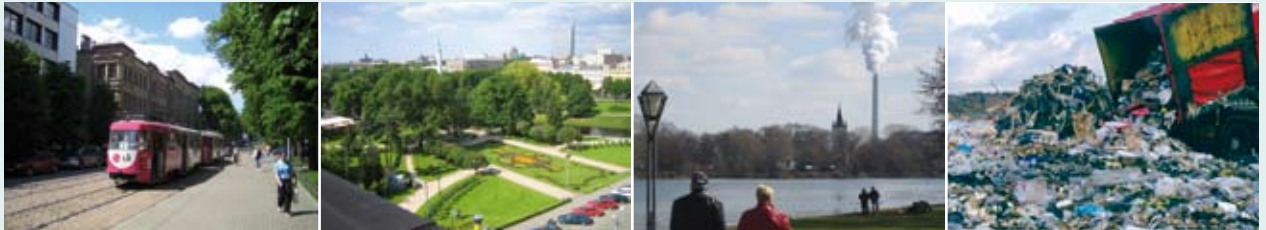


LIFE - Environment



*Projects-Projekten-Projets-Projectos-Proyectos-Projecten-Progetti-Projektit-Projekte
Projets-Projectos-Projectos-Projecten-Progetti-Projektit-Projekte-Projects-Projekten*

2000



European Commission

LIFE-Environment 2006: Commission funds 50 innovation projects in 14 countries with €66 million

The European Commission has approved funding for 50 new environmental innovation projects in 14 countries under the LIFE-Environment programme 2006. These projects will demonstrate new methods and techniques for dealing with a wide diversity of Europe's environmental problems. The projects are led by 'beneficiaries', or project promoters, based in Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Spain, Sweden and the United Kingdom. They represent a total investment of €214 million, of which the EU will provide just under €66 million.

LIFE-Environment in 2006

The Commission received 464 proposals for funding through the LIFE-Environment programme from a wide range of public and private sector organisations. The projects selected by the Commission will apply ground-breaking technology to solve environmental problems.

Projects aimed at reducing the environmental impact of economic activities (15) take the largest share of EU funding (approximately €24 million). Water management is the second most popular theme with 15 projects (€18.5 million). A further 14 projects deal with waste management, sharing around €15 million. Three projects address the reduction of the environmental impact of products and services (€5 million). Finally, three projects cover land-use development and planning (€3 million).

Background

This year is the last under the current LIFE programme. LIFE is the EU's financial instrument supporting environmental and nature conservation projects throughout the EU, as well as in some candidate, acceding and neighbouring countries. Since 1992, LIFE has co-financed some 2,750 projects, contributing approximately €1.35 billion euros to the protection of the environment.

LIFE-Environment, which co-finances innovative pilot and demonstration projects, is one of three thematic components under the LIFE programme. The other two components, LIFE-Nature and LIFE-Third Countries, focus respectively on nature conservation and on environmental capacity building in countries bordering the Mediterranean and the Baltic Sea.

The LIFE III programme finishes at the end of 2006. Thereafter a new programme, "LIFE+", will run from 2007-2013 with a budget of approximately €2.1 billion. The LIFE+ proposal is currently undergoing its second reading in the European Parliament. The key difference between LIFE+ and LIFE is that, instead of being managed by the Commission, most of its budget will be managed by National Agencies in the Member States who will carry out the calls for proposals and the selection and monitoring of the projects.

More information on each project is available at <http://ec.europa.eu/environment/life/project/index.htm>

Index of projects selected in 2006

Location	Project number	Title of project
AUSTRIA	LIFE06 ENV/A/000341 RAINMAN	Managing and treating urban rainwater
	LIFE06 ENV/A/000345 SPAS	Simultaneously reducing noise and PM10 emissions
BELGIUM	LIFE06 ENV/B/000356 CLEAN SITE	Sites sorted
	LIFE06 ENV/B/000359 MULTIBARDEM	Lessening landfill leachate leaks
	LIFE06 ENV/B/000362 ECOTEC-STC	Pro-environmental anti-fouling
	LIFE06 ENV/B/000365 S.M.I.G.I.N.	Industrial interaction
DENMARK	LIFE06 ENV/DK/000226 DEMO SOFC	Generating power with fuel cells
	LIFE06 ENV/DK/000229 TREASURE	Cleaning up storm water
FINLAND	LIFE06 ENV/FIN/000195 STABLE	Treating dredged material for reuse
	LIFE06 ENV/FIN/000201 VOCless pulping	Integrated VOC management
FRANCE	LIFE06 ENV/F/000124 ARFVALORMAT	Recycling mineral-rich waste
	LIFE06 ENV/F/000125 BASHYCAT	Recycling catalysts used in oil-gas refining
	LIFE06 ENV/F/000132 CONCERT'EAU	Online platform for water management
	LIFE06 ENV/F/000133 ArtWET	Biological systems for combating pesticide pollution
	LIFE06 ENV/F/000136 MARECLEAN	Reducing pollution of coastal waters
	LIFE06 ENV/F/000152 Vitriflash	Vitrification and recycling of incineration residues
	LIFE06 ENV/F/000158 ISONITRATE	Using isotopes to monitor nitrate pollution
GERMANY	LIFE06 ENV/D/000458 LOTECOTEC	Sludge management by low temperature conversion
	LIFE06 ENV/D/000460 SLUDGE2ENERGY	On site energy production from wastewater sludges
	LIFE06 ENV/D/000461 FLOODSCAN	Better mapping of flood hazard areas
	LIFE06 ENV/D/000465 ZEM/SHIPS	Fuel cell ships offer zero emissions
	LIFE06 ENV/D/000470 PVCLean	Recycling waste in PVC production

Location	Project number	Title of project
GERMANY	LIFE06 ENV/D/000471 INSU-SHELL	Less concrete needed for building façades
	LIFE06 ENV/D/000475 INES-110	Energy savings with a superconductor prototype 110kV
	LIFE06 ENV/D/000477 PARFUM	Traffic and particulates pollution
	LIFE06 ENV/D/000478 IWPM	Ways to improve wastewater management
	LIFE06 ENV/D/000479 WINTECC	A towing kite system for ships
	LIFE06 ENV/D/000485 Moveable HEPP	A moving hydroelectric powerplant
	LIFE06 ENV/D/000488 CONWASTE	Using converted waste to seal industrial landfills
GREECE	LIFE06 ENV/GR/000375 GREEN BANKING 4 LIFE	Green banking
IRELAND	LIFE06 ENV/IRL/000532 CleanWood	Recycling dirty wood
ITALY	LIFE06 ENV/IT/000235 Kolisoon	Escherichia coli alert
	LIFE06 ENV/IT/000241 FFR	Foregoing fibreglass
	LIFE06 ENV/IT/000254 UME	Clean ceramic cutting
	LIFE06 ENV/IT/000255 A.S.A.P.	Optimising aquifer management
	LIFE06 ENV/IT/000257 VOICE	Spreading vegetable oil
	LIFE06 ENV/IT/000266 Seq-Cure	Agriculture for biomass and carbon sequestration
	LIFE06 ENV/IT/000332 MEIGLASS	Cullet cleaning
LUXEMBURG	LIFE06 ENV/L/000118 Bio Tyre	Reducing rolling resistance in tyres
	LIFE06 ENV/L/000121 EFFENERGY	Membranes for improved thermal performance of buildings
THE NETHERLANDS	LIFE06 ENV/NL/000167 WET	Treating wastewater in the Netherlands
	LIFE06 ENV/NL/000176 Green Bearings	Environmentally friendly bearings
	LIFE06 ENV/NL/000178 Brine Recovery	Removing impurities from brine

Location	Project number	Title of project
SPAIN	LIFE06 ENV/E/000001 ReLiStoP	Cleaner crushed-stone composition
	LIFE06 ENV/E/000010 CLEAN	New uses for drink carton waste
	LIFE06 ENV/E/000044 ES-WAMAR	Sound solutions for swine slurry
	LIFE06 ENV/E/000054 BioSOFC	AD biogas for CHP for SOFC
SWEDEN	LIFE06 ENV/S/000517 BIOAGRO	Pelletized biofuels
UNITED KINGDOM	LIFE06 ENV/UK/000401 MR Mo ToWFO	Managing realignment in estuaries
	LIFE06 ENV/UK/000409 OpenMi-LIFE	Modelling catchment processes

Managing and treating urban rainwater

Official title

RAINWater MANagement and treatment plant Vienna-Blumental (RAINMAN)

Background

In urban areas all over the world, the treatment of rainwater collected in a separate sewage system is a common problem, for which many different solutions are applied. If no surface waters are available as a runoff option, the rainwater is percolated and cleaned in filter systems. If surface waters are available as a runoff option, the rainwater is not cleaned or retained before being discharged. This is unsatisfactory from an ecological point of view. Throughout Europe, standards and regulations relating to the treatment of rainwater are evolving. In the new EU Member States in particular, the trend is to have a separate sewage system, which is likely to aggravate the problem of rainwater treatment and management.

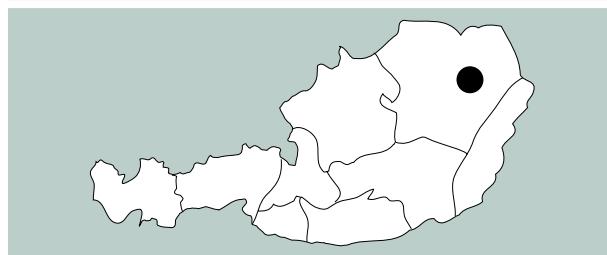
Objectives

The "RAINMAN" project will demonstrate a new process technology combining several treatment stages for polluted urban rainwater, e.g. water running off from roads. This process is characterised by a mechanical cleaning stage, a deflocculating stage, flood meadows acting as a retention and balancing area and finally a percolation dam. For these process stages, a closed wastewater treatment plant (Kläranlage Blumental) will be adapted.

It is expected, that this treatment will result in an environmentally compliant load of organic matter and suspended solids discharged into the river Liesing. Furthermore, the new plant will enable rainwater management and the prevention of floods.

Due to the separate treatment, rain water will no longer be conducted to the centralised wastewater treatment plant (WWTP). The WWTP will therefore be relieved from hydraulic load and it will be possible to operate it more economically.

LIFE06 ENV/A/000341
RAINMAN



Beneficiary:

Type of beneficiary

Local authority

Name of beneficiary

Magistrat der Stadt Wien - Magistratsabteilung 30
Wienkanal

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AUSTRIA

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Name of contact person

Alois Smetaczek

Duration of project:

55 months (Dec 2005 – July 2010)

Total budget in euro:

7,143,950

EC contribution in euro with %:

1,903,000 (26.64%)

Generic Theme:

2.3.: Waste water treatment

Simultaneously reducing noise and PM10 emissions

Official title

Sound and Particle Absorbing System

Background

In many European towns the limit for particulate matter (PM), according to the value recommended in the Air Quality Directive (1999/39/EC) (i.e. 50µg/m³ for PM 10), is often exceeded. The main cause for high PM values is road traffic. In its turn, particle emission by resuspension makes up an important share of the particulate matter generated by traffic.

Noise pollution is another environmental problem that directly affects the population of the European Union. An OECD study has indicated that some 50% of the 826 million people living in OECD countries are exposed to traffic noise of over 55 dB and some 16% of the noise generated by traffic is over 65dB.

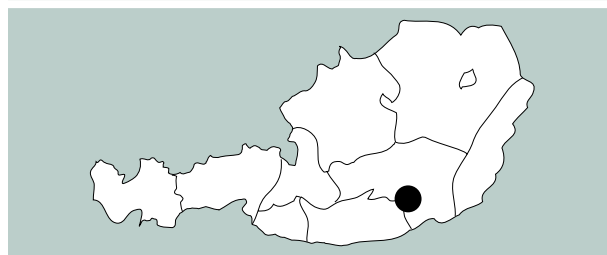
Objectives

This project will demonstrate a new technology enabling resuspended particulate matter to be filtered where it originates and consequently be reduced by 25 %. This new technology combines an innovative particulate-matter filter with a sound barrier, directly installed along the emission site, i.e. a heavy-traffic road. The dust-filled air that is mobilised by vehicles will be cleaned by special filter elements in sound barriers and in exhaust-air openings of tunnel entrances. Hence, the innovative element lies in the combination of measures for noise protection with measures addressing the reduction of dust loads.

It is expected that a clearly measurable reduction of pollution (both particulate matter and noise), along heavily frequented roads will be achieved.

The new technology (Sound and Particle Absorbing System – SPAS) will be optimized for various types of roads and fields of application.

