Introduction to LIFE-Environment projects 2004

LIFE Environment 2004: Commission supports 105 environmental innovation projects with EUR 76 million

The European Commission has approved funding for 105 environmental innovation projects in 19 Member States under the LIFE Environment programme 2004. The projects apply ground-breaking technologies to tackle environmental problems in several areas, thus contributing to improving Europe’s environment. LIFE Environment is one of three funding strands under the EU’s environmental funding programme LIFE whose goal is to support the implementation of EU environmental policies and legislation. Funding under LIFE approved in 2004 totals EUR 160 million.

“There are ever more efficient and more creative environmental technologies out there, which greatly minimise negative impacts of our activities”, said Environment Commissioner Margot Wallström. “LIFE Environment supports the development of new methods to implement EU environmental legislation. With that, it contributes to a healthier environment and a better quality of life for us all.”

LIFE Environment in 2004

105 projects were selected in 2004. The EUR 76 million in funding provided by LIFE-Environment strand of the LIFE programme will cover approximately 33% of the project costs. The remaining 67% will be provided by the beneficiaries, partners and co-finance.

Integrated product policy takes the lead with 29 projects in this area (26% of projects selected). Out of those, 18 projects target integrated environmental management audit systems (i.e. EMAS), while the remaining projects deal with eco-design, eco-efficiency, eco-labelling and green financial products.

Another 24 (21%) projects seek to mitigate the environmental impact of economic activities, covering clean technologies and reduction of greenhouse gases. A further 22 projects (19%) focus on integrated environmental considerations, which includes urban environment, air quality and noise abatement, integrated coastal zone management, land-use development and planning and sustainable tourism.

Sustainable management of water resources follows with 20 projects (18%), which cover river basin management, groundwater protection, wastewater treatment and diffuse and dispersed sources of pollution. Finally, 18 projects (16%) are about prevention, recycling and sound management of waste, dealing with packaging and plastics, hazardous and problematic waste, waste important in volume and management of waste streams.

Background

LIFE Environment is part of the LIFE programme. Established in 1992, LIFE is the EU’s financial instrument supporting environmental and nature conservation projects throughout the EU, in candidate countries and in some neighbouring regions. The general objective of LIFE is to contribute to the development and implementation of EU environmental policy by financing specific actions. The two other components of LIFE, LIFE Nature and LIFE Third Countries, focus on nature conservation, and environmental protection in a number of neighbouring countries. Since 1992, some 2,400 projects have received EU funding under the LIFE programme, representing an EU contribution of EUR 1.4 billion to the protection of the environment.

More detailed information on each project is available at: http://europa.eu.int/comm/environment/life/project/index.htm.
## Index of projects selected in 2004

