity and to increase the ecological stability of the landscape.

Amount of Support: Grants up to 90% of a project's total eligible expenses.

Areas of Intervention

6.1 The implementation and management of the NATURA 2000 network - Almost EUR 30 million have been reserved for this area, representing 5% of Priority Axis 6's resources.

6.2 Support for biodiversity - Almost EUR 114 million have been reserved for this area, representing 19% of Priority Axis 6's resources.

6.3 Recovery of landscape features - Almost EUR 78 million have been reserved for this area, representing 13% of Priority Axis 6's resources.

6.4 Optimisation of the landscape water regime - Almost EUR 225 million have been reserved for this area, representing 37.5% of Priority Axis 6's resources.

6.5 Support for the regeneration of urbanised landscape - Almost EUR 87 million have been reserved for this area, representing 14.5% of Priority Axis 6's resources.

6.6 The prevention of landslides and rock avalanches, the monitoring of geofactors and the impacts of mining and extraction activities, and the assessment of non-renewable natural resources including groundwater resources - More than EUR 66 million have been reserved for this area, representing 11% of Priority Axis 6's resources.

4.4. The role of international financing for nature protection and eco-system conservation

Conservation of Biological Diversity of Carpathian Mountain Grasslands in the Czech Republic through Targeted Application of New EU Funding Mechanisms

GEF Project ID	1705
UNDP PMIS ID	2255
Funding Source	GEF Trust Fund
Country	Czech Republic
Region	Europe and Central Asia
Focal Area	Biodiversity
Operational Program	4
PDF-A Approval Date	2002-08-02
Approval Date	2005-06-14
GEF Agency Approval Date	2005-08-29
Project Completion Date	2008-08-31
Project Status	Project Completion
GEF Agency	UNDP
Executing Agency	Ministry of Environment of the Czech Republic; Fund for Organic Agriculture (FOA);
Description	The overall objective of the proposed project is the protection and maintenance of globally significant biodiversity in Protected Landscape Areas located in the Carpathian Mountain region. Project Rationale and Objective The objective of this project is to strengthen the conservation management of globally significant biodiversity in species-rich mountain grassland habitats (grasslands and pastures) in two Protected Landscape Areas (PLA) in the Carpathian Mountains of the Czech Republic. The project will address the objective chiefly by drawing in, on a demonstration basis, targeted support from newly available EU funding opportunities for integrated rural development (principally CAP support payments and Natura 2000/LIFE programme grants) and making the lessons learned and best practices developed widely available for replication throughout the Czech PLA system and the Carpathian Eco region as a whole.
PDF A Amount	20,000 USD
GEF Project Grant	974,300 USD
GEF Grant	994,300 USD
Cofinancing Total	9,375,360 USD
Project Cost	10,369,700 USD
GEF Agency Fees	146,000 USD

Source: http://www.thegef.org/gef/project_detail?projID=1705

Conservation and Sustainable Use of Biodiversity through Sound Tourism Development in Biosphere Reserves in Central and Eastern Europe

GEF Project ID	1994
Funding Source	GEF Trust Fund

Country	Regional
Region	Regional
Focal Area	Biodiversity
Operational Program	3; 4
PDF-A Approval Date	2003-07-10
Approval Date	2005-03-10
GEF Agency Approval Date	2005-04-04
Project Completion Date	2008-05-31
Project Status	Project Completion
GEF Agency	UNEP
Executing Agency	Ecological Tourism in Europe (ETE)
Description	The overall goal of this project is to promote the conservation and sustainable use of biological diversity through the development and implementation of sustainable tourism practices in the 3 participating Biosphere Reserves.
PDF A Amount	25,000 USD
GEF Project Grant	941,900 USD
GEF Grant	966,900 USD
Cofinancing Total	1,178,700 USD
Project Cost	2,145,600 USD
GEF Agency Fees	146,000 USD

Source: http://www.thegef.org/gef/project_detail?projID=1994

Danube Regional Project

a. Strengthening the Implementation Capacities for Nutrient Reduction and Transboundary Cooperation in the Danube River Basin-Phase I

GEF Project ID	1460
UNDP PMIS ID	2184
Funding Source	GEF Trust Fund
Project Name	Strengthening the Implementation Capacities for Nutrient Reduction and Transboundary Cooperation in the Danube River Basin-Phase I Project Short Title: Danube Regional Project Phase 1
Country	Regional
Region	Europe and Central Asia
Focal Area	International Waters
Operational Program	8
PDF-B Approval Date	2000-01-07
Approval Date	2001-05-09
CEO Endorsement Date	2001-09-26
GEF Agency Approval Date	2001-11-26
Project Status	IA Approved
GEF Agency	UNDP
Executing Agency	UNOPS in cooperation with ICPDR