LIFE06 ENV/A/000345
SPAS



Beneficiary:

Type of beneficiary

Local authority

Name of beneficiary

Magistrat der Landeshauptstadt Klagenfurt

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Name of contact person

Wolfgang Hafner

Duration of project:

39 months (Oct 2006 – Dec 2009)

Total budget in euro:

2,484,067

EC contribution in euro with %:

1,204,533 (48.49%)

Generic Theme:

1.2. : Air quality management and noise abatement

Sites sorted

Official title

Demonstrate and implement a self-supportive selective collection system for plastic packaging waste in the construction sector involving all stakeholders along the value chain and to show sustainability of the concept

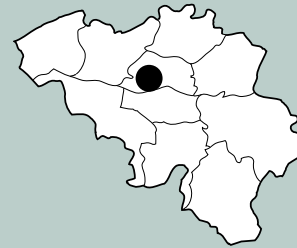
Background

In 2000, 4,018 million tons of plastic packaging waste was produced in the EU, 10% of which was generated by the construction sector. The collection and recycling of plastic packaging poses a substantial environmental challenge and to date, no truly effective system exists for collecting and sorting plastic packaging at building sites. Consequently, most of this waste from the construction sector is not recycled, but either incinerated, deposited in landfills or illegally dumped

Objectives

The objective of the CLEAN SITE project is to implement a self-supporting selective-collection system for plastic packaging waste in the construction sector, involving all relevant stakeholders along the value chain. The initiative will seek to demonstrate the feasibility of the concept by proving the system's economic and environmental sustainability.

LIFE06 ENV/B/000356
CLEAN SITE



Beneficiary:

Type of beneficiary

Professional organisation

Name of beneficiary

VAL-I-PIC

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B-1780 Wemmel

BELGIUM

Phone +32 2 4568310

Fax +32 2 4568320

Email francis.huysman@valipac.be

Name of contact person

Francis Huysmans

Duration of project:

39 months (Dec 2005 – March 2009)

Total budget in euro:

2,272,495

EC contribution in euro with %:

1,136,247 (50%)

Generic Theme:

4.5.: Construction and demolition waste

Lessening landfill leachate leaks

Official title

Demonstration of a MULTIBARRIER as a sustainable approach for the prevention of groundwater contamination by leaking landfills and multipollutant contaminated sites: a cheap alternative to landfill reinstallation and/or leachate treatment

Background

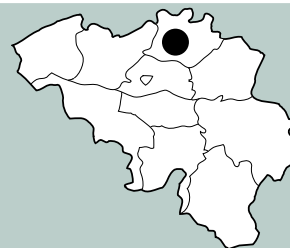
Groundwater is the main source of drinking water in Europe and its contamination by polluted soils or as a result of landfill leaching can pose a major threat to the environment and human health. The Water Framework Directive (2000/60/EC) and the Groundwater Directive (80/68/EEC) stipulate improvements in water and groundwater quality by the year 2015. Recently, the in-situ treatment of aquifers has become increasingly interesting as the relevant technology develops, becomes more reliable and gains greater acceptance.

Objectives

The objective of the project is to demonstrate the technical feasibility of a multifunctional permeable barrier named 'MULTIBARRIER', which combines different principles of barrier technology, namely the removal of pollutants based on both physico-chemical and biological activities in order to treat plumes with mixed pollutants.

The projects aims to prove that the technology is an alternative to landfill leachate treatment and can offer more economical means of preventing the risk of groundwater contamination than landfill remediation or re-installation. MULTIBARRIER technology will be applied at field scale in Belgium and Austria – two regions of Europe with completely different hydro-geological characteristics, solid-waste composition and operating conditions.

LIFE06 ENV/B/000359
MULTIBARDEM



Beneficiary:

Type of beneficiary

Research institute

Name of beneficiary

Flemish Institute for Technological Research

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B-2400 Mol
BELGIUM
Phone +32 14 336924
Fax +32 14 326586
Email Ludo.diels@vito.be

Name of contact person

Dirk Fransaer

Duration of project:

37 months (Nov 2006 – Nov 2009)

Total budget in euro:

1,506,670

EC contribution in euro with %:

452,001 (30%)

Generic Theme:

2.2.: Water supply - Water quality - Ground water protection

Pro-environmental anti-fouling

Official title

Demonstration of a 100% non-toxic hull protection and anti-fouling system contribution to zero emissions to the aquatic environment and saving 3-8 % heavy fuels

Background

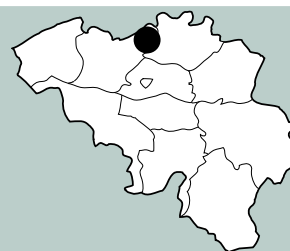
The fouling of ship hulls increases drag, thereby causing speed loss and increases in fuel costs of up to 40%. It also makes regular visits to shipyards for hull cleaning necessary. Antifouling are a very effective and economic means of protecting ship hulls from corrosion and of preventing aquatic organisms from sticking to them.

In 2001, the International Maritime Organisation (IMO) banned the use of paints containing TBT (tributyl tin). Most antifouling paints nevertheless slowly release heavy metals and harmful biocides into the marine environment, where they pollute harbour bottoms, kill sea life and enter the food chain.

Objectives

The project aims to demonstrate that the durability of the non-toxic antifouling paint ECOTEC-STC, in combination with an underwater maintenance scheme, will adequately stop ship-hull fouling, while preventing the emission of metal compounds to air and water during the paint's application and lifetime. The project will demonstrate the performance of ECOTEC-STC on different types of vessels and in the different waters of the Baltic and Mediterranean Seas and the Pacific and Atlantic Oceans. Data on questions like hull drag, fuel consumption, CO₂ emissions and water quality will be collected and assessed. Furthermore, the shipping industry, port authorities, governmental and environmental bodies, policy makers and other relevant actors will be informed of the benefits of ECOTEC-STC.

LIFE06 ENV/B/000362
ECOTEC-STC



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

HYDREX N.V

Postal Address

Haven 29 - Noorderlaan 9

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BELGIUM

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Name of contact person

Boud Van Rompay

Duration of project:

42 months (June 2006 – Dec 2009)

Total budget in euro:

5,200,611

EC contribution in euro with %:

1,525,413 (29.33%)

Generic Theme:

2.4.: Diffuse and dispersed sources of pollution

Industrial interaction

Official title

Sustainable Management by Interactive Governance and Industrial Networking

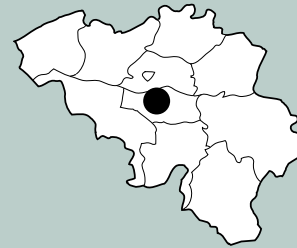
Background

Industrial ecology seeks to form links between neighbouring companies to convert enterprises' by-products and wastes into valuable resources for their neighbouring companies. By collectively organising the flow of energy and matter at the level of an industrial estate, small and medium-sized enterprises (SMEs) can achieve economies of scale and degrees of effectiveness in their environmental management that exceed those attainable through the separate efforts of individual companies.

Objectives

The project intends to set an example of interactive governance and industrial networking by promoting sustainable management in areas such as waste collection, landscaping and wastewater within seven industrial estates. Common solutions to the environmental problems shared by the participating SMEs are to be implemented. The objective is to achieve economic and environmental savings greater than what the companies could realise by individually optimising their own performance.

LIFE06 ENV/B/000365
S.M.I.G.I.N.



Beneficiary:

Type of beneficiary

Professional organisation

Name of beneficiary

Union Wallonne des Entreprises

Postal Address

Chemin du Stockoy 3
B-1300 Wavre
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Phone +32 10 471941
Fax +32 10 471941
Email luc.decordier@uwe.be

Name of contact person

Luc de Cordier

Duration of project:

36 months (Nov 2006 – Oct 2009)

Total budget in euro:

2,011,006

EC contribution in euro with %:

1,002,878 (49.87%)

Generic Theme:

3.2. : Integrated environment management

Generating power with fuel cells

Official title

Development and demonstration of Manufacturing and Operation of clean and efficient power generation based on Solid Oxide Fuel Cells

Background

The fuel cell technology is considered world wide as one of the most promising new technologies providing clean, safe and secure energy supply. Fuel cells convert fuel and air into electricity, heat and water in an electrochemical process. Implementation of fuel cell technology promises an important step toward a low carbon economy and implementation of the climate change policy.

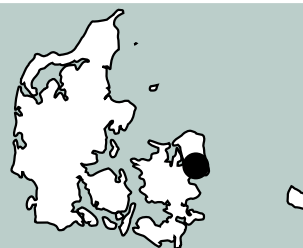
The production of fuel cells in a commercially reasonable and industrially feasible scale is not yet realised. In the production process, when scaled up, one has to solve several technical and technological issues related to the mass production. The technology has been tested in the laboratory and pilot scale but the upscaling requires elaborate design and engineering.

The beneficiary Haldor Topsoe A/S has been involved in the research and development of fuel cells since late 1980. The partner company, Wartsila Corporation presents a global supplier of power plants and the related engineering solutions as well as operation and maintenance of the power supply systems.

Objectives

Until now the Solid Oxid Fuel Cells (SOFC) have been produced at a laboratory scale only with high manual input in the production process. The project demonstrates semi-industrial manufacturing methods to obtain radical cost reductions of SOFCs production. This involves design and construction of a manufacturing plant and process, with up-to-date quality assurance and other standardised control systems. Further, the project demonstrates the quality of SOFC components through design, construction and operation of a 50 kWe SOFC power generating system running on methanol and natural gas. The tangible objective will be manufacturing facility producing SOFC cells and stacks.

LIFE06 ENV/DK/000226
DEMO SOFC



Beneficiary:

Type of beneficiary

International enterprise

Name of beneficiary

Haldor Topsoe A/S

Postal Address

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DK-2800 Lyngby
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Phone +45 4527 2085
Fax +45 4527 2999
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Website www.topsoe.dk

Name of contact person

Niels Christiansen

Duration of project:

36 months (Oct 2006 – Sept 2009)

Total budget in euro:

13,395,168

EC contribution in euro with %:

4,762,684 (35.56%)

Generic Theme:

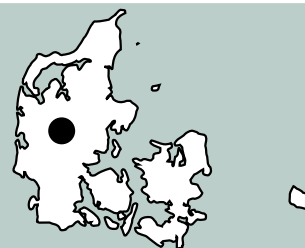
3.1.: Clean technologies

Since the characteristics of the fuel cell business are yet unstable the project will devote a lot of efforts to learning, demonstration and strategic aspect related to the demonstration facility.

Environment wise the project supports the EU's climate policy aiming at reduced emissions of greenhouse gases.

Cleaning up storm water

LIFE06 ENV/DK/000229
TREASURE



Official title

Treatment and re-use of urban stormwater runoff by innovative technologies for removal of pollutants

Background

Surface waters and stormwaters from urban areas and from roads present a considerable problem when discharging pollutants to the sewage system. The types of volumes of the pollutants depends mainly on the land use related functions like traffic volumes, characteristics of buildings (housing and industrial) and building and construction materials. Together with the overflows and stormwater run-off outlets these waters contribute significantly to the pollution of the aquatic ecosystem.

The impacts of stormwater pollutants in the receiving waters are varying, depending on the characteristics of the waterbody. Eutrofication as well as more direct deterioration of water quality are the main impacts presenting risks to the human health in the vicinity of urban areas. Recent investigations have clearly shown adverse ecotoxicological impacts in streams receiving stormwaters. Also the accumulated sediments present a risk. The EU Water framework directive provides that the water pollution from surface waters is prevented.

Objectives

The project aims at demonstrating technologies that efficiently reduce diffuse urban pollutant loads onto receiving waters. With respect to pollutant loads from households and industries there are effective technologies while tackling pollution from urban run-off waters is not largely addressed. Especially phosphorus and toxic substances and their removal from the urban run-off waters will be addressed.

The projects aims at reducing the outflow of toxic substances, mainly heavy metals and organic micro-pollutants, originating and charged with stormwaters in urban areas, by 80-90 %. The technologies used present robust and technically simple interventions, which should be easily adopted in the existing urban land-use structures. The pilot activities will be run in three different urban structures in Aarhus, Odense and Silkeborg.

Beneficiary:

Type of beneficiary

Local authority

Name of beneficiary

Silkeborg Kommune (Municipality of Silkeborg)

Postal Address

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DK-8600 Silkeborg
DENMARK
Phone +45 8920 8970
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Name of contact person

Kenn Lange

Duration of project:

36 months (Oct 2006 – Oct 2009)

Total budget in euro:

4,290,330

EC contribution in euro with %:

1,966,027 (45.82%)

Generic Theme:

2.4.: Diffuse and dispersed sources of pollution

Treating dredged material for reuse

Official title

Controlled Treatment of TBT-Contaminated Dredged Sediments for the Beneficial Use in Infrastructure Applications Case: Aurajoki - Turku

Background

The annual volume of dredged materials in the European Union is estimated at 200 million cubic meters. An essential part of these sediments are contaminated with pollutants like tributyl tin (TBT). As it is hazardous, the material cannot be easily disposed of without risking long-term negative effects on the environment. The large volumes of material generated pose a significant problem for the economic and technical feasibility of its treatment and disposal.