<table>
<thead>
<tr>
<th>Location</th>
<th>Projects number</th>
<th>Title of project</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUSTRIA</td>
<td>LIFE04 ENV/A/000006 KAPA GS</td>
<td>Tackling air pollution in Klagenfurt</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/A/000007 MLC</td>
<td>Reducing the electronic waste mountain</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/A/000009 EWI</td>
<td>Safely sealing waste</td>
</tr>
<tr>
<td>BELGIUM</td>
<td>LIFE04 ENV/B/000017 OMERUS</td>
<td>Advanced integrated circuit cleaning</td>
</tr>
<tr>
<td>DENMARK</td>
<td>LIFE04 ENV/DK/000067 NEW POTATOPRO</td>
<td>Greater efficiency for European potato starch production</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/DK/000070 SUPER RUBBER</td>
<td>Rubber powder bounces back</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/DK/000071 DOGME</td>
<td>Better municipal environmental management</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/DK/000076 OSIS MARINE TRANSPORT</td>
<td>Cleaning up the oceans</td>
</tr>
<tr>
<td>FINLAND</td>
<td>LIFE04 ENV/FIN/000299 EQUINELIFE</td>
<td>A model for greater horse power</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/FIN/000300 RAMAS</td>
<td>Assessing arsenic</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/FIN/000304 ENVIFACILITATE</td>
<td>Tools to improve environmental decision-making</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/FIN/000308 LANDSCAPE LAB</td>
<td>Laboratory for sustainable tourism</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/FIN/000309 ECOMASS</td>
<td>A greener sporting life</td>
</tr>
<tr>
<td>Location</td>
<td>Projects number</td>
<td>Title of project</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------</td>
<td>------------------</td>
</tr>
<tr>
<td>FRANCE</td>
<td>LIFE04 ENV/F/000318 GEDEON</td>
<td>Focus on forestry</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/F/000319 AGRI-PERON</td>
<td>Fighting pollution of the Peron</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/F/000320 WILWATER</td>
<td>Willow as a final filter for wastewater</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/F/000321 ECO-CAMPS</td>
<td>Greener camping</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/F/000331 FUEL CELL IN PARIS</td>
<td>Paris pilot for emission reducing fuel cell</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/F/000337 ZNP</td>
<td>Properly managed pigs</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/F/000340 SHMILE</td>
<td>Encouragement for ELTAS</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/F/000343 OPTIGEDE</td>
<td>Taking waste management to the next level</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/F/000344 SMAD</td>
<td>A greener future for dialysis</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/F/000350 SWAP-CPP</td>
<td>Protecting against pesticides</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/F/000353 ACADEMY</td>
<td>Eco-management for the aerospace industry</td>
</tr>
<tr>
<td>GERMANY</td>
<td>LIFE04 ENV/D/000041 TRAFODECON</td>
<td>Managing the PCB legacy</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/D/000047 RESOLVED</td>
<td>Making photovoltaic technology green</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/D/000051 ODOUR SCRUBBER</td>
<td>Controlling odorous emissions</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/D/000052 ECOSTEP</td>
<td>An EcoStep in the right direction for SMEs</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/D/000054 UFIPOLNET</td>
<td>Reducing the cost of fine particle measurement</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/D/000055 SUTOUREELM</td>
<td>A tool for greener tourism</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/D/000056 ZAK-PROCESS</td>
<td>Reducing waste with ZAK</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/D/000058 ENREM</td>
<td>New methods for better bathing water</td>
</tr>
<tr>
<td>Location</td>
<td>Projects number</td>
<td>Title of project</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td>GREECE</td>
<td>LIFE04 ENV/GR/000099 WATER AGENDA</td>
<td>Conserving water resources</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/GR/000110 ECOIL</td>
<td>Optimising olive oil operations</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/GR/000114 e-HOSPITAL EMAS</td>
<td>EMAS for health</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/GR/000129 GREEN MARATHON</td>
<td>Sustainable tourism for Marathon</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/GR/000137 S8-MED</td>
<td>Sending sustainable buildings back to school</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/GR/000138 IPP TEL</td>
<td>Better electronic products through eco-design</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/GR/000145 GREEN DRACHMA II</td>
<td>Joined up tourism in Halkidiki</td>
</tr>
<tr>
<td>HUNGARY</td>
<td>LIFE04 ENV/H/000372 ECOFILTER</td>
<td>Cleaner compost</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/H/000374 RETOXMET</td>
<td>Waste treatment in Hungary</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/H/000382 SZIGETKOZ-PROJECT</td>
<td>Preserving a unique European habitat</td>
</tr>
<tr>
<td>ITALY</td>
<td>LIFE04 ENV/IT/000409 OLÉICO</td>
<td>Solving the olive oil waste water problem</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/00414 N.E.S.S.</td>
<td>Cutting pollution in the Chiampo Valley</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000424 GE.C.O.</td>
<td>A new approach to coastal zones</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000437 P.H.A.R.O.S.</td>
<td>Better management of coastal leisure facilities</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000442 L.IN.F.A.</td>
<td>A fresh approach to Fraschetta</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000446 HIGHPLAN PIANALTO</td>
<td>Creating green connections in Pianalto</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000453 ROMAPERKYOTO</td>
<td>Reducing greenhouse gas emissions in Rome</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000454 OPTIMA-N</td>
<td>Monitoring nitrogen levels for better farming</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000463 BIOMASS</td>
<td>Tackling plastic overload in Liguria</td>
</tr>
<tr>
<td>Location</td>
<td>Projects number</td>
<td>Title of project</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>ITALY</td>
<td>LIFE04 ENV/IT/000478</td>
<td>District-wide application of EMAS</td>
</tr>
<tr>
<td></td>
<td>VENTO II</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000479</td>
<td>Cutting coastal pollution</td>
</tr>
<tr>
<td></td>
<td>EMMA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000480</td>
<td>Eco flower power</td>
</tr>
<tr>
<td></td>
<td>ECOFLOWER TERLIZZI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000488</td>
<td>EMAS in Abruzzo</td>
</tr>
<tr>
<td></td>
<td>ETICA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000489</td>
<td>Improving Protected Area Management</td>
</tr>
<tr>
<td></td>
<td>SELFPPAS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000494</td>
<td>Improving park life</td>
</tr>
<tr>
<td></td>
<td>AGEMAS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000500</td>
<td>Comprehensive water management</td>
</tr>
<tr>
<td></td>
<td>CAMI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000503</td>
<td>An integrated approach to groundwater</td>
</tr>
<tr>
<td></td>
<td>SERIAL-WELLFIR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000524</td>
<td>Kings of SIAM</td>
</tr>
<tr>
<td></td>
<td>SIAM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000526</td>
<td>EMAS to benefit North Milan</td>
</tr>
<tr>
<td></td>
<td>SENOMI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000538</td>
<td>New life for old televisions</td>
</tr>
<tr>
<td></td>
<td>PIRR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000547</td>
<td>Cross town traffic controlled</td>
</tr>
<tr>
<td></td>
<td>FREEWAY</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000565</td>
<td>The rural impact of roads</td>
</tr>
<tr>
<td></td>
<td>S.HI.D.R.A.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000583</td>
<td>Saving water in the textiles sector</td>
</tr>
<tr>
<td></td>
<td>PROWATER</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000588</td>
<td>Eco-friendly furniture</td>
</tr>
<tr>
<td></td>
<td>LAIPP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000589</td>
<td>New technology for tiles</td>
</tr>
<tr>
<td></td>
<td>EWG</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000594</td>
<td>Saving resources in Sicily through better building</td>
</tr>
<tr>
<td></td>
<td>S&amp;W</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000595</td>
<td>Reducing the impact of lead-acid batteries</td>
</tr>
<tr>
<td></td>
<td>PNEUMA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/IT/000598</td>
<td>Sparing the rods</td>
</tr>
<tr>
<td></td>
<td>ESD</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Projects number</td>
<td>Title of project</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>LATVIA</td>
<td>LIFE04 ENV/LV/000631 EMAS4NEWSTATES</td>
<td>Encouraging EMAS</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/LV/000633 ECOVENT</td>
<td>Lower energy use through better ventilation</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/LV/000634 ENCEERB</td>
<td>Cutting energy consumption in buildings</td>
</tr>
<tr>
<td>LUXEMBOURG</td>
<td>LIFE04 ENV/LU/000829 ZEOLITE</td>
<td>Zeolite refrigeration system aids fight against global warming</td>
</tr>
<tr>
<td>NETHERLANDS</td>
<td>LIFE04 ENV/NL/000652 SUSDRIGROW</td>
<td>Getting more from ground water</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/NL/000653 ECO-DOCK</td>
<td>Safer ship scrapping</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/NL/000656 AFCE-DEP</td>
<td>Reducing the risk of asbestos</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/NL/000659 ECCOTAN</td>
<td>New technologies for tanneries</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/NL/000661 TOURLINK</td>
<td>Turning package tourism green</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/NL/000663 SWEEP</td>
<td>Limiting pollution from herbicides</td>
</tr>
<tr>
<td>POLAND</td>
<td>LIFE04 ENV/PL/000673 ENVIRONMENT MANAGER</td>
<td>Promoting environmental performance in Poland</td>
</tr>
<tr>
<td>PORTUGAL</td>
<td>LIFE04 ENV/P/000687 WWTREAT</td>
<td>Optimising wastewater treatment</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/P/000716 STARTIPPP</td>
<td>Kick-starting IPP</td>
</tr>
<tr>
<td>SLOVAKIA</td>
<td>LIFE04 ENV/SK/000796 WASTEREDUCT PROPOX</td>
<td>Eliminating ‘priority hazardous substances’</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/SK/000797 URBECO FOOTPRINT</td>
<td>Awareness of global warming in Slovakia</td>
</tr>
<tr>
<td>Location</td>
<td>Projects number</td>
<td>Title of project</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>SPAIN</td>
<td>LIFE04 ENV/E/000184 ECORICE</td>
<td>Recycling rice residues</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/E/000195 ECOQUARRY</td>
<td>Better ecological restoration guidelines</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/E/000216 SIMPYC</td>
<td>Important port opportunities</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/E/000224 JELLY</td>
<td>Streamlining gelatine production processes</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/E/000237 GRAPE TANNINS</td>
<td>Better tannin production</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/E/000239 GESTINMER</td>
<td>Putting waste to work</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/E/000251 ECO-MINING</td>
<td>Developing kinder extraction technologies</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/E/000263 BIOSOIL</td>
<td>Re-greening brownfield sites</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/E/000269 HUMEDALES SOSTENIBLES</td>
<td>Friendly farming for wetland environments</td>
</tr>
<tr>
<td>SWEDEN</td>
<td>LIFE04 ENV/S/000765 BIORED</td>
<td>Improving pulp industry processes</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/S/000766 SLUDGE PROCESSOR</td>
<td>A better sludge solution</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/S/000770 WASTE REDUCTION</td>
<td>New life for underground cable waste</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/S/000774 BIOMAL</td>
<td>Managing animal by-products</td>
</tr>
<tr>
<td></td>
<td>LIFE04 ENV/S/000775 REP</td>
<td>A bio-oil powered future</td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>04 ENV/UK/000803 HAZRED</td>
<td>Partnerships for waste reduction</td>
</tr>
<tr>
<td></td>
<td>04 ENV/UK/000807 SURCASE</td>
<td>A systematic approach to water resource management</td>
</tr>
<tr>
<td></td>
<td>04 ENV/UK/000809 WATER-RENEW</td>
<td>Polishing waste water</td>
</tr>
<tr>
<td></td>
<td>04 ENV/UK/000815 ADVANCE</td>
<td>Turning financial market decision-making green</td>
</tr>
<tr>
<td></td>
<td>04 ENV/UK/000816 NEST</td>
<td>Easier EMAS</td>
</tr>
<tr>
<td></td>
<td>04 ENV/UK/000820 TWIRLS</td>
<td>Waste composting for a greener landscape</td>
</tr>
</tbody>
</table>
Tackling air pollution in Klagenfurt

Official title

Klagenfurt's Anti-PM 10 Action Programme in cooperation with Graz and the South-Tyrol.

Background

Air pollution is a serious problem in the cities of Klagenfurt, Graz and Bozen. On more than 35 days during the six month winter season, pollution currently exceeds the limit of 50 µg/m³ for particulate matter (PM10) laid down in the Directive 1999/30/EG, which sets limits on the amount of sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air.

Most of this pollution comes from motor vehicles and the heating of private homes. The measured PM10 concentrations even exceed the highest measured values in large European agglomerations such as London. For settled areas in southern alpine regions they represent a special problem.

Project Objectives

The project will address four objectives:

• It will aim to measurably reduce the PM10 and PM2.5 concentrations;
• To simulate the effects of different measures taken
• To inform the general public about PM10 concentrations according to Section 8 of Directive 1999/30/EG
• To carry out a cost-benefit analysis
Reducing the electronic waste mountain

Official title

The Multi Life Cycle Centre for electric and electronic equipment

Background

The world faces an ever-growing mountain of waste produced by the electronic appliance sector. Three factors contribute to this: the increasing number of electronic appliances; the fast pace of technological development; and reduction of product-lifespan. In 2000 alone, 10 Mio tonnes of waste from electrical/electronic equipment (WEEE) was generated, equivalent to four percent of the municipal waste stream.

The volume of WEEE is expected to grow by at least three to five percent per annum. Over 90 percent of WEEE is presently sent to landfill sites, incinerated or otherwise disposed of without any treatment. In order to eliminate or at least mitigate these problems, the EC created the WEEE Directive 2002/96/EC, which defines targets for the re-use and recycling of electronic products.