Description	The overall objective of this project is to complement and support the activities of the Danube Commission (ICPDR) required to provide a regional approach to the development of national policies and legislation and to define priority actions for nutrient reduction and pollution control, with particular attention to transboundary effects within the Danube Basin and the Black Sea. The full project would address the following immediate objectives: (i) development of policies, legal instruments and measures for nutrient reduction as well as for exacting compliance; (ii) institutional strengthening and capacity building; (iii) awareness raising and reinforcement of NGO participation; (iv) development of transboundary strategies and concepts related to nutrient reduction and pollution control; (v) provide the framework for the dissemination and replication of successful demonstration activities in the region. Preparatory work will be needed in order to set up national inter-ministerial coordination mechanisms, assess existing national policies, develop a preliminary system of ecosystem indicators (IW M & E indicators), as well as for other complementary activities. Project was submitted for consideration to the Fall, 2000 Council meeting, but funding limitations prevented inclusion in work program. It was restructured into a phased project, for which Phase I is submitted for Spring 2001 as part of the Danube/Black Sea Strategic Partnership.
PDF B Amount	350,000 USD
GEF Project Grant	5,000,000 USD
GEF Grant	5,350,000 USD
Cofinancing Total	6,600,000 USD
Project Cost	11,950,000 USD
GEF Project (CEO Endo.)	5,000,000 USD
Cofinancing Total (CEO Endo.)	6,600,000 USD
Project Cost (CEO Endo.)	11,950,000 USD

Source: http://www.thegef.org/gef/project_detail?projID=1460

b. Strengthening the Implementation Capacities for Nutrient Reduction and Transboundary Cooperation in the Danube River Basin (Tranche 2)

GEF Project ID	2042
UNDP PMIS ID	3123
Funding Source	GEF Trust Fund
Country	Regional
Region	Europe and Central Asia
Focal Area	International Waters
Operational Program	8
Approval Date	2003-05-16
CEO Endorsement Date	2004-03-22
GEF Agency Approval Date	2004-05-21
Project Completion Date	2007-08-31
Project Status	Project Completion
GEF Agency	UNDP
Executing Agency	UNOPS (in cooperation with ICPDR)
Description	The overall objective of the Danube Regional Project is to

	complement the activities of the ICPDR required to provide a regional approach and global significance to the development of national policies and legislation and the definition of priority actions for nutrient reduction and pollution control with particular attention to achieving sustainable transboundary ecological effects within the DRB and the Black Sea area. Taking into account the basic orientations of the Danube/Black Sea Basin Programmatic Approach, the Danube Regional Project, in its Phases 1 and 2, shall facilitate implementation of the Danube River Protection Convention in providing a framework for coordination, dissemination and replication of successful demonstration that will be developed through investment projects (World Bank-GEF Strategic Partnership, EBRD, EU programmes for accession countries etc.). Specific objective of Phase 2 of the Project, December 2003 - November 2006, is to set up institutional and legal instruments at the national and regional level to assure nutrient reduction and sustainable management of water bodies and ecological resources, involving all stakeholders and building up adequate monitoring and information systems.
GEF Project Grant	12,000,000 USD
GEF Grant	12,000,000 USD
Cofinancing Total	12,878,000 USD
Project Cost	24,878,000 USD
GEF Agency Fees	506,510 USD
GEF Project (CEO Endo.)	12,240,000 USD
Cofinancing Total (CEO Endo.)	12,878,000 USD
Project Cost (CEO Endo.)	25,118,000 USD

4.5. Examples of good practices on the above points

LIFE + projects co-financed by the Ministry of Environment

A. LIFE09 NAT/CZ/000364 Integrated protection of rare species of butterflies non-forest habitats in the Czech Republic and Slovak (butterfly)

The project aims to contribute to halting the loss of biodiversity and enhance Natura 2000 Active protection of non-forest habitats and species of European and national importance of creating the right management and improving their conservation status .

Coordinating beneficiary: Agency for Nature Conservation and Landscape

Project Partners: CUNC White Carpathians , CUNC Jadernička , state nature conservation Slovak Republic , Bratislava regional protectionist association

Project duration is 6 years in the period 1 January 2011 to 31 December 2016 .

Total budget: € 6,447,799

Obtained contribution of the LIFE + : 3223 € 899.50

Post ME : € 560,000

B. LIFE +11 NAT/CZ/490 - Restoration of grassland and river habitats in the EVL Giant : the future smilkových lawns * Fever * Czech and sculpin (Corcontica)

The project aims to improve the care of the most precious mountain meadows, which has long lost its richness, overgrown and disappear. In addition to habitat grassland project support and individual species - gentian multiform Czech (*Gentianella praecox* subsp. *Bohemica*), which is currently found only in Albeřice and small fish bullhead (*Cottus gobio*), whose population Giant flow stagnates. Significance of the project lies in the promotion of grassland and river habitats and restoring smilkových lawns. Another goal of the project is the use of modern field of computers and GPS creation of the meadow economic plan, the only of its kind in the country. Part of the project is to develop a marketing study to facilitate landlords marketing their products (meat, wool, biomass). A major project will involve the purchase of briquetting lines, which employs surplus biomass (hay) from local farmers.