Objectives

The project aims to demonstrate technically, economically and environmentally viable treatment methods for stabilising dredged materials. Once contaminants like TBT have been treated, dredged materials could be reused for infrastructure works, for example harbour extensions. The new processing methods will be designed with the aim of treating large volumes of contaminated materials. Once implemented and demonstrated, the techniques could be easily adapted for infrastructure development in estuaries and coastal regions.

LIFE06 ENV/FIN/000195
STABLE



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

Terramare Oy

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FINLAND
Phone +358 9613621
Fax +358 961362700
Email Jarmo.Yletyinen@terramare.fi

Name of contact person

Jarmo Yletyinen

Duration of project:

36 months (Apr 2006 – March 2009)

Total budget in euro:

3,721,426

EC contribution in euro with %:

974,228 (26.18%)

Generic Theme:

3.5.: Risk assessment – Pollution control

Integrated VOC management

Official title

Control of VOC emissions from mechanical pulping beyond BAT

Background

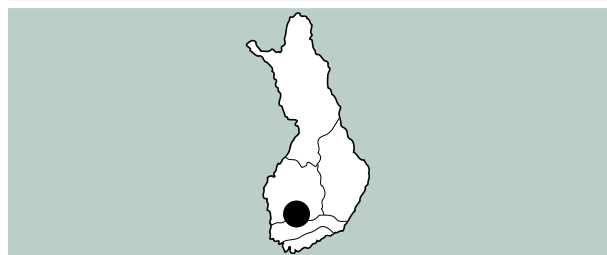
Volatile organic compounds (VOCs) generated by the mechanical and semi-mechanical production of pulp not only cause odour-related nuisances, but can also represent an occupational safety factor for workers, as well as a health risk for communities in the vicinity of VOC-generating industries. Consequently, the legislation of the many EU Member States are increasingly addressing the issue of VOC emission.

Several methods exist for VOC abatement, ranging from clean technology to end-of-pipe solutions. However, these techniques cannot be easily compared. For example, regulatory requirements regarding application conditions differ greatly.

Objectives

The project aims to integrate the best components of existing VOC abatement technologies and practices to develop an integrated control and monitoring system for VOC-generating processes during the production of pulp. The quantity of the VOC emissions in mechanical and semi-mechanical pulp production is expected to decrease by 90-95 %. This is to lead to significant reductions in problems of unpleasant odours, as well as in improvements in safety and reduction of health risks.

LIFE06 ENV/FIN/000201
VOCless pulping



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

AX-LVI Consulting Ltd

Postal Address

Kuokkamaantie 4428

F-33101 Tampere

FINLAND

Phone +358 32680270

Fax +358 32110106

Email markku.tapola@axcons.fi

Name of contact person

Markku Tapola

Duration of project:

36 months (Oct 2006 – Sept 2009)

Total budget in euro:

579,370

EC contribution in euro with %:

286,335 (49.42%)

Generic Theme:

3.4. : Reduction of emission of air pollutants

Recycling mineral-rich waste

Official title

Recycling of industrial and institutional waste rich in mineral resources for the manufacture of binders, while saving on natural resources (clay and lime)

Background

Industrial processes generate high quantities of mineral-rich waste. Water treatment sludge, paper-manufacture sludge, limed sludge and foundry sands, for example, are rich in silicium, lime and carbonate. De-inking sludge produced by papermaking contained 455,000 tonnes of dry materials in France in 2002, according to Arthur Andersen. Sludge production from water treatment stations (industrial and institutional) is estimated at 850,000 tonnes of dry matter per year. This quantity was expected to increase to 1,300,000 tonnes in 2005.

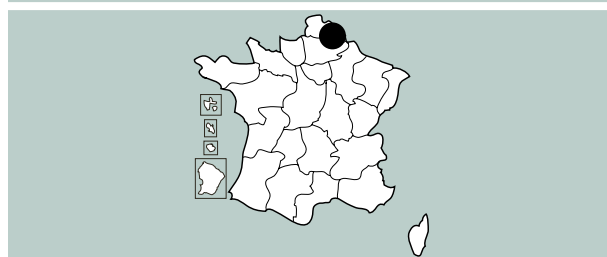
Currently, the main ways to dispose of this type of waste are landfills, land spreading and incineration. As a result of the European Directive No.1999 of 26/04/1999 that aims to reduce the negative effects of putting waste into landfill and the effect of increasingly severe regulations on land spreading, it has become essential to find alternatives.

Objectives

The beneficiary, ARF, proposes an innovative solution for recycling waste as an alternative to landfill and agriculture spreading. Recycling waste will preserve natural resources (clay, lime, fossil fuels) and offers a long-term, environmentally friendly waste management solution.

The project's goals are to produce binders from mineral-rich waste using a special preparation process based on residues. The process proposed will save on noble mineral resources conventionally used in the production of binders. This project will produce reusable water mainly for road-making and construction. It preserves natural resources and is in accordance with the European Directive No.91/271 of 21/05/1991 to reduce the volume of waste disposed in landfill.

LIFE06 ENV/F/000124
ARFVALORMAT



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

Assainissement de la Région de Fourmies (ARF)

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Website <http://www.arf.fr/>

Name of contact person

Emmanuel Meyza

Duration of project:

33 months (Oct 2006 – June 2009)

Total budget in euro:

731,852

EC contribution in euro with %:

219,556 (30%)

Generic Theme:

4.2.: Industrial waste (including manufacturing)

Recycling catalysts used in oil-gas refining

Official title

BASHYCAT: Basic hydrometallurgy on catalysts

Background

New EU regulation concerning oil products and gas emissions (NO_x, SO₂, COV and NH₃) will result in the increased use of catalysts, including DeNO_x, a substance that can be regenerated or recycled

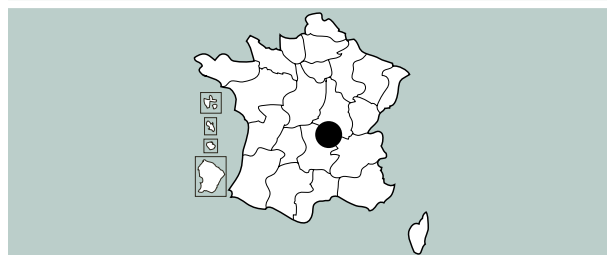
Catalyst use is expected to increase by at least 3 to 4% a year between now and 2010 to meet new environmental specifications (in particular, a maximum limit of 10 ppm of sulphur in gas and oil by 2009). At the same time, the increased demand for light cuts will force refiners to install more refining capacities rather than produce heavy gas-oil for power stations. Heavy cuts refining requires large volumes of short-cycle length catalysts essentially to treat the pollutant vanadium.

Objectives

BASHYCAT is focused on recycling spent catalysts resulting from refining cuts hydro treatment and NO_x-containing gas emissions catalysis (used in coal-fired heavy fuel thermal electric power station). The project comes within the framework of EU policy number 2001/81/CE that aims to reduce sulphur in hydrocarbons and greenhouse gases.

The main objective of BASHYCAT is to prove the economic feasibility of regenerating part of the catalysts and implementing a recycling solution that has a very high material recovery rate. The project aims to achieve a 12,000 tonne capacity in 2010-2012, which is expected to satisfy about 15% of the EU needs and create 80-100 jobs.

LIFE06 ENV/F/000125
BASHYCAT



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

VALDI SAS

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Name of contact person

Lyonel Picard

Duration of project:

36 months (Jan 2006 – Dec 2008)

Total budget in euro:

11,315,296

EC contribution in euro with %:

2,732,714 (24.15%)

Generic Theme:

4.2.: Industrial waste (including manufacturing)

Online platform for water management

Official title

Collaborative Technological Platform for implementation for WDF within agricultural context

Background

The impact of agriculture on Europe's water resources will have to be reduced if the quality of surface and groundwater is to be improved. The agricultural soils of EU countries contain large nitrogen surplus that can potentially pollute both surface and groundwater. Furthermore, in many European countries pesticides contaminate the drinking water.

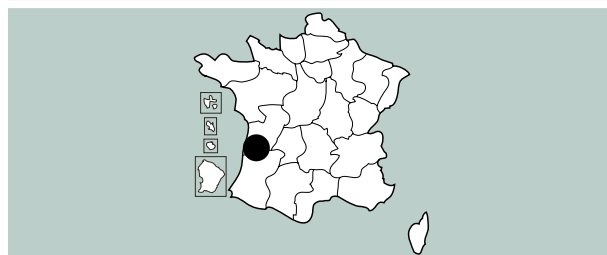
The regional economy of the Adour-Garonne River Basin District is more dependent on agriculture than in the rest of France, and 50% of its total area is dedicated to agriculture. Not surprisingly, high levels of nitrate, as well as atrazine, simazine, diuron, alachlor and lindane have been found in over 40% of sites recently surveyed in the region.

Objectives

The project's main objective is to demonstrate the feasibility of a collaborative technological platform (CTP). This aims to support the integrative management of agriculture and reduce its impacts on water and the related aquatic ecosystems of the Gascogne river basin in the Adour-Garonne district, in accordance with the WFD requirements.

The CTP will deliver mitigation measures against several agricultural pressures, as well as an action programme for large-scale cropping, involving key actors such as administrative officials, scientists, political and community leaders, cooperatives and agricultural organisations. The CTP includes a high-tech toolbox to simulate and evaluate mitigation measures through a web-based and multi-institutional collaborative management system. The project should result in significant decreases of nitrate and pesticide concentrations in surface water.

LIFE06 ENV/F/000132
CONCERT'EAU



Beneficiary:

Type of beneficiary

Research institution

Name of beneficiary

Association pour le Développement de l'Enseignement et de la Recherche en Aquitaine

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Name of contact person

Christian Chevalier

Duration of project:

36 months (Oct 2006 – Sept 2009)

Total budget in euro:

2,808,065

EC contribution in euro with %:

1,394,367 (49.66%)

Generic Theme:

2.1.: Water management at the scale of the river basin

Biological systems for combating pesticide pollution

Official title

Mitigation of agricultural non point-source pesticide pollution and phytoremediation in artificial wetland ecosystems

Background

Pesticides are one of the main sources of water pollution and aquatic environment degradation in agricultural areas. Approximately 320,000 tonnes of pesticides are sold every year in Europe. The Water Framework Directive (2000/60/EC) requires aquatic environments throughout the EU to be in good condition by 2015.

Directive 98/83/CE of the Council of November 3, 1998 relating to the quality of the water intended for human consumption fixes a requirement of 0.1 µg/L for single substances and 0.5 µg/L for the sum of pesticides and their degradation products.

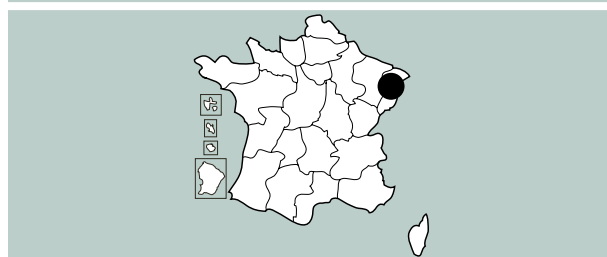
Objectives

ARTWET focuses on establishing low-cost vegetated treatment systems (biological systems) to reduce the risk of agricultural non point-source (NPS) pesticide pollution in surface water. The objective of the project is to implement the water framework 2000/60/EC and reach required improvements to water quality by 2015. Vegetated ditches, natural and constructed wetlands and forest plots will be used as demonstration sites.

The project proposes a set of pilot scale solutions applicable in the European Union and will provide technical guidance on minimising the risk of NPS pesticide pollution. The technological knowledge acquired through the project will be disseminated through conferences, training course, databases and websites with the aid of the ARTWET coordinator ENGEES (University of Strasbourg) and the project's partners.

LIFE06 ENV/F/000133

ArtWET



Beneficiary:

Type of beneficiary

Training centre

Name of beneficiary

Ecole Nationale de Génie de l'Eau et de l'Environnement de Strasbourg (ENGEES)

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Name of contact person

Caroline Bernard

Duration of project:

36 months (Oct 2006 – Sept 2009)

Total budget in euro:

3,878,621

EC contribution in euro with %:

1,916,993 (49.42%)

Generic Theme:

2.2. Water supply - Water quality - Ground water protection

Reducing pollution of coastal waters

Official title

Risk based reduction of microbial pollution discharge to coastal waters

Background

Thirteen percent of Europe's coastal bathing waters do not meet the standards set by 76/160/EEC Bathing Water Directive. In France, 20 % of bathing waters are expected to be non-compliant, if no action is taken. Pollution mostly comes from particular (rather than diffuse) sources and domestic wastewater.

Tourism and the demographic pressure in coastal areas are increasing the difficulty of reducing pollution, while at the same time setting higher expectations for clean waters.

Conventional solutions for the management of faecal pollution in domestic effluents enable good performance in dry weather conditions, but fail to manage efficiently the flow rates generated by heavy rainfall. In rural areas, the sizes of the sewerage systems present additional difficulties.