Project Objectives

- Implement a re-use and recycling system for WEEE
- Transform WEEE back into valuable products through recovery at the highest possible level, starting with re-use of the whole product down to the sub-assembly and component levels, and finally to the recycling of materials
  - Product re-use of 20,000 devices
  - Component re-use of 5 million components
  - Repair, refurbishment or upgrading of 10,000 products
  - Material recycling of 1000 tonnes

Beneficiary:

Type of beneficiary
SME

Name of beneficiary
Ecotronics Eco-efficient Electronics and Services GmbH

Postal address
Albert Schweitzer-Gasse 11
A-1140 Vienna
AUSTRIA
Phone: +43 1 786 46 03
Fax: +43 1 786 46 03-99
E-mail: info@ecotronics.biz

Name of contact person
Bernd Kopacek

Duration of project:
36 months (Sept 2004 – Aug 2007)

Total budget in euro:
2,842,527.00

EC contribution in euro with %:
740,258.00 (26.04%)

Generic theme:
4.7: Waste from Electrical and Electronic Equipment (WEEE)
Safely sealing waste

Official title

Ecological and Economical Waste Immobilisation

Background

Effective, long-term disposal of waste presents an on-going problem. Sealing technologies used at landfill sites have lifespans of several decades, yet this is still relatively limited and results in significant environmental risks and costly long term maintenance.

This project seeks to address this by using a technique known as ‘diagenetic inertisation’. Waste is mixed with a mineral compound, resulting in a compact material for depositing in landfill sites. This material is impervious to air and water and thus becomes inert. Furthermore, different types of waste can be treated as the compound can be formulated in different ways.

Harmful substances are neutralised by being combined permanently with the fine-grained mineral particles of the compound. The effectiveness of diagenetic inertisation has been proved over several years of research and testing.

Project Objectives

• Build a pilot plant and landfill site offering lasting security of waste and low on-going maintenance
• Demonstrate the economic benefits of diagenetic inertisation
• Create a detailed database to support use of the technique
• Set ambitious technical standards for the landfill waste industry, contributing to a cleaner environment for future generations

Beneficiary:

Type of beneficiary
Regional authority

Name of beneficiary
Umweltdienst Burgenland GmbH – UDB

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Name of contact person
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Duration of project:
34 months (Feb 2004 – Nov 2006)

Total budget in euro:
2,668,840.00

EC contribution in euro with %:
584,127.00 (21.88%)

Generic theme:
4.9 : General: Waste management
Advanced integrated circuit cleaning

Official title

Organic material and etch residue removal using supercritical CO$_2$ in back-end of line applications

Background

In advanced integrated circuit (IC) manufacturing, photore sist stripping in the BEOL (back-end-of-line) is accomplished through a process involving dry ashing and wet cleaning. Rinsing and drying of the wafer also takes place. These processes are time consuming and involve significant usage of energy and water. Moreover, wet processes are limited in their effectiveness in removing residues, and can have some damaging effects, such as swelling of porous materials.

One solution to this could be the use of supercritical CO$_2$ (scCO$_2$), which has liquid-like solvating properties, but is also highly diffusive and has no surface tension. ScCO$_2$ cleaning offers the potential to allow effective residue removal and rinsing/drying of the wafer in a single step.

Project Objectives

The project sets out to demonstrate a scCO$_2$ cleaning prototype in a semi-industrial environment in which 200 mm sized wafers are processed. The project will assess particle cleanliness and compatibility with advanced porous materials, which are the major potential obstacles for the technology. The process offers benefits in terms of developing a clean technology with energy and water saving advantages.
Official title

Novel energy efficient process for potato protein extraction

Background

The EU produces 50 percent of the world’s potato starch. The production process is highly dependent on large amounts of water and energy. Discharges of wastewater rich in organic matter from the factory of the beneficiary alone add up to 2.9 million person equivalents. Energy consumption meanwhile runs at 1000m³ of natural gas per hour.

One product of the process is de-natured potato protein, valuable for animal food production. This protein is present in the wastewater from the potato starch production process. Final disposal of wastewater from Danish potato starch production is done by spreading it over agricultural land.

Project Objectives

The project aims to demonstrate an innovative and environmentally-friendly potato protein extraction method. In doing so, two objectives of the Sixth Environmental Action Plan will be met: increased energy efficiency (40 percent reduction expected) and more efficient use of resources through significant waste reduction (10 percent reduction of wastewater expected). End product quality will also increase.

The improvements will be twofold:

• A better heating and heat exchange system for the process, along with better decanting and drying of the end product
• A system for separating the potato proteins into fractions, including pre-evaporation of the potato juice and improved heat exchange
Rubber powder bounces back

Official title
Conversion of scrap tyre powder to superior rubber products by dense phase techniques

Background

Most scrap tyres are sent to landfill sites, used as fuel or re-used in harbours or in agriculture. A small proportion – 10 to 20 percent – is milled to produce rubber powder. This can be added to asphalt and used as a surface covering, but has an unpleasant smell and limited adhesive qualities because of oil residues.

However, a more environmentally friendly method for producing a higher quality raw material is available. It enables oil and other residues to be extracted from the rubber powder. The method uses high pressure gas and has been patented by the beneficiary.

Project Objectives

The project sets out to demonstrate that the laboratory developed process for better milling of rubber can be used on a semi-industrial scale. The project will also show that the rubber powder thus produced can be used effectively in plastics, coatings, resins, water-proofing, paving and other products and applications.

A design for a full-scale rubber powder treatment plant will also be prepared as part of the project, thus setting the basis for a full-scale process for disposing of scrap tyres without recourse to landfill or shredding, both of which are, or are due to be, banned in the EU.
Better municipal environmental management

Official title

‘Dogme 2000’ – a model for environmental management on the municipal level

Background

Municipalities are central to local environmental initiatives and management. In recent years, however, their task has grown more complex, with new legislation and activities related to local Agenda 21. There is consequently a requirement for better methods for coordination and prioritising. Some municipalities have used the EU Eco-Management and Audit Scheme (EMAS), but have found it too complex and demanding, and more suitable for larger organisations.

The Danish DOGME model is an alternative. Developed in 2000, it is well-suited to the needs of municipal institutions. However, the DOGME model is currently not comprehensive, lacking tools in some areas, such as chemicals, green accounts and audits.

Project Objectives

The project will develop the DOGME environmental management model so that it can be adapted for use by other Danish and European municipalities. The range of tools and techniques available through DOGME will be extended to create a more comprehensive model. This will be brought together in a DOGME handbook, which will be a boost for implementation of environmental management in European municipalities and constitute an important step in propagating EMAS at the municipal level.
Cleaning up the oceans

Official title
Oil Spill Identification for Marine Transport

Background
Marine transportation accounts for one third of global oil pollution, according to recent estimates. Oil spills from vessels are a serious threat to the marine environment. Spills in ‘special areas’ defined by international conventions are theoretically targeted by legislation, but this is hard to enforce because of lack of appropriate technology. Existing methods, such as air surveillance, are expensive.

A system of sensors was developed in a former LIFE project – OSIS (Oil Spill Identification System). This system involves permanently mounted sensors communicating with the shore via a satellite link. The system works well with offshore structures such as oil platforms but cannot be directly applied on moving ships.

Project Objectives
The project will further develop the OSIS technology, creating a sensor and transmission system suited to the special conditions relating to ship transport. The project will address best ways of measuring in a three-dimensional environment from a moving vessel, and effective data-transmission from a ship constantly changing its geographic position.

Overall, the project seeks to reduce oil pollution through better monitoring and control. An effective system will enable wider ratification of environmental legislation and conventions relating to the designation of marine ‘special areas’.
A model for greater horse power

Official title
A performace and marketing model for an ecologically and ethically sustainable equine sports

Background
The European equine industry generates some 4 percent of the total income derived from agriculture in Europe, where there are nearly 12 horses per 1000 population. However, most businesses operating in the sector are small and face a range of problems from welfare of horses (e.g. in respect of transportation, medicine use, generation of waste), to environmental load from grazing activities, land usage issues and so on.

Changing public awareness and new regulation (some parts of the equine industry are regulated by the CAP), mean there is a need for better management tools addressing issues such as sustainable development.

Project Objectives
The EquineLife project aims to develop a performance model for ecologically and ethically sustainable equine sports, based on EMAS (Eco-Management and Audit Scheme). The environmental, ethical and safety issues surrounding equine sports, horse training and horse stables will be evaluated. A management system will be designed addressing these issues, and an implementation handbook will be produced. The project outcomes will be independently audited.
Risk assessment and risk management procedure for arsenic in the Tampere region

Arsenic is classified as a group 1 human carcinogen. Drinking water is the main source of inorganic arsenic in humans. The World Health Organisation recommended limit is 10 µg/L. Lung, bladder and skin cancers can result from concentrations of 50 µg/L or more. Arsenic intake levels in Europe vary from 63 µg/day in England to 286 µg/day in Spain. Arsenic is also released into the environment by other means, for example from the production of ceramics, and use of wood preservatives and fungicides.