The coordinating beneficiary of the project: Managing the Giant Mountains National Park

Project partners: Ministry of Environment, Czech Republic DAPHNE - Institute of Applied Ecology.

Project duration is 6 years in the period from 1 6th 2012 to 30 4th 2018.

Total project cost: € 3,588,573

EC contribution of 75 % : € 2,691,429

Post ME : € 420,168.

INTERREG IV: Sustainable Use of Regional Funds for Nature

The Sustainable Use of Regional Funds for Nature (SURF – Nature) project is a partnership of 14 authorities and public bodies (or bodies under public law) working together to optimise regional policies and practices with regard to promotion and preservation of natural heritage, biodiversity, and nature conservation through improving opportunities for and the impacts of financing these measures from the European Regional Development Fund (ERDF). For the first time in the history of the ERDF, the current regulation specifically refers to the option for financing natural heritage, biodiversity and nature conservation (including NATURA 2000). This is consistent with an EC decision that investments in the Natura 2000 network of protected sites should be integrated into existing EC funds. As a result, nearly €4 billion in EU co-financing is available across the Member States for nature protection.

SURF nature is a project funded through the Interreg IVc programme within the European Regional Development Fund of the European Union (ERDF). By end of Jan 2010 the project received its final approval and will run until Dec 2012. The overall objective of the project is to enhance regional policies for promotion and preservation of biodiversity and nature through improving opportunities for and the impacts of financing these measures from the ERDF. First recommendations for the funding period 2014-2020 adressed to ERDF managers and regulators as well as project success criteria have been developed and disseminated to stakeholders.

Source: <http://www.interreg4c.eu/showProject.html?ID=120555>

C. Implementation of Natura 2000 sites in Olomoucky county

PROGRAMME :	The Operational Programme Environment
LINK :	Priority 6, Axis 6.1 The implementation and management of the NATURA 2000 network
COSTS :	40 000 €, 90% EU-cofinancing
DURATION :	from October 2008 to December 2010
DESCRIPTION :	Main goal: Preparing of management plans for several Natura 2000 sites Main challenges = habitats and species of EU interest, especially: mountain and floodplain forests, amphibians, butterflies, management plans, action plans, budget of management measures

Source: http://surfnature.ctfc.cat/det_project.php?id=37 and <http://en.opzp.cz/>

D. Landtrusts as an effective way of cross-border cooperation for support of biodiversity

LINK : Priority axes 3 - Improvement of Nature and Environment Area of

5. Financing of eco-innovation in SMEs

Focus: Eco-innovation and barriers for its financing within SMEs

5.1. National mechanisms and strategies for supporting eco-innovations in the country

- The main sources of funding for the promotion of environmental technologies are the **OPs Enterprise and Innovation and Environment** and the **Green Savings programme**. The most important is the OP R&D for Innovations, which has an overall allocation of EUR 2.43 billion. The “TIP” **programme for industrial R&D** has an overall financial allocation of CZK 11 billion for the 2009–2014 period.
- The **National Innovation Strategy**, the **National Policy for Research, Development and Innovation of the Czech Republic for 2009–2015** and the **National Programme for Research** support the conservation of natural resources, research into environmental technologies and the rational use of energy and renewable resources. They also support improved cooperation between the private and public sector, international cooperation and the evaluation of R&D activities. The total 2010 budget for R&D and innovation was CZK 24.84 billion, the same amount as in 2009.
- The **Programme to Promote Environmental Technologies (ETAP)** focuses on the development and use of environmental technologies and the commercial use of eco-innovations (*NRP Report*). Its priorities include air pollution control, an increase in waste recovery from industry and agriculture, and a decrease in the volume of discharged wastewater (*Climate Change Legislation in Czech Republic*). Sector priorities are energy production, transport and the manufacturing industry (*EIO 2010*). Proposed measures include adjusting the parameters of the tax and charges system to improve the efficiency of eco-technologies; increasing the share of eco-friendly products in public procurement; and improving energy efficiency in production and consumption.
- **Green public procurement** was introduced by the government in 2010 to support the purchase of environmentally friendly products and to provide a new stimulus for domestic businesses through the creation of a market for innovative products.
- The **National Reform Programme 2011** provides support to economic growth based on research and innovation and on a low-carbon and environmentally friendly economy.
- The **National Programme for Eco-labelling** was launched with the goal of improving the environmental impact of products. Criteria have been created for more than 62 product groups in order to bring more products onto the market and to explain the advantages of eco-labelled products to consumers (*UN 2011*).