The project site covers 1% of the French coasts. It includes 38 registered bathing locations and 15 production areas for mussels and oysters, including the largest site in France. On some days, more than 10,000 persons practice recreational shellfish harvesting on the tideland.

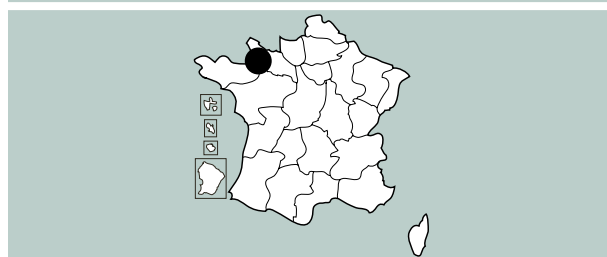
Objectives

The project covers the management and treatment of wastewater discharged to the sea and aims to prevent infectious diseases. The microbial seawater quality plays a key role in the sustainable development of coastal areas. For the 40 km of coast covered, the project should immediately result in a 20 % reduction of point source pollution rising to 70 % with the application of the long-term plan.

Objectives for improving the state of the local environment:

- Reduce the number of bathing sites rated "sufficient" according to the Bathing Water Directive from 5 to 2 areas and those rated "insufficient" from 3 to 0.

LIFE06 ENV/F/000136
MARECLEAN



Beneficiary:

Type of beneficiary

Public enterprise

Name of beneficiary

Syndicat mixte des Bassins Versants des Côtiers Granvillais (SMBCG)

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Email environnement@ville-granville.fr

Name of contact person

Roger Nicault

Duration of project:

36 months (Oct 2006 – Sept 2009)

Total budget in euro:

1,569,358

EC contribution in euro with %:

783,429 (49.92%)

Generic Theme:

1.3. : Sensitive area management (coastal. protected)

- Upgrade the mussels/oysters production area rated "D" to "C", and to improve another rated "B" to "A". After the completion of the objectives there will be 5 zones rated "A", 6 zones rated "B" and 1 in "C".

The project aims to further integrate pollution management into development plans. This will yield long-term economic benefits and avoid conflicts surrounding responsibility for pollution.

At an EU level, the MARECLEAN method will be available for conducting the risk assessment of faecal pollution in coastal areas, creating a local consensus on solutions and optimising environmental and economical benefits.

It will be transferable to the 20 coastal states of the European Union, especially those that border the Atlantic and North Sea. The project will also add to knowledge of faecal pollution transfer.

Vitrification and recycling of incineration residues

Official title

Creation of an industrial pilot for the REFION valorization (Residues from domestic waste incineration smoke cleansing) by a vitrification process and recycling of obtained products

Background

Incineration is the second most common method of waste treatment in Europe. It generates residues from domestic waste incineration smoke and industrial waste (REFIOM and REFIDI).

An increasing amount of waste is being incinerated, but standards for emissions have been raised by the European Instructions of 4/12/2000 on waste incineration and 24/04/2001 on limitations of pollutants in the atmosphere. The application of these instructions will increase the amount of REFION. In France, such residues represent 3% of incinerated material, and of 420,000 tons of smoke purification residues produced in 2002, 390,000 tons was REFION between 25,000 to 30,000 tons was REFIDI.

Once stabilised, REFION are sent to Stocking Centers for Ultimate waste (CSDU) Rich in dioxydes, furanes and toxic heavy metals, the REFION are very water soluble. But the transport of REFION is expensive and stabilized waste is not inert.

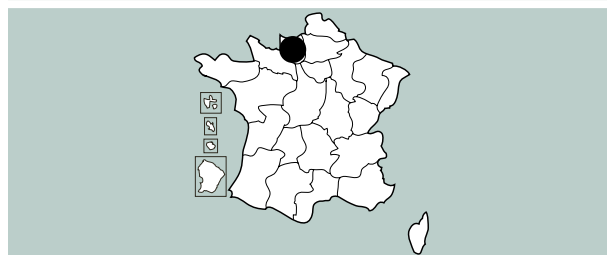
Objectives

The vitrification process Vitriflash offers an alternative. It is a means for transforming hazardous substances in usable materials. The objectives of the project are to optimise a innovative pilot process of REFION vitrification and to demonstrate how vitrified products can be profitably used.

During the 6,000 functioning hours of the testing step, 1,200 tons of REFION will be treated -- 112kg of vitrified product and 10kg of produced metallic residues will be produced an hour. Recycling by products limits the negatives associated with the extraction of raw materials: noise, dust and air pollution.

LIFE06 ENV/F/000152

Vitriflash



Beneficiary:

Type of beneficiary

Public enterprise

Name of beneficiary

Syndicat Mixte d'Élimination des Déchets de l'Arrondissement de Rouen (SMEDAR)

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Name of contact person

Claude Laine

Duration of project:

41 months (Dec 2005 – Apr 2009)

Total budget in euro:

5,015,818

EC contribution in euro with %:

1,090,000 (21.73%)

Generic Theme:

4.3.: Hazardous waste

Using isotopes to monitor nitrate pollution

Official title

Improved management of nitrate pollution in water using isotopic monitoring

Background

Nitrate pollution is a serious and well-known problem for sustainable management of surface and groundwater in many European river basins. Agricultural practices, such as the use of fertilisers, manure and sewage sludge for crop fertilisation, have a clear impact on the quality of surface and groundwater, particularly in terms of nitrate concentrations. The use of such substances has important consequences on the management of nutrient pollution, eutrophication, nitrogen balances in grassland and arable land. In river basins (surface and groundwater) and coastal environments.

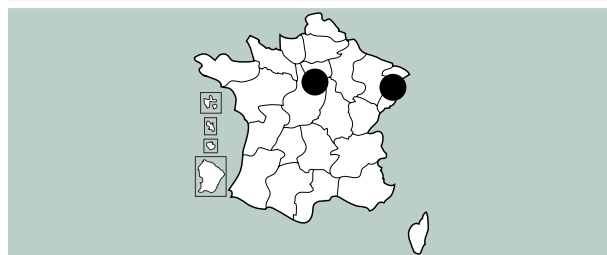
Similarly, wastewater effluents from water treatment plants will also impact on the nitrogen balance in the surrounding environment. As a result of nitrate pollution, some regions such as Brittany periodically issue warnings to not to use tap water for drinking and cooking purposes.

The current approach to environmental management and control of water quality is to monitor nitrate concentrations. Chemical data alone, however, does not unambiguously establish the type, location and extent of sources of pollution in a river basin. Differentiating urban and agricultural sources is particularly difficult, and as a consequence specifically targeted management plans for nitrate control are unlikely even though the demand for improved management of nitrate pollution is very high at local, national and European levels. The public in many member states expects legislation to tackle this issue.

Objectives

Using isotopes to obtain accurate data on nitrate sources and the impact of nitrate pollution has been shown to be very effective. The objective of ISONITRATE is to demonstrate the technical/economical feasibility of integrating isotope use into management plans for river basins.

LIFE06 ENV/F/000158
ISONITRATE



Beneficiary:

Type of beneficiary

Research institution

Name of beneficiary

Bureau de Recherches Géologiques et Minières

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Name of contact person

Christian Fouillac

Duration of project:

36 months (Nov 2006 – Oct 2009)

Total budget in euro:

796,686

EC contribution in euro with %:

398,256 (49.99%)

Generic Theme:

2.1. Water management at the scale of the river basin

Sludge management by low temperature conversion

Official title

Efficient recycling and disposal of sewage sludge with innovative thermo-catalytic low temperature conversion technique

Background

The long term disposal of sewage sludge is a major environmental problem. The treatment of sludge with conventional methods (e.g. incineration), only reduces the size of the more complex problem of disposal. It is therefore important to introduce more comprehensive alternatives for sludge handling and disposal when planning sewage management strategies. In response to this problem, 15 municipalities in the region Pfattertal in Bavaria, have decided to invest in a joint self-sufficient sewage sludge treatment facility.

Objectives

The overall objective of the project is to demonstrate an efficient alternative for the environmentally sound disposal and recycling of sludge, which comes from sewage treatment plants. More specifically, the project aims to set-up and operate a plant prototype for the thermo-catalytic low temperature conversion (LTC) of sludge and to present a sound concept for further utilisation of the emerging LTC sub-products.

LIFE06 ENV/D/000458
LOTECOTEC



Beneficiary:

Type of beneficiary

Public enterprise

Name of beneficiary

Verwaltungs- und Beteiligungsgesellschaft des Zweckverbandes zur Abwasserbeseitigung im Pfattertal

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Fax +49 9406 941459
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Name of contact person

Joachim Stodolka

Duration of project:

36 months (Nov 2006 – Oct 2009)

Total budget in euro:

4,247,660

EC contribution in euro with %:

1,160,688 (27.33%)

Generic Theme:

4.1.: Municipal waste (including household and commercial)

On site energy production from wastewater sludges

Official title

Waste prevention through sewage sludge reuse for efficient energy generation at waste water treatment sites

Background

The treatment and disposal of waste sludge is an increasing problem since sludge is contaminated by heavy metals, microorganism and several organic compounds. Its disposal on agricultural land creates a potential risk to both human health and the environment. Thus alternative solutions such as thermal treatment are becoming more widespread. Some 50% of the sludge from communal wastewater treatment plants is currently thermally treated in Germany. However, small-scale solutions are also required to avoid long transportation distances.

Objectives

The aim of the project is to demonstrate the decentralised re-use of sewage sludge in an efficient small-scale heat and power generation plant located at the wastewater treatment plant. The innovative sludge processing technique will be prepared for market introduction. The energy self sufficient plant will reduce the amount of sewage sludge for disposal to 0.125 of the de-watered sludge. Against the background of increasing amounts of sludge and limited disposal routes, the technique offers an environmentally-sound alternative for sludge management. The residues of the process are an ideal resource for phosphorus recycling.

LIFE06 ENV/D/000460
SLUDGE2ENERGY



Beneficiary:

Type of beneficiary

International enterprise

Name of beneficiary

Hans Huber AG

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Name of contact person

Johann Grienberger

Duration of project:

42 months (Oct 2006 – March 2010)

Total budget in euro:

3,812,320

EC contribution in euro with %:

768,696 (20.16%)

Generic Theme:

2.3.: Waste water treatment

Better mapping of flood hazard areas

Official title

Large scale adjustment of new technology for fast, precise and cost-efficient hydraulic 2d-modelling of flood (hazard) areas by combining laser scanning with remote sensing data

Background

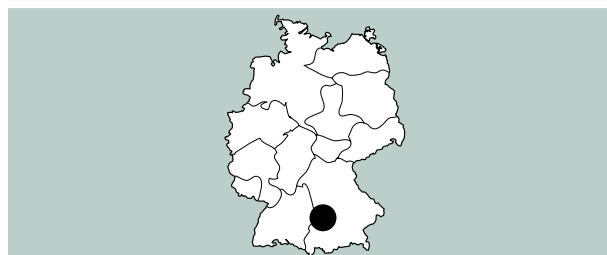
The magnitude and frequency of floods are likely to increase in the future as a result of climate change. Floods regularly cause heavy environmental and economic damages and recent flood incidents in Europe have demonstrated that the existing hydraulic calculations on the location of flood plains and flood hazard areas are often outdated. International action programs emphasize the necessity to putting a greater focus on prevention and the implementation of the precautionary principle in order to protect human health and environment. A significant increase in the number of people and economic assets located in flood hazard zones has been noted. Hydraulic calculations which are based on updated data are of major importance for all subsequent precautionary measures (e.g. dyke construction etc.).

Objectives

The FLOODSCAN project will test a new, intelligent and cost-efficient technology for the precise identification and mapping of flood hazard areas. The technology to be adopted is the hydraulic 2d-modelling of flood hazard areas, which combines laser scanning with remote sensing data and will be applied on a large scale.

The project aims to reduce the negative impacts of flood incidents by providing reliable and precise information for regional planning authorities to formulate regulations and land utilisation and will raise awareness amongst citizens about flood risks. It will also inform experts and authorities responsible for water management and flood protection from other European countries about the innovative technology.

LIFE06 ENV/D/000461
FLOODSCAN



Beneficiary:

Type of beneficiary

Regional authority

Name of beneficiary

Bayerisches Landesamt für Umwelt

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Name of contact person

Dieter Rieger

Duration of project:

42 months (July 2006 – Dec 2009)

Total budget in euro:

2,748,053

EC contribution in euro with %:

1,303,314 (47.43%)

Generic Theme:

3.5. Risk assessment - Pollution control

Fuel cell ships offer zero emissions

Official title

Zero.Emission.Ships

Background

Gaseous emissions from ships are a serious concern, particularly in coastal areas and port cities. Emissions of sulphur dioxide and nitrous oxide from ships are expected to exceed those from land-based sources in the EU by 2020. Sulphate and nitrate particles along with emissions of primary particles (such as soot and dust) result in fine particles (PM10, PM2.5) which can harm human health.