The project will create a risk assessment and management procedure for areas where arsenic is present. Tampere in Finland has elevated arsenic levels generated by a range of sources. Health and environmental risks have not been fully assessed – the project will correct this.

This will impact on land-use planning, and allow remedial action to be taken where necessary. The acquired expertise can be applied in other parts of Finland and, with some modifications, elsewhere in the EU.
Tools to improve environmental decision-making

Official title

Integration of spatial environmental information across different themes, scales, resolutions and uses: added value of facilitating mechanisms

Background

Many poor environmental management decisions are made in Europe. Planning mistakes can be caused by insufficient information. The results of this can include, for example, uncertain habitat protection (due to lack of information about species), and poor recreational planning (due to lack of knowledge about pollution sources).

Environmental spatial information is essential for good decision-making and for avoidance of conflicts. Integrated planning loses its credibility and effectiveness when the information on which it is based has been vague.

Project Objectives

The project will facilitate availability and use of environmental spatial data in Europe. The project will develop tools for information exchange between organisations. New uses for environmental spatial data will also be sought. Practical demonstrations will take place in Finland, Estonia and Latvia. The project will explore and expose use of spatial information and networks in environmental decision-making and will generate a body of knowledge for use in other EU countries.
LIFE04 ENV/FIN/000308
LANDSCAPE LAB

Official title

Tourist destinations as landscape laboratories – tools for sustainable tourism

Background

Tourism accounts for 5.5 percent of EU GDP. The EU has an action plan to assist tourism, which addresses environmental questions and sustainable tourism. Several EU Member States require environmental impact assessments to be conducted as part of the development of new tourism projects. Seeing tourist destinations as landscape laboratories where tools for sustainable development are developed and demonstrated can help in this process. A number of EU Member States have launched local visitor management initiatives to manage the environmental impact of tourism.

Project Objectives

The project will test the idea of landscape laboratories in the Ylläs-Levi area in Finnish Lapland. A tool-kit for assessing the sustainability of outdoor nature-based tourism will be created and demonstrated. A monitoring package of ecological, cultural and social indicators will be produced.

The project will disseminate knowledge of the current state and evolution of the use of sustainable tourism management and land-use planning. This will help prevent negative environmental impacts from tourism, improve the environment at tourist destinations and provide hardy plant species for possible restoration actions. A multidisciplinary planning and management forum will also be created.
A greener sporting life

Official title
Eco-Efficient Mass Event EMS manual

Background
Waste and negative impacts caused by transportation are two of the major areas of environmental concern in Europe. In relation to mass events, such as sporting tournaments, significant environmental stresses can be caused by transportation of athletes, organisers and spectators. Use of green energy in these circumstances needs to be encouraged, as do efficient energy solutions to reduce CO2 emissions, and avoidance through development of waste management strategies.

Project Objectives
The project will develop a best practice methodology and model for managing and improving environmental performance at mass events, in particular sporting events. The management model will be based on EMAS (Eco-Management and Audit Scheme), and will consist of the EMS framework, Eco-Efficiency Criteria and CO2 emission Management Module.

Testing of the model will be carried out at the World Athletics Championships, 2005. The manual will be available for mass events in the EU and accession countries, as well as for the International Association of Athletics Federations.

Beneficiary:
Type of beneficiary
University

Name of beneficiary
Helsinki University of Technology

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Name of contact person
Salla Koivusalo

Duration of project:

Total budget in euro:
419,040.00

EC contribution in euro with %:
204,866.00 (48.88%)

Generic theme:
3.2: Integrated environment management
Focus on forestry

Official title

Waste management in the forestry logging sector

Background

Forests are environmentally sensitive in that they are rich in flora and fauna. They are also perceived amongst the general public as a refuge for nature and wildlife, and so any human intervention in forests is assumed to be bad. However, forest products are important to the economy. The wood sector in France, for example, employs 500 000 people.

Forest exploitation includes felling and extraction of timber. These activities generate many types of waste, including lubricants, batteries, hoses, chains, guide bars, paint cans and so on from machinery. However disposal of these wastes is not well organised.

Project Objectives

The project will implement effective waste management in the logging sector, with a focus on small contractors. Specifically, the project will:

• Define types and quantities of waste generated by forest exploitation, and identify chains for their collection and use
• Make logging professionals aware of their obligations concerning waste regulations
• Develop a network of collection points suitable for the forestry sector in significant geographical zones

Beneficiary:

Type of beneficiary
Professional association

Name of beneficiary
Association Forêt Cellulose

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Name of contact person
Philippe Monchaux

Duration of project:
32 months (Nov 2004 – Jun 2007)

Total budget in euro:
496,555.00

EC contribution in euro with %:
246,527.00 (49.64%)

Generic theme:
4.4: Agricultural waste
Fighting pollution of the Peron

Official title

Development and implementation of codes of good agricultural practice to reduce point source and diffuse pollution in the Peron catchment area

Background

The use of crop-protection products presents a number of challenges. There is a need to reduce environmental risks and to make farmers aware of practices designed for sustainable development, restoring and preserving the quality of the natural environment whilst guaranteeing the economic viability of farming.

Several EU Directives are relevant in this respect: 91/676/EC (protection of water against pollution caused by nitrates), 2000/60/EC (Water Framework Directive) and 91/414/EC (sustainable use of plant protection products).

Project Objectives

The project will define and promote codes of good agricultural practices including the installation of appropriate agricultural equipment and the use of scientific tools to reduce pollution. This will be done for the Peron river basin, involving the following steps:

- Diagnose causes of contamination in the Peron catchment area
- Devise a plan for agricultural practice improvement for each farm affected
- Implement the plan with assistance to farmers
- Quantify the practical impacts of the project
- Disseminate the outcomes on a European scale

Beneficiary:

Type of beneficiary
Professional association

Name of beneficiary
Chambre d’Agriculture de l’Aisne

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Name of contact person
Bruno Guerre

Duration of project:
36 months (Sep 2004 – Sep 2007)

Total budget in euro:
655,468.00

EC contribution in euro with %:
327,734.00 (50.00%)

Generic theme:
2.4: Diffuse and dispersed sources of pollution
Willow as a final filter for wastewater

Official title

To demonstrate the effectiveness as well as the environmental and economic interest to promote in Europe the culture of short rotation coppices of willow according to the Breton context of reconquest the water quality

Background

Sludge is applied to agricultural land because of its agronomic properties; however there are concerns that this could result in heavy metals entering the human food chain, although regulatory provisions and codes of practice reduce this risk. Use of sludge in this way also has consequences for the quality of the water supply.

Short rotation coppices of willow (SRC) are a potential answer to these problems. Wastewater rich in nutrients such as nitrogen and phosphorous, and which has already been through lagoonage and waste water treatment, can be applied to land used for willow coppicing, which is efficient for removing nutrients and other waste elements.

Project Objectives

The project will demonstrate the effectiveness in environmental and cost terms of SRC as a bio-filter for treatment of wastewater. SRC can also be used to limit accidental pollution close to lagoonage installations and drinking water collecting wells.

The project aims to introduce willow SRC on a sufficiently large scale for evaluation of plantation, care and harvest operations, and will demonstrate positive environmental impacts, such as on flora, fauna and CO₂ emissions.

Beneficiary:

<table>
<thead>
<tr>
<th>Type of beneficiary</th>
<th>NGO-Foundation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of beneficiary</td>
<td>AILE</td>
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<tr>
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</tr>
<tr>
<td>Name of contact person</td>
<td>Bernard Poirier</td>
</tr>
</tbody>
</table>

Duration of project:
42 months (Jul 2004 – Dec 2007)

Total budget in euro: 2,202,400.00

EC contribution in euro with %: 770,352.00 (48.00%)

Generic theme:
2.3 Waste water treatment
Greener camping

Official title

Eco-design and eco-engineering of buildings, amenities and accommodations in campsites

Background

There are at least 22,000 small and medium sized camping and caravanning holiday park companies in Europe, offering 10.8 million commercial tourist beds – more than the traditional hotel sector (8.7 million beds). Aquitaine has 718 campsites, 93,619 pitches and 13 million accommodation nights in 2001.