5.2. National instruments for supporting businesses in carrying out eco-innovation projects

There is a direct financial support in the public sector that encourages the spreading of environmental technologies in facilities operated by the public sector and a higher demand on the public sector for environmentally beneficial products and services for eco-innovation. An important stimulus is the appropriate management of state funded research and development projects. Support from public sources is also provided to citizens (e.g. subsidies for changes to heating or building insulation).

Policy measures (including financial mechanisms) addressing eco-innovations in the Czech Republic: EIO Country Brief: Czech Republic 2011, http://www.eco-innovation.eu/media/EIO_Country_Brief_2011_Czech.pdf, pdf page 28-32

5.3. EU funds supporting eco-innovation

OP ENTERPRISE AND INNOVATION

Priority axis 2 - „Development of firms“

Categories of expenditure within Priority axis 2 (according to Article 9, paragraph 3 of the General Regulation on the Structural Funds and the Cohesion Fund)

Code Priority themes

05 Advanced support services for firms and groups of firms

06 Assistance to SMEs for the promotion of environmentally-friendly products and production processes (introduction of effective environment management systems, adoption and use of pollution prevention technologies, integration of clean technologies into firm production)

08 Other investment in firms

11 Information and communication technologies (access, security, interoperability, risk-prevention, research, innovation, e-content, etc.)

15 Other measures for improving access to and efficient use of ICT by SMEs

43 Energy efficiency, co-generation, energy management

68 Support for self-employment and business start-up

(see doc in doc (PDF) page 88-89)

<http://www.czechinvest.org/data/files/oppi-msc-en-29-11-schvalen-ek-674.pdf>

Priority axis 4 – „Innovation“

Categories of expenditure within Priority axis 4 (according to Article 9, paragraph 3 of the General Regulation on the Structural Funds and the Cohesion Fund)

Code Priority themes

04 Assistance to R&TD, particularly in SMEs (including access to R&TD services in research centres)

06 Assistance to SMEs for the promotion of environmentally-friendly products and production processes

07 Investment in firms directly linked to research and innovation (innovative technologies, establishment of new firms by universities, existing R&TD centres and firms, etc.)

09 Other measures to stimulate research and innovation and entrepreneurship in SMEs

63 Design and dissemination of innovative and more productive ways of organising work

<http://www.czechinvest.org/data/files/oppi-msc-en-29-11-schvalen-ek-674.pdf>

European Investment Fund - Resources from the European Commission: Competitiveness and Innovation Framework Programme (CIP) - EU Guarantees

The European Commission allocates resources to the EIF under the Competitiveness and Innovation Framework Programme (CIP). The CIP has several schemes and a budget of over €1bn to facilitate access to loans and equity finance for SMEs where market gaps have been identified. They cover different needs depending on the stage of development of the small and medium sized enterprises (SMEs).

The overall objective of CIP is to improve access to finance for the start-up and growth of SMEs and to invest in innovation activities, including eco-innovation. The European Investment Fund provides its financial intermediaries with capped guarantees, partially covering portfolios of financing to SMEs. These are known as EU Guarantees, provided under the SME Guarantee Facility (SMEG).

SMEG provides loan guarantees to encourage banks to make more debt finance available to SMEs, including microcredit and mezzanine finance, by reducing the banks' exposure to risk. SMEG provides co-, counter- and direct guarantees to financial intermediaries providing SMEs with loans, mezzanine finance and equity.

Four "windows" give access to funding for:

- loan guarantees - guarantees for loans to SMEs with growth potential
- microcredit - guarantees for loans of up to €25 000 to micro-enterprises with up to nine employees, particularly entrepreneurs starting a business

- equity and quasi-equity guarantees - guarantees to existing equity guarantee schemes and providers of mezzanine finance to support investments in businesses with up to 249 employees
- securitisation - guarantees to support securitisation structures to assist financial intermediaries in mobilising debt finance for SMEs.

The main product features of GIF are:

- **Nature:** Equity or quasi-equity investments in Intermediaries.
- **Investor:** EIF operates as investor on behalf of the EC.
- **Signing period:** Fund agreements can be signed until 31 December 2013.
- **Duration:** Investments typically consist of 5 to 12-year positions in Intermediaries.
- **Amount:** Commitment to a single Intermediary shall require a critical mass and shall not exceed EUR 30m.

Source: http://www.eif.org/what_we_do/guarantees/cip_portfolio_guarantees/index.htm?lang=en

Equity financing: The high growth and innovative SME (GIF)

The GIF's objective is to improve access to finance for the start-up and growth of SMEs, and investment in innovation activities, including eco-innovation. The GIF aims to achieve this objective by contributing to the establishment and financing of SMEs and the reduction of the equity and risk capital market gap which prevents SMEs from exploiting their growth potential, with a view to improving the European venture capital market, and by supporting innovative SMEs with high growth potential, in particular those undertaking research, development and other innovation.