The bulk of emission on inland waterways is generated by medium to large vessels. The use of fuel cells to power ships in the range of 300 to 600 kW would be a zero emission solution. However, the fuel cell technology used in submarines is expensive and small vessels cannot be scaled up to the targeted power requirements. The task in this project is to provide a technical solution that is scalable to typical power requirements and can be fully integrated in to surface vessels of different sizes.

Objectives

ZEMSHIPS will demonstrate in practice the development of the first hydrogen and fuel cell powered ship (with a capacity of more than 100 persons). The ships are characterised by zero local emissions, low noise, and high energy efficiency. They run no risk of water pollution and are a best available technology for maritime transportation. The project also provides a basis to build other fuel cell powered ships in Europe and dissemination of the project results can promote the use of hydrogen powered ships in the future.

LIFE06 ENV/D/000465
ZEM/SHIPS



Beneficiary:

Type of beneficiary

Regional authority

Name of beneficiary

State Ministry of Urban Development and the Environment of the Free and Hanseatic City of Hamburg

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Name of contact person

Karin Hinrichs-Petersen

Duration of project:

42 months (Nov 2006 – Apr 2010)

Total budget in euro:

5,158,348

EC contribution in euro with %:

2,384,424 (46.22%)

Generic Theme:

1.2.: Air quality management and noise abatement

Recycling waste in PVC production

LIFE06 ENV/D/000470

PVCLean



Official title

Optimising process Water Handling in S-PVC Production - PVCLean

Background

The "suspension technique" that produces most PVC (S-PVC) is a batch process for polymerisation in an aqueous phase. It uses vinylchloride, fully demineralised water, initiators, dispersing agents and other excipients. After several hours in an autoclave, approximately 90% of the vinylchloride converts to PVC. A degassing step removes the residual monomers from the PVC and water for recycling.

However, even after centrifuging, the water fraction still contains between 50-300g/m³ residual PVC. To date, it has not been possible to reuse this water and PVC. As a consequence, the water runs off to the waste water treatment plant, leading to an increased amount of Adsorbable Organic Halides (AOX) in the sewage sludge, which then has to be treated as hazardous waste.

Objectives

The main objective of the project is to optimise the S-PVC process through introduction of innovative filtration methods that recycles up to 40% of the used process water and at least 80% of the separated PVC.

Filtering the process water reduces the amount of PVC particles in the process water rendering it sufficiently for reuse in the polymerization process. The filtered PVC particles will then be fed back into the production process. As a result, there will be a significant reduction in freshwater use and unused PVC.

Beneficiary:

Type of beneficiary

International enterprise

Name of beneficiary

Vinnolit GmbH & Co. KG

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GERMANY

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Email georg.daembkes@vinnolit.com

Name of contact person

Georg Dambkes

Duration of project:

31 months (Dec 2005 – June 2008)

Total budget in euro:

3,627,835

EC contribution in euro with %:

698,000 (19.24%)

Generic Theme:

3.1.: Clean technologies

Less concrete needed for building façades

Official title

Environmentally Friendly Façade Elements made of thermal insulated Textile Reinforced Concrete

Background

Concrete is the main building material used in civil engineering construction. Due to the considerable consumption of energy and the large amounts of cement used, the production of cement contributes 5% of the annual CO₂ emissions worldwide.

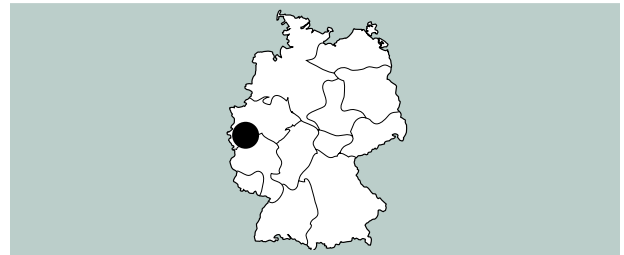
Objectives

The INSU-SHELL project will work to reduce the amount of concrete required for façades by using a combination of concrete and textile. Using concrete with high-tech textiles as reinforcements allows for very thin-walled façade elements, which are better than comparable elements made out of glass fibre reinforced concrete (GRC).

Conventional steel reinforced concrete façades require a minimum thickness of 70 mm, whereas the new textile reinforced concrete (TRC) technology requires only 10-20 mm. The project will realise a full-scale industrial application for the façade system of a large public building. It will demonstrate the economic and environmentally advantages of the new TRC technology.

Furthermore, a reduction in CO₂ will be realised by minimising the amount of concrete used in the production process as well as during implementation and recycling.

LIFE06 ENV/D/000471
INSU-SHELL



Beneficiary:

Type of beneficiary

University

Name of beneficiary

Rheinisch - Westfaelische Technische Hochschule
Aachen

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Name of contact person

Thomas Gries

Duration of project:

42 months (Oct 2006 – March 2010)

Total budget in euro:

2,192,890

EC contribution in euro with %:

900,200 (41.05%)

Generic Theme:

5.4.: Sustainable building

Energy savings with a superconductor prototype 110kV

Official title

Improvement of Nat Efficiency by Superconducting current limiter for 110kV

Background

One way of reducing greenhouse gas emissions produced by the energy sector would be to minimise energy losses in the distribution systems. A transformer including a switchgear is currently used to couple two 110 kV network sub zones. These transformers lead to energy losses and contain hazardous oils.

Objectives

The INES-110 project will aim to demonstrate a "Superconducting Fault/Current Limiter" (SCFCL) prototype for the European high-voltage grids (90-123 kV) and medium voltage grids (10-30kV), as an intermediate step.

It is expected that the successful introduction of the SCFCL for the whole of European grids would mean savings of an estimated 200,000 – 300,000 tons of CO₂ emissions per year.

LIFE06 ENV/D/000475
INES-110



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

Nexans SuperConductors GmbH

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Chemiepark Knapsack Building 2703

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Name of contact person

Joachim Bock

Duration of project:

35 months (Nov 2006 – Oct 2009)

Total budget in euro:

3,778,392

EC contribution in euro with %:

1,068,793 (28.29%)

Generic Theme:

3.3.: Reduction of emission of greenhouse gases

Traffic and particulates pollution

Official title

Particulates, Freight and heavy duty vehicles in Urban Environments

Background

There is growing concern about the health and environmental impact of road transport on air quality. In many EU cities the limit for particulate matter (PM) according to the value recommended in the Air Quality Directive (1999/39/EC) (i.e. 50 $\mu\text{g}/\text{m}^3$ for PM 10) is often exceeded. Yet, in addition to the current PM 10 limit, a new standard for PM 2.5 is expected shortly and the regulation of nitrogen oxide (NO_x) emissions will come into force in 2010. As a result, cities are urgently seeking more effective and efficient means of reducing air pollution. Transport is one of the most complicated sectors for achieving these reductions, and yet is particularly important to those cities suffering from high particulate and NO_x pollution.

Although information on the impacts of many single new 'clean' technologies is available, the real-life results in combination with sustainable urban transport programmes can be quite different.

Objectives

The project seeks to bridge the gap between R&D results and widespread implementation/market introduction concerning integrated technological/policy solutions for the reduction of air pollution from transport, notably particles and NO_x.

The project will implement and evaluate a combination of innovative technologies for clean vehicles for city logistics and public transport, integrated with policy and planning approaches. It will be tested and evaluated under real-life conditions in two urban areas (Bremen/DE, Padua/IT). These results will also be compared with data from other cities' air pollution mitigation programmes. The city of Rotterdam, will provide input relating to retrofitting of vehicles already in service, while other cities with related programmes, will be involved through periodic workshops.

LIFE06 ENV/D/000477
PARFUM



Beneficiary:

Type of beneficiary

Local authority

Name of beneficiary

The Senator for Construction, Environment and Transport

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Name of contact person

Rita Kellner-Stoll

Duration of project:

30 months (Oct 2006 – March 2009)

Total budget in euro:

2,188,079

EC contribution in euro with %:

971,182 (44.39%)

Generic Theme:

1.1.: Urban design - Quality of life - Transport planning

Ways to improve wastewater management

Official title

Integrated Wastewater Purification Management

Background

The annual loading of wastewater discharge from sewage treatment plants to the environment could be significantly reduced, if a better equalisation and distribution of wastewater input into the treatment plants was realised. This was the basis of a plan to inter-connect sewage plants and sewer networks in such a way that the equalisation of the inflow peaks and the optimal distribution of nutrients could be steered and controlled. As a result, unused plant capacities could be utilised with significant financial benefits.

Objectives

The overall objective is to demonstrate how wastewater management and treatment technologies can be improved through an innovative system, increasing the quality of effluent, while reducing the costs.

The specific objective is to integrate wastewater purification through an innovative combination of electronic link (remote control) and physical connection (biologically activated pipe) of selected sewage treatment plants in order to integrate their technical capacities and to enhance wastewater purification.

LIFE06 ENV/D/000478
IWPM



Beneficiary:

Type of beneficiary

Public enterprise

Name of beneficiary

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Name of contact person

Helmut Wilker

Duration of project:

52 months (Oct 2006 – Jan 2011)

Total budget in euro:

12,267,764

EC contribution in euro with %:

1,899,029 (15.48%)

Generic Theme:

2.3.: Waste water treatment

A towing kite system for ships

Official title

Demonstration of an innovative wind propulsion technology for cargo vessels

Background

Cargo shipping (driven by heavy fuel oil) is regarded as one of the main producers of climate damaging emissions. SkySails-Technology are wind propulsion systems for modern shipping. It is estimated that the market for using this technology consists of approx. 40,000 ships (out of 90,000 on the Lloyd's Register of shipping) of the world trade fleet which operate on long range routes. These ships produce nearly 1 billion tons of CO₂ emissions per year.

Objectives

The WINTECC project will demonstrate an innovative wind propulsion technology for cargo vessels. An automatically controlled towing kite system will be used and tested during the regular operation of a cargo vessel for the first time in a full-scale application. The objectives are:

- Demonstrate the energy and greenhouse gas savings achievable by the towing kite system;
- Demonstrate the practicability, profitability and durability of the technology;
- Prove that the towing kite does not exert any negative influences on the ship and its cargo;
- Demonstrate that the kite system works under different meteorological conditions (e.g. rough water);
- Evaluate the influence of the kite technology on the ships movements;
- Evaluate the accuracy of weather forecasts and the local wind situation by using a wave monitoring system to facilitate the control of the towing kite and;
- Widely disseminate the project results to launch the technology.

LIFE06 ENV/D/000479
WINTECC



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

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Name of contact person

Niels Stolberg

Duration of project:

42 months (Jan 2006 – June 2009)

Total budget in euro:

4,115,882

EC contribution in euro with %:

1,212,685 (29.46%)

Generic Theme:

3.1.: Clean technologies

A moving hydroelectric powerplant

Official title

Demonstration Plant in the Kinzig River: Moveable Hydroelectric Power Plant for Ecological River Improvements and Fish Migration Reestablishment

Background

Within the European Union, the share of hydroelectric power is 10% out of the total electrical power production. Large dams with heights of at least 15 m above the foundations or smaller ones with a height of between 5 and 15 m and a storage volume of at least 3 million m³, are used to produce hydroelectric power. The turbine head can be artificially increased to further increase the power output. For environmental reasons such constructions are no longer tolerated in the European Union. On the other hand, there are a very large number of smaller weirs in the rivers of Europe, which were constructed to prevent erosion and are characterised by a low turbine head. However, the main drawbacks of these weirs is that the energy output is not economical and fish are unable to pass through the constructions, which as a consequence has reduced the number of fish and the diversity of species in the rivers of Europe

Objectives

The project will demonstrate a movable hydroelectric power plant and prove that it can operate economically even at low turbine heads. It will be implemented in existing weirs and result in substantial ecological improvements.

As an alternative to the existing hydroelectric power plants, the proposed moveable system will provide a solution for both economical power generation and a construction which allows fish to pass through.

LIFE06 ENV/D/000485
Moveable HEPP



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

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Name of contact person

Georg Schmid

Duration of project:

48 months (Oct 2006 – Sept 2010)

Total budget in euro:

6,618,501

EC contribution in euro with %:

1,695,375 (25.62%)

Generic Theme:

2.1.: Water management at the scale of the river basin

Using converted waste to seal industrial landfills

Official title

Conversion of Waste for use as construction material for environmentally friendly closing of industrial landfills

Background

The closing of old industrial landfill sites e.g., in the "chemical triangle" covering eastern Germany, the Czech Republic and Slovakia, requires substantial amounts of technically-defined material. The two large landfill sites of the towns of Leuna and Schkopau, in eastern Germany, together account for five million m² surface area, requiring more than eight million m³ of natural construction material to obtain the surface profile and sealing; and over six million m³ of top soil for the recultivation layer. The project will demonstrate alternatives to substitute natural construction material with an environmentally-friendly technical conversion of waste. The low organic waste will be converted so that substitute construction material, with long-term stability as CO₂ sink, will be obtained.