Campsite operators are investing more in facilities and services, including catering, swimming pools, nightclubs, water games areas and other construction. This results in increasing energy consumption, production of building waste, disturbance of ecosystems and habitats and, in particular, pollution caused by transportation of materials.

Project Objectives

ECO-CAMPS is an operational eco-design project. It will:

• Implement a demonstration tool to tackle environmental issues at the design stage of campsite buildings and facilities
• Reduce environmental impacts from construction and operation of campsite facilities
• Reduce risks related to exposure to natural dangers in campsites
• Show market demand for more environmentally friendly campsite facilities
• Reduce life cycle environmental impacts of two models of mobile home
• Implement European charters relating to campsite/holiday park management
• Promote good eco-practice to tourist industry operators and to tourists

Beneficiary:

Type of beneficiary
Regional authority

Name of beneficiary
Conseil Régional d’Aquitaine

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Name of contact person
Jean-Christophe Le Breton

Duration of project:
37 months (Nov 2004 – Dec 2007)

Total budget in euro:
808,526.00

EC contribution in euro with %:
402,013.00 (49.72%)

Generic theme:
5.4: Sustainable building
Official title

Installation of a fuel cell in Paris

Background

High temperature fuel cells offer a number of advantages: reduction of CO₂ emissions, primary and network energy savings and clean atmospheric releases. Builders of fuel cells, such as MTU and Siemens, have constructed cells for demonstration purposes for several sectors. However, marketing of the systems is not expected to start before 2008.

The use of such fuel cells for collective housing has not to date been tested in Europe.

Project Objectives

The project will install a high temperature fuel cell in a boiler-house in a 280-unit building in Paris. The objective is to reduce the amount of carbon dioxide released by thermal installations in the housing sector, which accounts for 19 percent of the EU’s greenhouse gas emissions.

The Paris pilot site will enable a better understanding of energy control problems in urban centres. The results of the project will be compiled and an assessment of the technology made and compared against conventional energy production systems.

Beneficiary:

Type of beneficiary
International enterprise

Name of beneficiary
Dalkia France

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Name of contact person
Jean-Luc Salle

Duration of project:
36 months (Nov 2004 – Oct 2007)

Total budget in euro:
6,451,170.00

EC contribution in euro with %:
1,560,690.00 (24.19%)

Generic theme:
1.2: Climate protection - Quality of air and noise abatement
Properly managed pigs

Official title

Zero nuisance piggeries

Background

Brittany, which has 7000 pig farms and 50 percent of total French swine production, produces 10 million tonnes of pig manure annually. This generates considerable problems: excess nutrient enrichment of soil and water; emissions of odours and greenhouse gases; and pathogenic micro-organisms.

None of the current processes for managing this waste take into account a global approach for improved pig farm management, including all waste streams (air, liquid and solid) and working conditions. Normally, pig manure is stored until is can be applied as fertiliser. This generates its own problems: odours and leaching of nutrients.

Project Objectives

The project will implement a global management strategy for the treatment of pig manure in pigsties. This will combine flushing technology with a membrane bio-reactor for the treatment of liquid manure and a compost system for the treatment of solid manure.

This process helps prevent anaerobic decomposition and reduces organic and ammonia content of manure. Reduction of the amount of ammonia released into the atmosphere will mitigate atmospheric pollution. The system is also expected to benefit the well-being of workers and animals.
Encouragement for ELTAS

Official title
Sustainable hotels in Mediterranean Islands and area – a demonstration project in Corsica, Sardinia and Halkidiki for EU-wide promotion of the EU eco-label on tourist accommodation service

Background
Tourism contributes 7 percent of EU GDP and two EU countries, France and Italy are in the top three most visited countries in the world. However, tourism has negative impacts. The concentration of tourist activities during specific periods of the year has an affect on the carrying capacity of natural and cultural tourist destinations.

Lack of local awareness and skills, combined with missing support structures and deficient information, means that even where environmentally-friendly solutions exist for the hotel sector, they are not implemented. With regard to the EU Eco-label, there is low awareness of the scheme, absence of cooperation and low ‘brand recognition’.

Project Objectives
The project will support effective EU-wide promotion and implementation of the Eco-Label on Tourist Accommodation Services (ELTAS), through demonstration actions in the Mediterranean region, and through raising awareness across the EU.

This will address a number of issues including: reducing energy consumption related to tourism accommodation; use of sustainable construction techniques in the sector; and promotion of local awareness and know-how about sustainability. ELTAS is due to be revised in April 2007, and the project will contribute to this revision.
Taking waste management to the next level

Official title
Local optimisation of waste management

Background
Numerous waste recovery schemes have been implemented in Europe over the last 15 years, including selective collection, sorting centres, composting, incineration plans and so forth. At the same time, waste producers, who are responsible for the ultimate destiny of their wastes from a regulatory standpoint, have implemented their own waste management solutions. In some places, especially in Germany, this has resulted in waste processing over-capacity at local authority level and to an increase in management costs incurred by local authorities and taxpayers.

Project Objectives
The project will develop an integrated waste management policy with the help of coordination tools and methods. These will set out to harmonise local and regional initiatives at the inter-communal level. Establishment of local government/business enterprise partnerships will be piloted to improve global waste management.

In this way, volumes of waste going to landfills will be reduced by 20 percent by 2010, through a focus on limiting waste production; reducing hazardous waste discarded with household waste; optimising user equipment and services; finding recycling and disposal solutions for different types of waste; and limiting waste management costs.

Beneficiary:
Type of beneficiary
National authority

Name of beneficiary
ADEME – Agence de l’Environnement et de la Maîtrise de l’Energie

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Nicolas Noyon

Duration of project:
36 months (Oct 2004 – Sep 2007)

Total budget in euro:
2,021,577.00

EC contribution in euro with %:
999,179.00 (49.42%)

Generic theme:
4.1: Municipal waste (including household and commercial)
A greener future for dialysis

Official title

SMAD

Background

Europe has 250,000 patients needing dialysis treatment and produces almost 38 million dialysis units annually. On average, patients require 150 treatments per year. The number of patients increases by 2-3 percent each year.

Liquid concentrates for dialysis are produced within central units and shipped to regional logistics platforms, then forwarded to central stores in destination countries before being sent to the end user. Thus large containers of concentrate are transported distances of 1000 to 1200km by road. Furthermore, waste generated by the liquid canisters is classified as hospital waste and incinerated.

Project Objectives

The project aims to create a new automatic mixer for production of acid concentrates for dialysis treatment from pharmaceutical salts in dry form. This will enable wastes to be reduced by 90 percent and road transportation by about 87 percent. Stock management can be improved as active material will be in a dry form. A further benefit will be felt in the quality and security of dialysis, for both patients and the personnel of dialysis centres.

Beneficiary:

Type of beneficiary
International enterprise

Name of beneficiary
SMAD Fresenius Medical Care

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Name of contact person
Thomas Graf

Duration of project:
36 months (Feb 2004 – Feb 2007)

Total budget in euro:
3,050,950.00

EC contribution in euro with %:
789,435.00 (25.93 %)

Generic theme:
4.3: Hazardous waste
Protecting against pesticides

Official title
Surface water protection against diffuse crop protection products release

Background
Pesticides (or crop protection products – CPP) pose significant risks to the environment and human health. They may enter the foodchain in different ways, including from runoff water. This contains soil particles and carries the CPPs absorbed into them from the fields towards watercourses.

In France in 2000, 440,000 analyses of water quality of surface and ground water were performed. In 90 percent of cases, surface water was affected by the presence of pesticides. 320 different substances were detected, 146 of them more than once.

Project Objectives
The project demonstrates a method for protecting surface waters against runoff of CPPs. This can improve agricultural practices. The project will:

- Precisely quantify CPP runoff in two worst case situations
- Provide a method and handbook for engineering cost-effective protection practices
- Provide a communication tool for describing the performance of surface water protection at the level of a homogeneous watershed: the impact index
- Create a lasting stakeholder forum for efficient use of water quality monitoring data, with the objective of deepening collaboration between the water quality community and the agricultural community

Beneficiary:
Type of beneficiary
Small and medium sized enterprise

Name of beneficiary
IRH Génie de l’Environnement

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Name of contact person
Georges Pottecher

Duration of project:
36 months (Nov 2004 – Oct 2007)

Total budget in euro:
1,149,387.00

EC contribution in euro with %:
562,663.00 (48.95 %)

Generic theme:
2.4: Diffuse and dispersed sources of pollution
Eco-management for the aerospace industry

Official title
Airbus corporate answer to disseminate integrated environmental management system

Background
Overall investment in environmental initiatives by the European aeronautical sector is low, in particular in comparison to the US. Fewer than 4 percent of ISO 14001 certified companies come from the aeronautical sector, which numbers 100 000 businesses in Europe.