GIF comprises two business lines, GIF 1 and GIF 2.

- GIF 1 covers early stage (seed and start-up) investments in specialised venture capital funds such as early stage fund, funds operating regionally, funds focussed on specific sectors, technologies or research, technologies or research and technical development and funds linked to incubators, which in turn provide capital to SMEs. Co-investments in funds and investment vehicles promoted by business angels is also permitted.

- GIF 2 covers expansion stage investments by investing in specialised risk capital funds, which in turn provide quasi-equity or equity for innovative SMEs with a high growth potential in their expansion phase avoiding buy-out or replacement capital for asset stripping. EIF manages the High Growth and Innovative SME Facility (GIF) on behalf of the European Commission. Under the GIF, we invest in specialised funds, which provide venture capital for SME financing. The GIF is funded by the European Union under the European Commission Competitiveness and Innovation Framework Programme 2007-13 (CIP). The GIF's objective is to improve access to finance for the start-up and growth of SMEs, and investment in clean technology or eco-innovation. Under GIF, higher investment rates are allowed in the case of funds focused on eco-innovation. Please note that EIF does not finance SMEs directly.

CIP-EIP-ECO-INNOVATION-2013

European Commission, DG Environment, Eco-Innovation Fund

FIRST APPLICATION AND MARKET REPLICATION PROJECTS

Introduction

The projects are selected through annual calls for proposals. They receive grants covering up to 50% of the eligible project costs. The money can be used to fund actions including equipment and infrastructure as well as materials, processes, techniques and methods linked with the innovative action. The Eco-innovation initiative is for organisations that have developed an environmental product, service, management practice or process which has a proven track record, yet is not fully marketed due to residual risks. It helps participants overcome those barriers to further market penetration and turn these products and processes into Europe's future eco-innovation successes. In order to meet the objectives of CIP Eco-innovation, your project will have to:

- have an **innovative character**;
- show clear and substantial benefits in support of **Europe's environmental policy objectives** while taking **economic concerns** into account;
- achieve significant **environmental improvements**;
- provide significant **replication**, wider application and broader marketability;

- demonstrate a **European added value** and international project dimension;
- be well thought-through from a **technical and project management perspective**;
- be **cost-effective** delivering higher **quality** through appropriate effort levels;
- and match with the contents as described in the Call for proposals.

The indicative total amount available for this Call is EUR 31,585,000.

In line with the Commission communication SEC (2009) 477 on streamlining financial rules and budget implementation, the Commission envisages that the total budget for the call for proposals in 2013 might be increased, subject to a decision by the EIP Management Committee, by the way of using allocations for the call for proposals 2013.

5.4. The role of private financing in stimulating eco-innovations

The cooperation between research and development institutions and the private sector is not sufficient; the level of venture capital and economic stimuli (subsidies, taxes, and amortization) is very low. Based upon the Flash Eurobarometer report (2010) the main three barriers perceived by the Czech entrepreneurs are: lack of funds within the enterprise, uncertain return on investment, uncertain demand from the market. Source: EIO Country Brief: Czech Republic 2011 (PDF page 24)

5.5. The role of partnerships between public and private sectors in increasing eco-innovation

Nanotechnology for green purposes

The Czech Republic has a growing interest in the area of nanotechnology, which is evident in the growing number of science institutes, universities and private entities that are dedicating themselves to this field. Most of them operate with unique technologies and achieve noteworthy research findings (czechinvest.org). There is a special Czech funding programme “Nanotechnology for Society”, supporting projects focused on nanotechnology.

Czech nanotech companies and research institutions specialise in a wide range of technologies and areas. Some of the technologies have a promising potential in addressing environmental problems and bringing a breakthrough solutions for green technologies. For example Nanospider technology, which is industrial production of nanofibres and derivatives, can provide alternative material for solar and wind energy technologies, and used in waste processing. Technologies based on iron nanoparticles ensure excellent water treatment. Another nanotechnology developed by Czech nanotech companies allows surface and antibacterial treatments.

5.6. Specialized institutions that aim to facilitate the process of financing eco-innovations

No specialized agency for financing *eco*-innovation as such but technology and innovation in general. For short summary of the profile and working of the institutions see links:

Ministry of Industry and Trade of the Czech Republic

See profile here:

http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/cz/organisation/organisation_mig_0003?avan_type=organisation&matchesPerPage=5&orden=LastUpdate&searchType=advanced&intergov=all&tab=template&index=Erawatch+Online+EN&sort=&avan_other_prios=false&searchPage=2&subtab=&reverse=true&displayPages=10&query=&country=cz&action=search

Council for Research, Development and Innovation

See profile here:

http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/cz/organisation/organisation_mig_0006?avan_type=organisation&matchesPerPage=5&orden=LastUpdate&searchType=adv

anced&intergov=all&tab=template&index=Erawatch+Online+EN&sort=&avan_other_prios=false&searchPage=1&subtab=&reverse=true&displayPages=10&query=&country=cz&action=search