Objectives

The project will show that the conversion of specific volumes of waste material is a feasible method for producing site-specific sealing and cultivation layers, without recourse to natural resources. It has already been confirmed on laboratory and in small-scale experiments. Thus the demonstration project should provide the larger-scale evidence. The objective of the project is to convert the waste into an impervious disposal material. Its innovation is that the production of the substitute material depends on the location and type of waste of the disposal. To date, no other facility is known to be producing surface sealing layers made from converted waste.

LIFE06 ENV/D/000488
CONWASTE



Beneficiary:

Type of beneficiary

Public enterprise

Name of beneficiary

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Name of contact person

Harald Rotschke

Duration of project:

33 months (Jan 2006 – Sept 2008)

Total budget in euro:

4,472,942

EC contribution in euro with %:

1,203,535 (26.91%)

Generic Theme:

4.9.: General - Waste management

Green banking

Official title

Developing green products in the financial sector and reducing environmental impact of bank services

Background

Recent years have seen a rising awareness of the environmental aspects of banks' operations and services. This is both a cause and a result of increases in corporate environmental reporting, which has sometimes revealed energy consumption figures similar to those of many manufacturing companies. Financial institutions can reduce their environmental impacts by better managing their procurement activities, their use of material, energy and equipment, and their travel behaviour. Furthermore, through their lending and investment policies, financial institutions can decisively influence the environmental and social performance of their clients.

Bank buildings in Greece consume an average of 200 kWh/m² per year, with an electricity consumption of between 3,600 and 8,250 kWh/employee per year. Photovoltaics can easily cover 20-25% of the energy needs of an ordinary bank building in Greece, leading to considerable reductions in CO₂ emissions.

Objectives

The goal of the project is to improve the environmental performance of the Piraeus Bank and to spread knowledge and experience from the project to other businesses or services associated with the bank's activities. In addition to improving its own environmental performance, the bank will seek to launch green-banking products, providing incentives for green purchasing and loans and, in general, trying to promote green behaviour in the financial sector.

LIFE06 ENV/GR/000375
GREEN BANKING 4 LIFE



Beneficiary:

Type of beneficiary
International enterprise

Name of beneficiary
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Name of contact person
Vrassidas Zavras

Duration of project:
36 months (Oct 2006 – Oct 2009)

Total budget in euro:
2,021,073

EC contribution in euro with %:
932,336 (46.13%)

Generic Theme:
5.1 : Eco-friendly products - Eco-design - Green financial products

Recycling dirty wood

Official title

Recovery of Clean Wood from Dirty Wood

Background

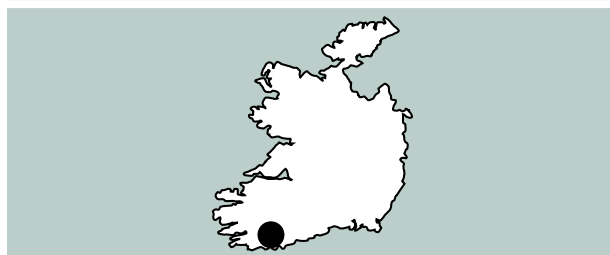
Dirty wood is defined as any wood containing contaminants (such as paint, nails, cement, staples) which prevents it being reused or recycled; it is a considerable problem in Ireland and across Europe. Manual recycling already occurs to some extent, but this is inefficient, costly and will only ever tackle a small percentage of the problem. Most dirty wood ends up in landfill. The waste reported from the "wood and wood products" industry sector in 1998 was 244,259 tons in Ireland.

Objectives

The "CleanWood" project will demonstrate the environmental and competitive benefits of processing waste 'dirty' wood in order to recover up to 80% of it for recycling. The dirty wood will be derived from packaging, construction and demolition waste and all the foreign materials will be removed from it. The clean material will be suitable for a range of uses such as boiler fuel, feedstock for particle board and animal bedding. The residual separated fraction can be used for lower grade reconstituted products, particularly in the packaging industry. The project will use basic sensor technologies, design and develop a demonstrator and test and validate performance.

LIFE06 ENV/IRL/000532

CleanWood



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

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Name of contact person

Daniel O'Callaghan

Duration of project:

46 months (Oct 2006 – July 2010)

Total budget in euro:

4,224,220

EC contribution in euro with %:

947,300 (22.43%)

Generic Theme:

4.9.: General - Waste management

Escherichia coli alert

Official title

A new automated method for the analysis of Escherichia coli in wastewater effluent

Background

The disinfection of wastewater effluents is a central issue to safeguarding the hygienic quality of contiguous fresh and seawater bodies. Many facilities are investigating alternatives to conventional chlorine systems, which generate by-products that are toxic to aquatic life. The performance of these alternative treatments in reducing bacterial content needs to be constantly controlled. However, the most commonly used methods for monitoring the microbial quality of wastewater effluents require 24 to 48 hours to produce results and are therefore inadequate for responding to sudden breakdowns.

Objectives

The ISRIM SCarl institute has developed an analytical method for the quantification of Escherichia coli in water that provides results within an hour. The main purpose of the project is the construction and setting-up for demonstration purposes of an automated online early-warning device for the detection of Escherichia coli. The project will seek to prove the effectiveness of the new method and technology applied, as well as promote its dissemination and transfer.

The project will establish an innovative dry-cutting system, using a methodology based on brittle fracture mechanics, bi-oriented by means of ultrasound, to achieve the multiple sectioning of ceramic plates and natural stones. The method will thereby eliminate the production of the large amounts of sludge resulting from wet cutting. It will also save water and energy, as well as dramatically reduce the amount of hazardous waste produced by the calibration of tiles by conventional methods.

LIFE06 ENV/IT/000235

Kolisoon



Beneficiary:

Type of beneficiary

Research institution

Name of beneficiary

Istituto Superiore di Ricerca e Formazione sui Materiali speciali per le Technologie Avanzate - ISRIM SCarl

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Name of contact person

Francesca Santori

Duration of project:

34 months (Dec 2006 – Sept 2009)

Total budget in euro:

597,345

EC contribution in euro with %:

298,673 (50%)

Generic Theme:

2.3.: Waste water treatment

Foregoing fibreglass

Official title

Forget fibreglass reinforced: process and product clean innovation in building of big containers

Background

The use of reinforced fibreglass in the manufacture of tanks for agricultural purposes is established and widespread. This production method, however, is highly polluting due to the volatile resins and thinners involved. Its production is dangerous for workers and harmful to the environment. Furthermore, the material used does not permit the recycling of the agricultural tanks at the end of their life cycle.

Objectives

The objective of the project is to demonstrate the manufacture of self-supporting storage tanks using recyclable materials instead of reinforced fibreglass, and thereby replacing the highly polluting and unhealthy conventional production method with one that results in recyclable products. The new process will employ an advanced and ecologically sustainable technology based on the use of fully recyclable polymers.

LIFE06 ENV/IT/000241

FFR



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

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Name of contact person

Alberto Chiari

Duration of project:

36 months (Oct 2006 – Sept 2009)

Total budget in euro:

1,999,600

EC contribution in euro with %:

882,925 (44.16%)

Generic Theme:

5.1.: Eco-friendly products - Eco-design - Green financial products

Clean ceramic cutting

Official title

Ultrasound micro-cut ecosustainable

Background

Using current techniques, the cutting of ceramic slabs has a number of serious environmental impacts. Firstly, it generates significant quantities of sludge that cannot be recycled. Secondly, large amounts of ceramic waste are produced that cannot be recycled either. A third environmental aspect is the method's high energy consumption. Finally, great quantities of water are used to carry away abraded dust set free in the process.

Objectives

Following previous LIFE-funded innovations undertaken to ceramic production, the project intends to complete the sustainability cycle of the manufacturing processes by solving the increasing problem of waste production from the cutting and calibration of tiles.

The project will establish an innovative dry-cutting system, using a methodology based on brittle fracture mechanics, bi-oriented by means of ultrasound, to achieve the multiple sectioning of ceramic plates and natural stones. The method will thereby eliminate the production of the large amounts of sludge resulting from wet cutting. It will also save water and energy, as well as dramatically reduce the amount of hazardous waste produced by the calibration of tiles by conventional methods.

LIFE06 ENV/IT/000254

UME



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

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Name of contact person

Marco Sozzi

Duration of project:

36 months (Oct 2006 – Sept 2009)

Total budget in euro:

3,849,130

EC contribution in euro with %:

1,026,864 (26.68%)

Generic Theme:

3.1.: Clean technologies

Optimising aquifer management

LIFE06 ENV/IT/000255
A.S.A.P.



Official title

Actions for systemic aquifer protection: implementation and demonstration of a Protocol to scale down groundwater vulnerability to pollution due to overexploitation

Background

While demand for drinking water is increasing, the water levels of many catchment areas are dropping disturbingly. Groundwater exploitation rates are often over recharge capability and there is an increasing risk of source pollution, depletion and permanent hydrogeological damage.

If systems are instable, water dispersion and network failure rates rise sharply, leading to excessive water subtraction. In such cases, rehabilitation is of little help unless the dynamic efficiency of the network is first improved. Pumping, sanitation and the partial distribution of unduly extracted water, along with repair and maintenance work, add to environmental damage.

Objectives

The project aims to demonstrate the economical and technical viability of a procedure for preventing the overexploitation of groundwater systems. This is to be achieved through an integrated approach to optimising networks that combines technologies such as leak detectors, GIS and modelling systems and simulators.

Extraction from the demonstration system will be reduced by 10% and the current decline in the water level reversed from -0.5 m/year to +0.5 m/year, so that it recovers its year 2000 level. The project will seek to reduce the probability of low-quality water and pollutants migrating into freshwater as a consequence of changes in groundwater flow patterns from adjacent systems. Pumping will be reduced as far as possible without compromising the quality of water even in times with strong seasonal fluctuations in demand.

Beneficiary:

Type of beneficiary

Mixt enterprise

Name of beneficiary

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Name of contact person

Mario Chiarugi

Duration of project:

36 months (Oct 2006 – Oct 2009)

Total budget in euro:

2,445,207

EC contribution in euro with %:

1,095,416 (44.80%)

Generic Theme:

2.2.: Water supply - Water quality - Ground water protection

Spreading vegetable oil

LIFE06 ENV/IT/000257
VOICE



Official title

Vegetable oil initiative for a cleaner environment

Background

Although biodiesel significantly reduces CO₂ emissions, its use is still not very widespread in Europe. In Italy in 2002, it had a market share of 200 kt, compared to nearly 20 Mt of diesel oil. Pure biodiesel is used for heat generation, while blends of up to 20% are usually used for transport and heat-power cogeneration. Unlike biodiesel, which is a processed fuel, pure vegetable oil (also known as straight vegetable oil – SVO) cannot be readily used in most diesel engines without undertaking necessary technological changes. Currently, most vegetable oil used as fuel is imported from abroad and is therefore of little economic significance to EU farmers.

Objectives

The project aims at contributing to reductions in CO₂ and CO emissions by promoting the use of vegetable oil in decentralised energy generation and transportation. Actions foreseen include:

- Demonstrating the technical and economical feasibility of extracting and using vegetable oils (other than rape oil) in adapted technologies in southern European climates.
- Encouraging the promotion of incentive measures by the local, regional and national authorities of Florence, Tuscany and Italy to stimulate the use of pure vegetable oil for clean transportation and energy generation.
- Developing proposals for national and regional strategies for the implementation of the EU Biofuel Directive.
- Disseminating project results and the defining of a strategy for southern European and Mediterranean countries together with the Italian and Portuguese project partners.

Beneficiary:

Type of beneficiary

University

Name of beneficiary

University of Florence - Centro Ricerca Energie Alternative e Rinnovabili

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Name of contact person

Francesco Martelli

Duration of project:

39 months (Oct 2006 – Dec 2009)

Total budget in euro:

3,381,123

EC contribution in euro with %:

1,685,655 (49.85%)

Generic Theme:

3.4.: Reduction of emission of air pollutants

Agriculture for biomass and carbon sequestration

Official title

Integrated systems to enhance sequestration of carbon, producing energy crops by using organic residues

Background

In 2000, CO₂ emissions in Emilia-Romagna were estimated at almost 35 million tons. If the other greenhouse gases CH₄ and N₂O are included, emissions in the region currently exceed 41 million tons of CO₂ equivalents per year. Agriculture can contribute to mitigating climate change by producing biomass as a substitute for fossil fuels, as well as by sequestering CO₂ in soil organic carbon. An estimated reduction in CO₂ emissions of almost 2 million tons/year could be achieved through changes in soil use.