Application of Environmental Management Systems has been handicapped by the limited nature of most schemes, which are ill-suited for the full life-cycle of a product such as an aircraft. A more integrated approach is needed to effectively support the forecast growth of various industrial sectors in the air transport industry.

Project Objectives
The project will develop an extended product and site-oriented environmental management system fully complying with ISO 14001 standards, and also addressing the current requirements of EMAS (Eco-Management and Audit Scheme), especially in relation to reporting aspects.

The beneficiary and partners will be pilot cases, with the end result of allowing the beneficiary to apply for EMAS registration.

Beneficiary:
Type of beneficiary
International enterprise

Name of beneficiary
Airbus S.A.

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Name of contact person
Bruno Costes

Duration of project:
36 months (Sep 2004 – Aug 2007)

Total budget in euro:
4,518,459.00

EC contribution in euro with %:
2,245,330.00 (50.00%)

Generic theme:
3.2: Integrated environment management
Managing the PCB legacy

Official title

PCB Transformer Decontamination for Re-Use and Decontamination of other PCB waste, with small-scale semi-mobile facilities, applied in pilot countries Poland and Greece (TrafoDecon)

Background

Electricity generation has left an environmentally problematic legacy in the form of Polychlorinated Biphenyl (PCBs), which were used as coolants in transformers and dielectrics in capacitors. Some 26,000 tonnes of PCBs were produced per year between 1929 and 1989. PCBs are linked to reproductive and immunotoxic effects in wildlife, and other environmental problems.

PCB-filled electrical equipment needs to be decontaminated so that it can be re-used. Waste oil from electrical equipment also needs treatment, as do other contaminated waste types such as capacitors, soil, debris and textiles.

Project Objectives

The project will:

- Develop a technology to decontaminate PCB transformers for re-use
- Reduce significantly the volume of PCB waste, and aiding the replacement of PCBs with safer alternatives
- Demonstrate a technology capable of decontaminating other PCB containing equipment and waste
- Install small-scale semi-mobile pilot facilities in Poland and Greece as part of a technology transfer aspect of the project

Beneficiary:

Type of beneficiary: International enterprise

Name of beneficiary: Envio Germany GmbH & Co. KG

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Name of contact person: Dirk Neupert

Duration of project: 28 months (Mar 2004 – Jun 2006)

Total budget in euro: 4,896,464.00

EC contribution in euro with %: 853,939.00 (17.43 %)

Generic theme: 4.3: Hazardous waste
Making photovoltaic technology green

Official title

Recovery of Solar Valuable Materials, Enrichment and Decontamination

Background

Cadmium telluride (CdTe) and copper indium diselenide (CIS) photovoltaic thin-film technologies are developing quickly – with accompanying growth of waste. Ensuring that photovoltaic technology is environmentally friendly is therefore a pressing concern. The priority is to apply state-of-the-art technology to manufacturing processes, operations and the end-of-life cycle so that environmental considerations are factored in from the start. Relevant EU Directives also provide an impetus for this.

Project Objectives

The project will recover raw material from semi-conductors and decontaminate remaining materials. Existing technologies will be optimised and recovery of semi-conductors from modules and their re-use in manufacturing of test cells will be demonstrated. Life-cycles, process sustainability, economic aspects, resource availability and socio-economic impacts will be analysed.

This will be done in three phases:

- Analysis and testing to select the most suitable and cost-effective solar cell material
- Demonstration of wet treatment to separate fine material (sandblasting agents, carrier and cell) from coarse-grained sandblasting material
- Evaluation of life-cycles, economic aspects and socio-economic impacts in relation to relevant EU Directives

Beneficiary:

Type of beneficiary
Research institution

Name of beneficiary
Bundesanstalt für Materialforschung und -prüfung

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Name of contact person
Lutz Giese

Duration of project:
36 months (Oct 2004 – Sep 2007)

Total budget in euro:
1,147,877.00

EC contribution in euro with %:
563,288.00 (49.07%)

Generic theme:
5.1: Eco-friendly products - Eco-design - Green financial products
Controlling odorous emissions

Official title

Demonstration of a closed circuit system resulting in substantial odour emission reduction and energy saving during oilseed pressing

Background

During pressing of rapeseed to make vegetable oil, steam containing large quantities of glucosinolat is released into the atmosphere. Measurements of odour strength (168 Mega Odour Units p/h) illustrate the serious consequences for people living near pressing plants, in terms of air pollution and air quality.

Washing the vapours using a scrubber, and condensing the steam and glucosinolate into a water tank can remove a large part of the glucosinolate.

Project Objectives

The project will develop an innovative heat exchanger for use in the rapeseed pressing process that will:

• Reduce overall energy demand by 5-8 percent
• Convert a standard heat exchanger to pre-heat oil seeds without loss of quality or risk of pollution
• Set up an integrated circuit to reduce air pollution and odour strength by at least 20-30 percent using natural means and without the need for additives
• Promote the findings to other oil seed mills, other industries with pre-heating requirements and that use steam heating, and other interested parties

Beneficiary:

Type of beneficiary
International enterprise

Name of beneficiary
Cargill GmbH

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Name of contact person
Thomas Rau

Duration of project:
37 months (Dec 2003 – Dec 2006)

Total budget in euro:
1,159,171.00

EC contribution in euro with %:
213,336.00 (18.40%)

Generic theme:
3.1: Clean technologies
An EcoStep in the right direction for SMEs

Official title

Implementation of an Integrated Management system for small and medium enterprises

Background

EcoStep is a system for SMEs (up to 50 employees) combining environmental, quality and labour protection management. Developed by Environmental Alliance Hessen, the system can be effectively implemented by SMEs and is supported by a new financing concept known as ‘Management Contracting’. It also puts companies in a position to obtain EMAS (the EU Eco-Management & Audit Scheme) at modest additional expense.

A modified version of EcoStep has also been developed for family farming businesses.

Project Objectives

The project will introduce the EcoStep management system in selected SMEs through workshops and consulting. This will be a step in:

• Making EcoStep operational in all European SMEs (up to 50 employees)
• Making EcoStep Viniculture the accepted model in the small-scale agriculture sector
• Enabling participating businesses to obtain additional accreditation (e.g. EMAS) will small extra expenditure

EcoStep implementation costs will be financed by cost savings from introducing the scheme. The project will generate environmental and economic benefits through reduced resource consumption and optimisation measures, and will spread awareness about environmental and labour protection legal obligations.
Reducing the cost of fine particle measurement

Official title

Ultrafine particle size distributions in air pollution monitoring networks

Background

Existing devices for measuring ultrafine particles are too costly for creating a European measuring station network. An affordable system – costing around one fifth of current devices – needs to be developed. This would support solutions for air quality problems.

A new standard for measuring ultrafine particles will be developed and discussed by a European Commission working group on environment and health. This will lead to new European guidelines for measuring ultrafine particles.

Project Objectives

The project aims to demonstrate an affordable ultrafine particle measuring device for pan-European implementation. Prototypes will be installed at high traffic concentration sites in Dresden and Augsburg (Germany), Stockholm and Prague.

The expected outcomes will be stable delivery of reliable data, available through a variety of measuring networks, with devices operating over one year. A report on the findings will be produced and the project results will be promoted to other institutions, authorities and the general public, as well as to the European Commission working group. A planned series of congresses, fairs and a final conference will underpin this.
Official title

Supporting Tourism Enterprises for Eco-Labelling and Environmental Management

Background

Sustainable tourism is a key challenge for European tourist destinations. However, managers in the tourist industry – of hotels, restaurants and camp sites, for example – often have only a limited knowledge of the environmental impact of their activities, and of possible measures for minimising damage to the environment. Moreover, they are often reluctant to commit time and money to environmental management issues.