Czech Science Foundation

See profile here:

http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/cz/organisation/organisation_mig_0004?avan_type=organisation&matchesPerPage=5&orden=LastUpdate&searchType=advanced&intergov=all&tab=template&index=Erawatch+Online+EN&sort=&avan_other_prios=false&searchPage=1&subtab=&reverse=true&displayPages=10&query=&country=cz&action=search

Technology Agency of the Czech Republic

See profile here:

http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/cz/organisation/organisation_mig_0001?avan_type=organisation&matchesPerPage=5&orden=LastUpdate&searchType=advanced&intergov=all&tab=template&index=Erawatch+Online+EN&sort=&avan_other_prios=false&searchPage=1&subtab=&reverse=true&displayPages=10&query=&country=cz&action=search

5.7. Mechanisms for facilitating entry of eco-innovations into the market and better exploitation of results from research activities

Many eco-innovative activities are supported under the cleantech clusters and technology platforms. In 2005 the Czech government adopted National Cluster Strategy. Cluster initiatives were funded through EU structural funds, Operational Programme Industry and Enterprise, Clusters Support Programme (2005). In 2009 and 2010, the new Operational Programme - Cooperation have been launched. On clusters' establishment in the Czech Republic, €40m have been spent from the EU Structural Funds. The development of eco-innovation in the Czech Republic is also highly related to R&D activities and in practice it is more connected to the growing implementation of the environmental technologies in different areas.

5.8. Examples of good practices on the above points

Skoda Octavia Green E Line - electric-powered vehicle

Skoda's first-ever electric-powered vehicle will demonstrate the company's innovative potential and technological competence in this growing area. The first fleet of test vehicles is planned for 2011. The electricity for the Skoda Octavia Green E Line Concept is supplied by a modern lithium-ion battery. With a range-per-charge of 140 kilometres, the Škoda Octavia Green E Line comfortably meets the requirements of most everyday commuters in Europe. The 26.5 kWh battery is made up of 180 lithium-ion cells (diameter 150 mm, length 650 mm) and weighs about 315 kilograms.

The navigation display describes the energy flow, i.e., informs the driver that the electric engine is being supplied with electricity or, on the contrary, that it is generating electricity as the car decelerates or goes downhill.

Škoda Auto has started in 2011 to create a test fleet of Octavia's' Green E Line with the objective of obtaining additional information relevant to the further development of the electric drive.

Source: http://new.skoda-auto.com/en/about/info/news/News/Pages/2010_55_Concept.aspx

Třebíč, Biomass Heating Plant

Already in 2001 TTS Energo, s. r. o. (Třebíč) started considering renewable sources for the production of heat. Currently the company operates a unique heat delivery system. From three main sources they supply heat and hot water to the majority of the inhabitants of Třebíč. It secures the supply of heat for households, primary schools, kindergartens, Třebíč hospital, Vltavinská health centre, care homes, manufacturing firms and other customers. Supplies of heat are made up to 90% from a central heat source for more than 9,700 households. In the heating plants TTS burns bio-mass mainly in the form of wood chips and bales of straw. Used biomass is mainly the waste. By combusting bio-mass TTS works exclusively at a very high level of efficiency, which results from the use of modern boiler technology and the other equipment, headed by the new Swedish waste heat

condenser. The price of heat energy from an HDS has been among the lowest in the Czech Republic for a long time, thanks to the creation of heat energy in a combined way and the use of domestic fuels in the best case, bio-mass. Remote heating has brought, and will continue to bring, cost savings to the consumer in comparison with other methods of heating.

Source: www.tts.cz

Smart Region project in Vrchlabi

In 2010, the company ČEZ, a.s. has launched an unique Smart Region project in cooperation with the town of Vrchlabi. In the framework of this project ČEZ, a.s. will equip roughly 4.5 thousands of households and enterprises with the "smart" meters of energy, infrastructure for electro-mobility, install elements of the automation and monitoring distribution network till the year of 2015.

Through the installations of smart meters ČEZ, a.s. tests new concept of management of consumption and production of electricity. In Vrchlabi, there will be installed elements of automation and monitoring of distribution network at the level of networks of low and high voltage and distributing stations, which allows to redirect the flow of energy in case of power blackout. The other component of the project is to develop infrastructure for electro mobiles. ČEZ, a.s. will set up several charging stations and provide the city with several electric vehicles.

Source: www.futuremotion.cz/smartgrids/cs/vrchlabi.html

Small wastewater treatment plant separating sludge by using a submerged membrane module

Development of activation wastewater treatment plant with submerged membranes useful for the treatment of wastewater from small sources of pollution. The technology of wastewater treatment using submerged membrane for a separation of activated sludge from the treated water is very powerful, causing a high quality of runoff, ensuring hygienization of water, i.e. removal of viruses and bacteria. The project was implemented under the TANDEM program to support science and research and dealt with the choice of material of membranes, verification of their permeability, the mode of operation, washing, and regeneration. The development was ensured by the ENVI-PUR, s.r.o. company– provision of supply capacity, ensuring the trial operation, laboratory tests - together with Brno University of Technology.