Objectives

The main objective of this project is to demonstrate how organic residues such as sewage sludge and manures can be used in the agricultural production of plant biomass as a source of renewable energy, thus contributing to a reduction in CO₂ emissions to the atmosphere, as well as the sequestration of significant amounts of carbon in soil. The project will seek to quantify flow variations in the carbon cycle arising from proposed agricultural practices. It will aim to develop a methodology for calculating GreenHouse Gas (GHG) emissions and carbon sequestration resulting from changes in soil use. It will also assess the possibility of establishing chain production agreements between the agricultural sector, energy producers and consumers.

LIFE06 ENV/IT/000266

Seq-Cure



Beneficiary:

Type of beneficiary

Research institution

Name of beneficiary

Centro Ricerche Produzioni Animali - CRPA S.p.A.

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Name of contact person

Marco Ligabue

Duration of project:

39 months (Dec 2006 – Feb 2010)

Total budget in euro:

1,917,051

EC contribution in euro with %:

955,989 (49.87%)

Generic Theme:

3.3.: Reduction of emission of greenhouse gases

Cullet cleaning

Official title

Minimising the Environmental impact of GLASS recycling and glass container production

Background

The glass container industry requires 'oven-ready' cullet, which is guaranteed free of substances such as ceramic, chinaware, stones, plastics or organic matter from food and beverages. This is because the presence of such material in the cullet produces heavy foam on the melt surface, which reduces heat transfer from the flame, creates glass fining problems and increases energy consumption.

In order to provide 'clean' glass cullet, the electronic machinery of primary treatment plants discharges a large amount of glass together with non-glass materials. Currently, some 23-25 % of the glass recovered through separated waste collection is thus disposed of in landfills, and this portion is expected to rise to 35% in coming years as the glass container industry's requirement become more stringent.

Objectives

The project's objective is to demonstrate a method that adapts sophisticated treatment processes for natural minerals to the treatment of cullet. A second objective is to be able to supply the glass container industry with a greater amount of high-quality recycled glass, enabling a further reduction of primary material and energy use. This will reduce the depletion of natural resources and damage done to landscapes, as well as increase the ecological benefits of glass containers. Energy consumption for the treatment process is to be reduced by transforming the plastics and biomass in the cullet into thermal energy.

LIFE06 ENV/IT/000332
MEIGLASS



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

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Name of contact person

Piero Ercole

Duration of project:

36 months (Dec 2005 – Dec 2008)

Total budget in euro:

6,093,727

EC contribution in euro with %:

1,300,118 (21.34%)

Generic Theme:

3.1. Clean technologies

Reducing rolling resistance in tyres

LIFE06 ENV/L/000118

Bio Tyre



Official title

Development and validation of ultra low rolling resistance tyre with environmentally friendly resources

Background

Road transport generates more than 20% of all CO₂ emissions in the European Union, with motor cars responsible for more than half of these emissions. Furthermore, due to a significant increase in traffic, CO₂ emissions from road transport have risen by over 20% since 1990. This represents a major concern to the European Union, which aims at achieving an average CO₂ emission for newly registered motor cars of 120 g/km by 2010.

The contact of rolling vehicle tyres with road surfaces creates a drag called the 'rolling resistance'. Any reduction achieved in rolling resistance implies a decrease in fuel consumption. Applied on a major scale, this can, in turn, result in a significant reduction in CO₂ emitted.

Objectives

The project's objective is to demonstrate the technical and economic viability of an environmentally-friendly tyre design that achieves substantial reductions in rolling-resistance of up to 30%.

The project's first component aims to develop an alternative to traditional fillers used in tyres to reinforce the lower sidewall. The new filler will be made from renewable resources (a new biopolymeric filler produced from corn starch), thereby reducing its environmental impact and allowing reductions in CO₂ emissions during its production. The project's second component consists of an in-depth analysis and modification of the tyre structure, aimed at minimising energy loss while the vehicle is in motion.

Beneficiary:

Type of beneficiary

International enterprise

Name of beneficiary

Goodyear S.A.

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Name of contact person

Filomeno Corvasce

Duration of project:

42 months (Dec 2005 – May 2009)

Total budget in euro:

12,392,586

EC contribution in euro with %:

3,120,026 (25.18%)

Generic Theme:

5.2. Eco-labelling - Eco-market - Consumer awareness
- Green public procurement

Membranes for improved thermal performance of buildings

Official title

Energy Efficient Building Systems

Background

Over 40% of the energy consumed in the EU is used for operating buildings, of which 70% is for heating. Furthermore, energy consumption for the heating and cooling of buildings continues to grow, along with resulting increases in CO₂ emissions. Improving the energy efficiency of existing buildings is one of the most cost-effective means of contributing to the EU's Kyoto commitments.

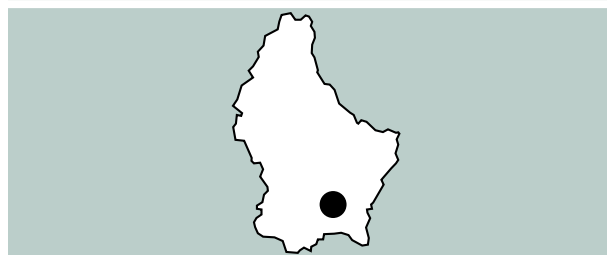
Objectives

The project will demonstrate two new membrane products that can improve the thermal performance of existing buildings.

The first will combine radiation heat loss reduction and weather proofing by introducing an innovative reflective technology into a breathable weather-barrier membrane. This membrane can be used in the roofs and walls of buildings to improve their thermal insulation. The energy savings, which the project will estimate, could be up to 30%, with a pay back time of 5-10 years.

The second "easy-to-install" membrane can be used inside walls, floors and ceilings to reduce heating and cooling energy consumption. It will be the first membrane on the market capable of absorbing high amounts of heat from solar radiation during the day and of releasing this heat during the night. It can be retrofitted into existing buildings. The energy savings, which the project will estimate, could be between 20 and 60%, with a pay back time of perhaps 10 years.

LIFE06 ENV/L/000121
EFFENERGY



Beneficiary:

Type of beneficiary

International enterprise

Name of beneficiary

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Name of contact person

Wim Maes

Duration of project:

36 months (Dec 2005 – Nov 2008)

Total budget in euro:

7,210,020

EC contribution in euro with %:

2,127,006 (29.50%)

Generic Theme:

5.4.: Sustainable building

Treating wastewater in the Netherlands

Official title

Wastewater & Effluent Treatment

Background

For most people in the EU, access to clean water in abundant quantities is taken for granted. Human activities, however, put a burden on water quality and quantity. Polluted water returns to the environment and can cause damage to human health and the environment. The Water Framework Directive (WFD) was adopted by the European Parliament in October 2000 and provides the framework for the water policy of the EU. The WFD provides guidelines for the protection of surface water, coastal water and groundwater, and will be mandatory from the year 2015.

For the sustainable management of groundwater and surface water, the WFD has identified priority substances, which are considered hazardous enough to necessitate a systematic reduction of their levels. A national screening of effluent from Waste Water Treatment Plants (WWTPs) in the Netherlands has shown that WWTP-effluent represents a significant emission of priority substances into surface waters. To achieve the discharge limits for these substances before 2015, additional treatment steps are required.

Objectives

The implementation of the Water Framework Directive policy to achieve a good chemical water status will lead Europe into a new phase of municipal wastewater treatment. Current techniques for the treatment of municipal wastewater are not designed to remove the priority substances mentioned in the WFD. The removal of the priority substances is possible through the use of a combination of innovative techniques. The combinations will be demonstrated on a full scale installation by the Dutch Water Board of Rijnland (HHR) and the Foundation for Applied Water Research (STOWA). The goal is to achieve the required water quality long before the deadline set by the WFD using these innovative and highly economical post-treatment technologies. These WFD-standards are to be met by 2015. However, plans for achieving these standards must be ready by 2009. This strict WFD-

LIFE06 ENV/NL/000167
WET



Beneficiary:

Type of beneficiary

Regional authority

Name of beneficiary

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Name of contact person

Bas Van Randtwijk

Duration of project:

42 months (Dec 2005 – June 2009)

Total budget in euro:

2,814,980

EC contribution in euro with %:

1,176,240 (41.79%)

Generic Theme:

2.3.: Waste water treatment

timeframe forces the demonstration-project to start as early as December 2005 to be able to disseminate gained knowledge and expertise. HHR and STOWA aim to inform all target groups in Europe of the performance of the WET-technologies.

The objectives of the LIFE-project are to demonstrate the technical feasibility of:

- The removal of dissolved organic compounds using coagulants in WWTP-effluent.
- The simultaneous removal from WWTP-effluent of nitrate and phosphate in a filter bed.
- The use of activated carbon in granular (GAC) or powdered (PAC) form in WWTP-effluent. (GAO is applied in the form of a filter bed. PAC is dosed in line and subsequently filtered from the effluent.)
- The application of advanced oxidation on municipal WWTP-effluent.
- Bio filtration at extremely low substrate-concentrations.

Environmentally friendly bearings

Official title

Demonstrating innovative technologies that significantly improve the environmental performance of bearings

Background

Bearings are an essential component of practically any technology. Ranging from cars to CD-players to industrial production machinery, virtually any application involving moving elements contains one or more bearings, and some 50 billion bearings are currently in use worldwide.

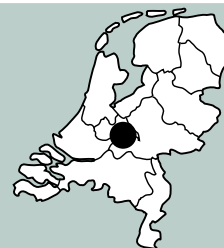
Environmental problems exist at each step of the bearing life cycle. These include energy consumption during production, energy loss caused by friction during use, and the production of waste, for example through lubricant leakage or the disposal of obsolete bearings. Due to the omnipresence of bearings, the environmental problems they cause are also present everywhere.

Objectives

The project aims to demonstrate the environmental performance of a new bearing range for a variety of applications, with a reduced energy and lubricant consumption. Newly developed technologies used by these 'Green Bearings' include: seal technologies (hard seal coatings, counterface coatings and surface design); light-weight elements (polymers) in high performance bearings; and lubrication technologies (thin film lubrication; "lub-for-life" which makes re-lubrication unnecessary throughout a bearing's lifespan). The project will include an elaborate dissemination plan to promote awareness of the new, environmentally friendly product range.

LIFE06 ENV/NL/000176

Green Bearings



Beneficiary:

Type of beneficiary

International enterprise

Name of beneficiary

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Henk Van Esch

Duration of project:

36 months (Jan 2006 – Dec 2008)

Total budget in euro:

4,623,200

EC contribution in euro with %:

1,071,960 (23.19%)

Generic Theme:

3.1.: Clean technologies

Removing impurities from brine

Official title

Brine Recovery in the production of polycarbonate

Background

Most chlorine plants in Europe still use diaphragm or mercury electrolysis cells in their production process. Though these cells can therefore use recycled brine from the polymerisation process as they are fairly insensitive to impurities, they cause environmental problems from mercury and asbestos. Furthermore, conventional technologies produce a lower quality caustic and require considerable amounts of energy.

Brine is used in electrolysis to make chlorine in the production of polycarbonate. The ensuing polymerisation process produces brine as a waste stream. Theoretically, a closed loop of brine could therefore be created. However, the re-use of brine in membrane electrolysis cells is currently not possible because the used brine contains a number of organic and inorganic impurities that could seriously damage the membranes in the chlorine. The brine must therefore currently be disposed of as waste.

Objectives

The main objective of the project is to demonstrate substantial savings in raw materials and energy during the production of polycarbonate through the recovery of brine. The project beneficiary has recently developed a new technology that is capable of removing all relevant impurities in the brine resulting from the polymerisation process. The brine can thus be re-used in chlorine cells, creating a closed-loop cycle. This new technology will be demonstrated for the first time in full scale. If successful, the project will contribute to the phasing out of environmentally unfriendly mercury and diaphragm cells in chlorine plants across Europe.

LIFE06 ENV/NL/000178

Brine Recovery



Beneficiary:

Type of beneficiary

International enterprise

Name of beneficiary

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Name of contact person

Grin Willem

Duration of project:

36 months (Dec 2005 – Dec 2008)

Total budget in euro:

7,986,431

EC contribution in euro with %:

1,200,000 (15.03%)

Generic Theme:

3.1.: Clean technologies

Cleaner crushed-stone composition

Official title

Resin-free Liquid-Stone Process elimination of synthetic polluting resins and toxic solvents used in the production of decorative elements in bass-relief with high artistic contents, substituted by eco sustainable and natural raw materials imparting

Background

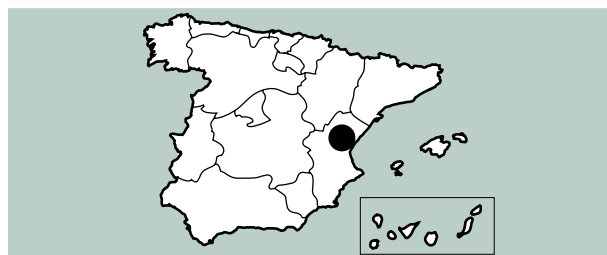
'Artificial stone' products used in the ceramic and building sector are currently obtained by mixing crushed-stone aggregate with a polymeric bonding agent (polyester) at a controlled temperature. Their production has several negative environmental aspects, including:

- A high consumption of thermal and electric energy, raw materials and water.
- The generation of substantial quantities of solid waste, including sludge containing high concentrations of toxic chemicals harmful to health.
- The emission of large quantities of pollution to the atmosphere, including CO₂ and fine particles.