Project Objectives

The project sets out to demonstrate the usefulness of a new computer tool for owners and managers of tourism-related businesses. This is part of a strategy to provide the necessary information and contribute to a systematic approach to environmental management.

Specific project objectives are:

- To demonstrate the environmental management benefits of continuous application of the new tool
- To demonstrate the transferability of the tool across different countries and sectors of the tourism business
- To demonstrate the usefulness of the tool for achieving the European Eco-label for tourism businesses (the ‘European flower’)
- To continuously improve the new tool

Beneficiary:

Type of beneficiary
University

Name of beneficiary
Universität Stuttgart

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Name of contact person
Christoph Weber

Duration of project:
30 months (Sep 2004 – Mar 2007)

Total budget in euro:
743,955.00

EC contribution in euro with %:
350,162.00 (47.06%)

Generic theme:
5.3: Sustainable tourism
**Official title**

Realisation of a 100 000 Mg/a plant with the newly developed ZAK-process with the aim to produce economically from domestic waste of high-value, quality-optimised, secondary combustible material

**Background**

The ZAK-process method for recovering valuable materials from domestic waste has been tested on semi-industrial scale – between 1996 and 2003, a four stage development process was undertaken, involving mechanical pre-treatment of waste, biological transformation, biological drying and mechanical separation.

Processing occurred to such an extent that most of the waste could be re-used or recycled as an energy or material source. Recovery of metals, minerals and combustible materials was particularly effective.

**Project Objectives**

The project seeks to confirm the economic and environmental benefits of the ZAK-process for residual waste treatment, whilst upgrading the process into a large-scale technical operation. The benefits will be measured during a research phase and by trialing an experimental plant.

This will involve construction and operation of a new system and demonstration of the reduction of greenhouse gases. Cost-effectiveness and reduction in residual materials compared to conventional plants will also be measured. The high value properties of the generated secondary combustible materials will also be demonstrated.
New methods for better bathing water

Official title
Enhanced Nutrients Removal in Membrane Bioreactor

Background
Proper treatment of wastewater, so that pollution of bodies of water and the phenomenon of eutrophication are avoided, is a worldwide challenge. The extent of the challenge is illustrated by the fact that many bathing waters in EU countries do not comply with EU regulations. Development of new and cost-effective processes is necessary to improve existing wastewater treatment systems.

Project Objectives
The project will carry out the first full-scale assessment of an innovative wastewater treatment process that combines enhanced biological phosphorous and nitrogen removal with post-denitrification together with a membrane bioreactor. This should improve removal of nutrients and pollutants in comparison with conventional plant performance.

A demonstration plant using this process will be built. It will collect local area sewage in the proximity of Berlin without any industrial or runoff water. Collected sewage will be treated so that it meets EU sensitive area and bathing water regulations.

Beneficiary:
Type of beneficiary
Research institutions
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Name of contact person
Francis Luck
Duration of project:
36 months (Jan 2004 – Dec 2006)
Total budget in euro:
3,417,378.00
EC contribution in euro with %:
562,463.00 (16.45%)
Generic theme:
2.3: Waste water treatment
Conserving water resources

Official title

Development and implementation of integrated water resources management policy to a river basin, through the application of a social wide local agreement based on the principles of Agenda 21

Background

The world’s water resources are under increasing pressure as a result of a growth in demand. The EU defines water, not as a commercial product, but as a heritage that must be protected, and water is a critical factor in development in many countries.

In some areas, overuse of water supplies results in desertification. There is a recognised need to combat long-term deterioration of freshwater quality and quantity. This requires action to underpin sustainable management and protection of freshwater resources.

Project Objectives

The project will:

• Develop and apply a sustainable water resource management policy in the Anthemounta river basin in northern Greece, in order to reverse the current trend of water resource degradation

• Integrate this policy into other sectoral policies in the wider area and across Greece

• Develop social, technical and administrative water resource management tools

• Utilise European good practice in water resource management, within the provisions of the Water Framework Directive and Agenda 21
Optimising olive oil operations

Official title

Life Cycle Assessment (LCA) as a decision support tool (DST) for the eco-production of olive oil

Background

Mediterranean countries have produced olive oil for centuries. In Greece, annual production is 430 000 tonnes and in Spain it is 950 000 tonnes. Italy, another major producer, provides 450 000 tonnes per year.

Environmental impacts are also produced by the olive oil industry. These arise from irrigation and application of insecticide; transportation; the olive oil milling process (producing mainly non-biodegradable waste with phytotoxic properties); and possible trace toxic elements in the olive oil itself.

Project Objectives

The project will design and implement a Life Cycle Assessment (LCA) covering the full cycle of olive oil production in Lesvos and Crete, Greece, and in Spain. An appropriate LCA methodology will be developed following assessment of the current situation.

Aspects of olive oil production such as tree cultivation, waste management and marketing, will be analysed and the results will allow redesign and optimisation of stages in the cycle. Specifications will be developed and actions recommended for improvement of procedures.

Beneficiary:

Type of beneficiary
University

Name of beneficiary
Technical University of Crete

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Name of contact person
Georgios Papadakis

Duration of project:
24 months (Nov 2004 – Oct 2006)

Total budget in euro:
839,575.00

EC contribution in euro with %:
419,787.00 (49.99%)

Generic theme:
5.1: Eco-friendly products - Eco-design - Green financial products
EMAS for health

Official title
EMAS in information technology in hospitals

Background
Environmental problems associated with hospitals mainly relate to waste generated as a result of hospital activities, for example infectious waste and chemicals from laboratories, chemicals from X-ray machines and others.

Due to the complicated nature of waste management processes in hospitals, the application of integrated environmental management is difficult. Staff members are often inadequately equipped to deal with and promote safe environmental practices.

Project Objectives

- To use the new EMAS (Eco-Management and Audit Scheme) regulation as a tool for developing environmental policies and action programmes in hospitals, and for establishing appropriate administrative structures;
- To introduce best practices in the health sector;
- To promote energy efficiency, sustainable waste management and green purchasing in Mediterranean hospitals;
- To promote integrated environmental management through the use of information technology;
- To develop an up-to-date software tool for EMAS in large organisations;
- To raise environmental awareness through EMAS implementation and use of information technology in hospitals and other organisations in Mediterranean countries.
Sustainable tourism for Marathon

Official title

Promoting sustainable tourism in multi-dimensional protected areas

Background

Schinias, in Marathon, Greece, is an area of international significance with unique ecological and cultural attributes, attracting over 1 million visitors each year. With the new Rowing Centre, which was constructed for the 2004 Olympic Games, and the newly formed Marathon National Park, the number of visitors and the pressure on the area’s natural resources are expected to greatly increase.

Project Objectives

The objective of the project is to promote sustainable tourism and accessibility in the Marathon National Park, a multi-dimensional protected area of historic, cultural and natural heritage. An integral part of the project is the promotion of environmental awareness and accessibility for the disabled. The project is built around five goals:

- Reducing the environmental impacts through Sustainable Tourism action plans;
- Improving environmental performance by implementing EMAS in all park activities;
- Making natural, cultural, historic and recreational attractions accessible to the disabled;
- Promoting environmental awareness and accessibility at European level;
- Encouraging behaviour modification for over 1 million people/year on sustainability issues.

Beneficiary:

Type of beneficiary
Development agency

Name of beneficiary
Municipality of Marathon Development Enterprise

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Name of contact person
Evangelos Mexis

Duration of project:
36 months (Nov 2004 – Oct 2007)

Total budget in euro:
790,949.00

EC contribution in euro with %:
377,896.00 (47.77%)

Generic theme:
5.3: Sustainable tourism
Sending sustainable buildings back to school

Official title

Enhancing transferability of innovative techniques, tools, methods and mechanisms to implement “sustainable building” in the Mediterranean region

Background

Buildings use huge amounts of energy during their lifespans. In Europe, roughly half of the energy consumed is used to run buildings. In addition, up to 26% of landfill waste comes from buildings, and 100% of energy used in buildings is lost to the environment. Urban climatic phenomena (the ‘heat island’ effect) dramatically affect building energy consumption. Because of this, the cooling load in a major southern European city is about double in the centre compared with the surrounding city.

These factors mean that environmental quality in buildings, with a focus on the minimisation of the environmental impact and on health and comfort for users, can be important for tackling environmental problems. Major environmental improvements can be made in Mediterranean cities as a result of implementing modern cooling and energy efficiency strategies. A priority is the rehabilitation of old buildings.