Source: www.envi-pur.cz/?page=membranove-upravny-vody

Production of solid alternative fuels from waste

Arrow line, a.s. the company that deal with obtaining energy from the selected components of the waste and bio-waste. It is done with the technology, which is developed in cooperation with Technical University of Ostrava and this technology is based on pyrolysis for energy recovery and disposal of sorted waste and biomass. This direction is particularly promising in the future as an important source of energy and raw materials. Pyrolysis processing of organic matter is still a little appreciated method for sorted waste into energy solutions on the small and medium-sized level. The energy potential hidden in wastes of organic origin offer a better alternative to today's highly advocated and much-favoured potentially scarce and difficult to process biomass. The principle of pyrolysis (dry distillation or coking) was known already in the 18th century, but never found higher use in waste disposal. The problem was primarily in the management process itself and the technical level of measurement and control of relevant variables such as temperature and pressure.

The products of pyrolysis are always: gas, liquid phase, solid carbon residue.

Arrow line, a.s. also deals with the applied research in the field of biomass use, Waste separation and wood chips in the process of pyrolysis. For this purpose was based cluster ENVICRACK - cooperative of research, implementation, and design firms and agencies together with the future users of the technology.

Source: www.arrowline.cz/en/pyrolyza.html

Mixed plastic waste recycling

In the Czech Republic, the recycling of plastics is performed either from mixed plastics or sorted plastics, e.g. PET bottles, waste from the manufacture of plastics, etc.

Mixed plastic waste recycling is performed by Transform a.s. in Lázně Bohdaneč. They treat sorted plastics from communal waste. The waste is crushed, ground or in the case of film, agglomerated and mixed in suitable proportions to make a product of required properties. The pre-treated mixture is then

used to produce glass blocks, flowerbed pavements, fence planks, cable gutters of various dimensions, transport pallets, boards, planks and various bar profiles.

These products are resistant to weather, have good mechanical properties, are not moisture-absorbent, are chemically inert, are lightweight and are fully recyclable.

In the Czech Republic, the production of polyester grain fibres obtained through the processing of PET waste is performed by SILON s.r.o. in Planá nad Lužnicí. After the initial treatment, PET waste is partly melted and after the desired properties are achieved, it is jet-injected into a conditioning shaft where the material cools down. The next steps depend primarily on the requirements for the final product (polyester staple, PET strap, PET film, etc.). During the manufacture of polyester fibres (TESIL® polyester fibre), known especially for the production of clothing, the fibres are further stretched to a thickness suitable for use in the textile industry.

2. Determinants:

- **barriers:** separation of the PET basis from the mixed plastic waste

- **drivers:** low price of the raw waste

3. Sustainability effect

In 2008, TESIL® polyester fibre was awarded the European Union eco-label and the Environmentally Friendly Product label for textiles. Eco-labelling is a voluntary instrument for environmental protection. Eco-labelled products are not only more environmentally friendly through all stages of their life, but are also healthier for consumers.

GLASS PLUS - GLASS PLUS PROJECT - SUSTAINABLE CERAMIC TILES FROM CATHODE RAY TUBE (GLASS PLUS)

project brief

Sector: Greening Business

Status: Closed

Coordinator: Meta, Meta S.p.A., Italy

Partners: ASEKOL, ASEKOL s.r.o. (ASEKOL), Czech Republic
REFIIN, ceramics SpA (REFIIN), Italy
RELIGHT, RELIGHT S.r.l. (RELIGHT), Italy
Re.Media, Re.Media consortium (Re.Media), Italy
Vallone, Vallone S.r.l. (Vallone), Italy

Website: <http://www.glassplus.eu>

Benefits: GLASS Plus reduces the disposal of post consumer end of life CRT diverting second raw materials toward an innovative production process aimed at manufacturing innovative high quality fine stoneware ceramic tiles. A reduction in the use of energy, the overall carbon footprint and pollution derives.

Keywords: CRT panel glass recycling, innovative ceramic tiles, eco innovative product

Duration: 09/09/2010 - 08/12/2011

Budget: EUR 1 135 159 (EU contribution: 50%)

First large-scale Application and Market introduction of a New Organic substrate enriched with beneficial fungi (ALMOST)

project brief

Sector: Greening Business

Status: Ongoing

Coordinator: Cristobal Sanchez
[MICROGAIA BIOTECH, SL](#), Spain
E-mail: csl@microgaia.es
Tel: +34 627502535

Partners: [Symbiom, s.r.o. \(SYM\)](#), Czech Republic
[INOCULUMplus \(INPLUS\)](#), France
[SEMILLEROS EL MIRADOR, S.L. \(ELMIR\)](#), Spain

Keywords: [organic substrate](#), [agricultural waste](#)

Duration: 01/09/2013 - 01/03/2016

Budget: EUR 1 477 314 (EU contribution: 50%)

Summary

The project will utilise agricultural waste (vine prunings) to produce an environmentally friendly organic substrate for agriculture.