Objectives

The aim of the project is to reduce pollution by completely avoiding the use of polyester resins, volatile solvents and hazardous pigments in the production of 'artificial stone' decoration. A more environmentally friendly product will be obtained through the cold-casting of a composition of crushed-stone aggregate and a hydraulic binder, whose hardening will take place in purpose-built, humidity-controlled chambers and at temperatures under 35°C. This will reduce energy consumption and avoid the use of hazardous toxic substances. The resulting product will have higher physical resistance and require only a minimum of the finishing and trimming that currently produces high volumes of non re-workable waste.

LIFE06 ENV/E/000001
ReLiStoP



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

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Name of contact person

Salvatore Muci

Duration of project:

36 months (Oct 2006 – Sept 2009)

Total budget in euro:

4,031,604

EC contribution in euro with %:

1,047,856 (25.99%)

Generic Theme:

5.1.: Eco-friendly products - Eco-design - Green financial products

New uses for drink carton waste

Official title

Converting Laminates into Energy and Aluminium for the benefit of Nature

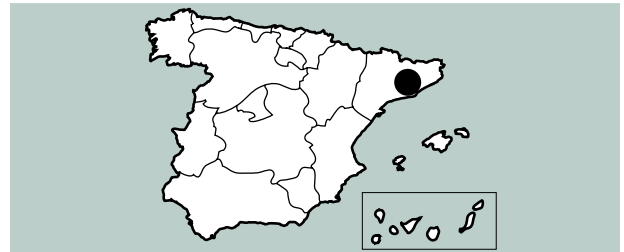
Background

In Europe, over 1,000,000 tons per year of drink cartons are being used by the European consumer and thrown away after consumption. More and more of these drink cartons are now being recuperated in various types of collection schemes (29% in 2004). The 300 000 tons recovered are processed in the paper industry, where the paper fibres (210,000 tons) are fully recycled into new paper products. However, the plastic-aluminium layers in the packaging of the drink cartons (>30% of the packaging) cannot be processed further which results in an annual solid waste stream of 90,000 tons that has to be disposed of, very often ending up in a landfill.

Objectives

The CLEAN project aims to demonstrate a recycling solution for a specific type of solid municipal waste – plastic aluminium laminate, which comes from used drink cartons. Many years of development has lead to a new technology that is able to recycle the laminate waste, by separating the aluminium for re-use in the aluminium industry and generating green electricity. The project will involve building and starting operations of a demonstration facility to recycle this drink carton laminate waste at an industrial scale.

LIFE06 ENV/E/000010
CLEAN



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

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Name of contact person

Juan José Andreu

Duration of project:

28 months (Dec 2005 – March 2008)

Total budget in euro:

5,755,445

EC contribution in euro with %:

917,963 (15.95%)

Generic Theme:

4.6.: Packaging and plastic waste

Sound solutions for swine slurry

Official title

Environmentally-friendly management of swine waste based on innovative technology: a demonstration project set in Aragón (Spain)

Background

With over 8.7 million pigs produced yearly, pig production is a sector with major economic and social relevance in Aragón. However, concentrated in certain local areas, pig-related livestock activities generate a slurry volume of 8.5 million m³ per year and are responsible for pollutant emissions from non-point sources to surface water, ground water and air (including unpleasant odours).

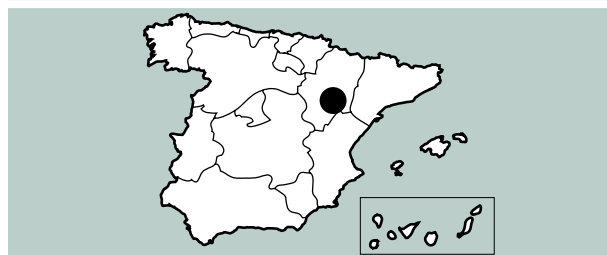
The Regional Government of Aragón has recently implemented the Integrated Waste Management Plan of Aragon (GIRA) that addresses the need of finding a comprehensive solution to the environmental and social problems caused by waste. The plan aims to reduce waste generation and enhance reusing and recycling.

Objectives

In line with the EC's Directive on Integrated Pollution Prevention and Control (IPPC), the project aims to improve the management of swine waste so as to minimise its environmental impact. An integrated management model able of responding to different locations and circumstances will be developed and demonstrated at three sites in Aragon: Tauste, Maestrazgo and Penyarroya. The approach, which will closely involve farmers, will:

- Reduce soil, water and air contamination, focusing especially on nitrate from non-point sources.
- Maximise nutrient recycling through the valorisation of the pig slurry.
- Improve economic efficiency and minimise the energy requirements of waste management through collective action.

LIFE06 ENV/E/000044
ES-WAMAR



Beneficiary:

Type of beneficiary

Development agency

Name of beneficiary

SODEMASA - Sociedad de Desarrollo Rural de Aragón S. A. U.

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Name of contact person

Arturo Dauden Ibáñez

Duration of project:

36 months (June 2006 – June 2009)

Total budget in euro:

6,899,568

EC contribution in euro with %:

2,564,163 (37.16%)

Generic Theme:

4.4.: Agricultural waste

AD biogas for CHP for SOFC

Official title

Design and demonstration of 4 CHP plants using two 5 kW solid oxide fuel cells (SOFC) working with landfill gas and biogas from anaerobic digestion

Background

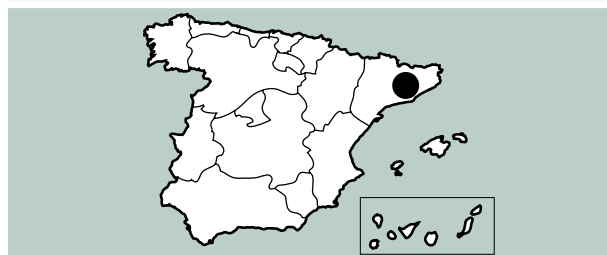
Some sectors of the agro-food industry generate a significant flow of residues with high organic content. Environmental problems associated with decomposing organic waste and manure include surface and groundwater contamination and air pollution caused by methane, as well as ammonia and unpleasant odours. Landfills already produce a third of the methane emissions contributing to climate change. The European landfill directive therefore aims to reduce the disposal of biodegradable waste in landfills (the main source of the methane they produce) and to push landfills to set up installations for the collection and recovery of the generated methane.

Objectives

The project intends to demonstrate the environmental and economic benefits of using a combined heat and power (CHP) system based on solid oxide fuel cells (SOFC) fed with biogas. The biogas will come from the anaerobic digestion (AD) of the organic waste produced in a slaughterhouse, from different landfills, and, if possible, from mining. Plants set up at four waste disposal sites will co-generate electricity and heat to be used by the installations themselves. The system's performance will be tested using different biogases and biogas upgrading systems. The project should result in a safer, cleaner, energy-efficient and more cost-effective means of disposing of municipal waste and that from the agro-food industry.

LIFE06 ENV/E/000054

BioSOFC



Beneficiary:

Type of beneficiary

International enterprise

Name of beneficiary

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Name of contact person

Ignacio Gubianas Monge

Duration of project:

37 months (Dec 2005 – Dec 2008)

Total budget in euro:

2,055,473

EC contribution in euro with %:

616,305 (29.98%)

Generic Theme:

4.2.: Industrial waste (including manufacturing)

Pelletized biofuels

Official title

Innovative method for reduction of emissions of greenhouse gases and waste from the agriculture sector

Background

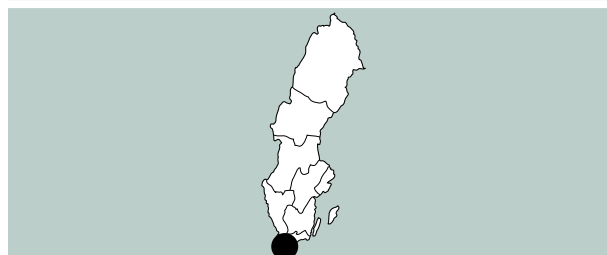
It is increasingly understood that the utilisation of the fossil fuels is leading to climate change due to the discharge of greenhouse gases. The challenge is to find alternative energy sources. Biomass as an energy source is considered "carbon dioxide neutral" since the incineration of it only releases the volume bound in the biomass during its growth. Replacing fossil fuels with biomass would be a way of decreasing the discharge of greenhouse gases.

Objectives

The objective of the BIOAGRO project is to demonstrate an innovative method to produce and use high quality pelletized fuel from grain, grain waste, seeds and grass on a small scale. The production method used to make the pellets would be flexible enabling quick changes of raw materials and recipes, with and without additives.

LIFE06 ENV/S/000517

BIOAGRO



Beneficiary:

Type of beneficiary

Small and medium sized enterprise

Name of beneficiary

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Name of contact person

Sven-Olof Bernhoff

Duration of project:

42 months (Jan 2006 – June 2009)

Total budget in euro:

5,226,500

EC contribution in euro with %:

1,211,625 (23.18%)

Generic Theme:

3.3.: Reduction of emission of greenhouse gases

Managing realignment in estuaries

LIFE06 ENV/UK/000401
MR Mo ToWFO



Official title

Managed Realignment Moving Towards Water Framework Objectives

Background

Managed realignment in estuaries (also known as 'retreat' or 'setback', whereby sea walls are breached or neglected to allow land to become intertidal) is a favoured option for flood defence, as well as for replacing lost intertidal habitats. An increase in managed realignment is expected throughout Europe due to climate change and associated sea level rise.

Currently, guidelines are lacking to ensure that managed realignments help to achieve the objectives of the Water Framework Directive (WFD) while respecting the requirements of the Birds and Habitats Directives.

Objectives

The aim of the project is to identify appropriate indicators and measures that ensure that managed realignments in estuaries do not go against the objectives of the WFD. Monitoring arrangements at existing managed realignment sites (MRSs) in Europe will be reviewed. In partnership with managers of realignments in estuaries, the project will determine methods necessary to promote a good status of transitional waters. Furthermore, guidelines will be developed and disseminated for experts creating and managing realignment..

Beneficiary:

Type of beneficiary

Regional authority

Name of beneficiary

Environment Agency

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Name of contact person

Philip Winn

Duration of project:

36 months (Oct 2006 – Sept 2009)

Total budget in euro:

900,732

EC contribution in euro with %:

417,232 (46.32%)

Generic Theme:

3.3.: Risk assessment - Pollution control

Modelling catchment processes

Official title

Bringing the OpenMI-Life

Background

The Water Framework Directive demands an integrated approach to water management. This requires an ability to predict how water catchment processes will interact. In most contexts, it is not feasible to build a single predictive model that adequately represents all the processes involved. Therefore, a means of linking the models of individual processes is required. This need addressed by the Fifth Framework Programme's (FP5) HamonIT project, which developed a system known as the Open Modelling Interface and Environment (OpenMI).

Objectives

The purpose of this project is to transform the OpenMI from a research output to a sustainably operational product. The project will build the capacity to use the OpenMI and will demonstrate it in real life situations. It will also demonstrate the functioning of the system's technical support and coordination. Finally, information about OpenMI will be disseminated to potential users.

LIFE06 ENV/UK/000409
OpenMI-LIFE



Beneficiary:

Type of beneficiary

Research institution

Name of beneficiary

Natural Environment Research Council

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Name of contact person

Brian Butler

Duration of project:

40 months (Oct 2006 – Jan 2010)

Total budget in euro:

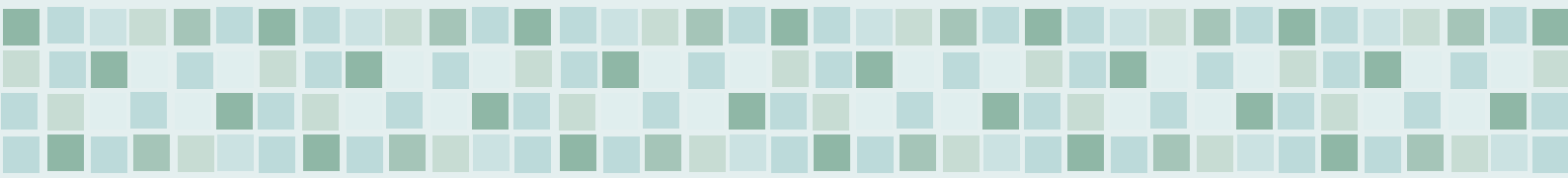
4,002,656

EC contribution in euro with %:

1,988,628 (49.68%)

Generic Theme:

2.1. Water management at the scale of the river basin



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