POST-USED SHOES RECOVERY IN FOOTWEAR INDUSTRY AND OTHER APPLICATIONS (NATURALISTA)

project brief

Sector: Recycling

Status: Closed

Coordinator: INYECTADOS Y VULCANIZADOS S.A., Spain

Partners: REGUTEC (REGUTEC), Czech Republic
GUMPLAST PODHALE L.L.C. (GUMPLAST), Poland
PROCALCADO -Produtora de Componentes para Calçado, S.A (PROCALCADO), Portugal
JOAQUIN GALLARDO E HIJOS S.L. (JG), Spain
TPSP - TODO PARA SUS PIES S.L. (TPSP), Spain

Website: <http://www.eco-naturalista.eu>

Benefits: Valorisation of post-used shoes (waste) by footwear grinding and incorporating it into various polymeric products. The circle will be closed by using this waste for footwear manufacturing.

Keywords: Footwear, recycling, grinding

Duration: 01/09/2010 - 31/08/2012

Budget: EUR 883 531 (EU contribution: 50%)

Summary

Europe's annual footwear consumption amounts to 2,600 million pairs, which means that about 1.5 million tones/year of footwear end up in urban dumping sites. The action to be implemented addresses the reuse of postused shoes and footwear waste and its utilization in new products by means of a mechanical treatment of footwear waste. Used footwear will be collected and, after a grinding treatment by means of cutting into pieces, screening, and separation of metallic elements, a milling compound will be obtained. This will be used by the partners as a filler in polymeric formulations for the manufacture of footwear soles (Gumplast) and insoles (Procalçado), floorings (Regutec - sports areas, playgrounds, roads, etc.) and road safety articles (JG). Both INVULSA and TPSP will use these soles and insoles for the manufacturing of recycled shoes thus using post-used shoes. Apart from that, a certification process will be implemented by the use of an eco-label, which will mark, identify and certify those products that incorporate this footwear grinding compound.

Results

- - Manufacturing of Recycled shoes made up of products coming from post-used shoes
- - New grinding systems to obtain a milling compound
- - New products of footwear sector (soles and insoles) that use recycled post-used shoes
- - New products of other sectors (flooring, safety articles) that use recycled post-used shoes
- - Use of a certification method by the use of eco-labels for the identification of recycled products

Source for the above three projects: http://eaci-projects.eu/eco/page/Page.jsp?op=project_list&searchtype=3

5.9. The main barriers facing SMEs in terms of eco-innovations

- Overall it has to be noted that the main constraint in the sphere of eco-innovative inputs come from insufficient co-operation between R&D institutions and the private sector (Country brief, 2010). Also, the lack of venture capital and economic stimuli (subsidies, taxes, and amortization) is preventing progress in eco-innovation performance.
- Even though the Czech Republic prepared and is implementing the necessary supporting activities for environmental technologies, it is at its beginning in the support of eco-innovations. Problems exist on both supply and demand side.

Source: EIO Country Brief: Czech Republic 2011

5.10. Indicators

- **Ranking on the European Innovation Scoreboard** — the eco-innovation index includes eco-innovation inputs, eco-innovation activities, eco-innovation outputs, environmental outcomes and socio-economic outcomes.

Czech Republic	2010	2011	2012
Overall Scoreboard	73,2	91,46	90,46
Eco-innovation inputs	73,28	79,85	69,43
Eco-innovation activities	70,14	170,77	167,33
Eco-innovation outputs	50,52	17,32	23,3
Environmental outcomes	67,37	68,02	65,2
Socio-economic outcomes	77,34	129,17	135,49

- **Number of companies registered under EMAS** — reflects the level of awareness among companies of the fact that environmental management is good for business.

No of companies: 26

Other source: Environmental Technologies and Eco-Innovation in the Czech Republic:

[http://www.cenia.cz/web/www/web-](http://www.cenia.cz/web/www/web-pub2.nsf/$pid/CENMSFVKXSCW/$FILE/environmental_technologies_and_eco-innovation_in_the_cr.pdf)

[pub2.nsf/\\$pid/CENMSFVKXSCW/\\$FILE/environmental_technologies_and_eco-innovation_in_the_cr.pdf](http://www.cenia.cz/web/www/web-pub2.nsf/$pid/CENMSFVKXSCW/$FILE/environmental_technologies_and_eco-innovation_in_the_cr.pdf)