Project Objectives

The project aims to create a common understanding of the notion and practice of “sustainable building” in the Mediterranean region, enhancing transferability of ideas from Northern European countries that have already developed relevant expertise. Educational buildings will be used as a case study for exploring issues around sustainability of school buildings, and generating community involvement in sustainable design of such buildings.
Better electronic products through eco-design

Official title

Integrated Product Policy in the Telecommunication Sector

Background

Design for Recyclability (DFR) is an important concept for improving new products by making them more easily disposable when they reach the end of their life cycles, particularly in the case of electronic products.

Initial product design accounts for 80 to 90 percent of product cost because of material and process selection. The initial design stage is the most cost-effective point at which to address recyclability – an approach consistent with Total Quality Management (TQM) models. Recyclability can be enhanced by ease of disassembly, material identification, simplification and parts consolidation, and by material selection and compatibility.

Project Objectives

The project addresses eco-design and end of life management of telecommunication devices, with the following key objectives:

• Development of an eco-designed telecommunication device with minimal environmental impacts during its entire life cycle;
• Demonstration of an eco-efficient way to close the material and component loop, through developing eco-friendly ways of product reuse, disassembly, component reuse and recycling;
• Development of a model for eco-design and end of life management of other electronic products

Beneficiary:

Type of beneficiary
International enterprise

Name of beneficiary
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Name of contact person
Maria Anastasiou

Duration of project:
36 months (Oct 2004 – Sep 2007)

Total budget in euro:
1,286,550.00

EC contribution in euro with %:
355,744.00 (27.65%)

Generic theme:
5.1: Eco-friendly products - Eco-design - Green financial products
Joined up tourism in Halkidiki

Official title

Promoting sustainable development in the region of Halkidiki through concerted pilot actions on integrated product policy tools

Background

The tourist boom of the 1980s and the intense pace of development have put tremendous pressure on Greek tourist resorts, in terms of environmental protection and natural balance. Whilst tourism development has been concentrated in coastal areas, hinterlands have seen only slight economic benefits and continue to rely mainly on agriculture. Furthermore, although tourist resorts have boomed, development of infrastructure, human resources (e.g. training) and stimulation of the entrepreneurial culture has not kept pace.

Project Objectives

The project will address tourism development from the perspective of sustainability, laying the foundation for the transition from an intensive to a sustainable model of tourism in Halkidiki in Greece.

This will be done by:

- Promoting implementation of Integrated Product Policy (IPP) tools
- Linking the tourism economy with local agro-production and food industries
- Stimulation collaborative use of IPP tools with the support of local authorities

Collective action will be stimulated by specific planning and by development of an IPP benchmarking initiative, with a focus on SMEs and the objective of enhancing the local business culture.
Official title

Modern and environmental friendly composting methods of agricultural waste

Background

Agaricus bisporus – better known as the white button mushroom – has become an important food source. 1 million tonnes are produced by European mushroom producers annually. Pasturised mushroom compost – produced from straw and horse and chicken manure – is the basis for agaricus bisporus growing. However, the production of mushroom compost involves the release of large quantities of ammonia into the atmosphere. 12 000 to 14 000 tonnes of ammonia are released in Europe every year from these processes.

Project Objectives

The project will develop an environmentally sound clean technology for use in the composting agricultural sector. Presently, compost farms are aware of the urgency of addressing the ammonia emissions problem, but try to introduce solutions that have only a limited impact. Examples of these solutions include moving compost to other sites, using chimneys, and building bunkers or aerated floors.

There is also a concern that compost quality will be affected if new technologies are introduced. The project will address these issues.
**Official title**

Removal of toxic heavy metals from wastewater by special yeast produced by bioconversion on food byproducts – an integrated solution for wastewater treatment

**Background**

An isosugar-producing plant in Hungary generates 2000m³ of wastewater daily. The wastewater has high carbohydrate (COD@3500mg/l) and suspended matter (@1500mg/l) content. This is currently flushed into clean water streams, resulting in a daily deposit of 80m³ of activated sludge (dried matter content being around 3 percent) and continuously increasing yeast mass. This is hazardous because neither the amount nor the type of symbiosis-forming organisms can be precisely determined.

**Project Objectives**

The project will develop two semi-industrial plants. One will be suitable for bio-conversion of food industry waste or wastewater into a new kind of yeast mass. The second will be a demonstration plant removing heavy metals from wastewater. It is estimated that the project will be able to purify or treat at least 15 percent of food-industry by-products produced annually in Hungary.

The project will therefore aim to:

- Process, reuse and bio-convert locally food industry by-products, wastes and/or wastewater into yeast mass
- Develop an effective system to neutralise wastewater containing hazardous heavy metals.
Preserving a unique European habitat

Official title

Implementation of an innovative decision support tool for the sustainable water and land-use management planning and flow supplementation of the Hungarian-Slovak Transboundary Wetland Area (Szigetköz)

Background

Szigetköz is an island between the Mosoni-Danube and the ‘old’ Danube. It is 52km long and has an average width of 7-8km. It is composed of Pleistocene loose gravel sediment, which has an extremely good water holding capacity. The sediment layer can be as much as 400 m in width.

Because of the sediment layer, the Slovakian-Hungarian Transboundary Danube Wetland is one of the greatest drinking-water bases in Europe. The area is highly biodiverse and has a complex ecology, hosting unusual flora and fauna. There are many dead oxbow lakes on Szigetköz resulting in a widespread wetland area. In the lower parts of Szigetköz close to the rivers, there are as many as 67 plant-associations.

Project Objectives

The project will develop a sustainable water and land-use management decision support tool to achieve maximum efficiency in water policies relating to the EU’s Water Framework Directive.
Solving the olive oil waste water problem

Official title

A new application of phytodepuration as a treatment for the olive mill waste water disposal

Background

Waste water from the extraction process involved in producing olive oil is a significant cause of pollution, due to high organic carbon content (COD 30 – 150 g/l), especially in the form of phenols and polyphenols.

These compounds are not degraded by microflora and anaerobic digestion allows for only 80-90 percent COD removal, insufficient to permit effluent discharges into the environment. Other technologies are not cost effective because of the seasonal nature of production and the small size of extraction plants. Around 30 million cubic metres of waste is produced annually during a 3-4 month period, posing considerable problems for Mediterranean countries.

Project Objectives

The project will establish a demonstration plant using a new innovative approach to solve the problem of waste water in the olive oil industry. Dissemination and transfer of the new approach is also part of the project.

The new model will provide the olive oil producer with an efficient, economical and environmentally friendly disposal system. In addition, more ecologically-friendly use of natural resources (such as trees and soil) could result in greater profitability for olive oil producers.
Cutting pollution in the Chiampo Valley

Official title

New Eco Spray System

Background

The economy of Italy’s Chiampo Valley relies on the tannery industry. This has a number of major environmental impacts including high dispersion of highly dangerous finishing chemicals, high production of volatile organic solvents (VOS), solid waste in the finishing water, high electricity consumption, noise pollution and high water consumption.

Project Objectives

The project aims to reduce use of dangerous and polluting agents in the tannery industry of the Chiampo Valley, and to cut water and electricity consumption. This will be done through introduction of new technology, which will make it possible to eliminate dependence on VOS and tackle other environmental problems: elimination of solid waste, reduced noise pollution and water/energy consumption reduction.

Synthetic polluting chemicals will be replaced and new technologies will be introduced allowing to more efficient raw material usage.

Beneficiary:

Type of beneficiary
Small and medium sized enterprise

Name of beneficiary
SICA S.r.l.

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Name of contact person
Simone Voltolin

Duration of project:
36 months (Oct 2004 – Sep 2007)

Total budget in euro:
3,237,800.00

EC contribution in euro with %:
846,090.00 (26.13\%)

Generic theme:
3.1: Clean technologies
A new approach to coastal zones

Official title

Management of urbanisation processes of coastal areas. From the regional urban plan to bottom-up participation

Background

Coastal areas are threatened by increasingly serious conflicts amongst their users, and by institutional and political problems that may lead to a progressive, sometimes irreversible, decay. However, there is a lack of a holistic and integrated approach to address these problems. This is not due to an absence of tools, but rather to lack of coordination amongst stakeholders.

Project Objectives

The project will:

• Develop a model for planning and integrated management of coastal areas that are under pressure from urbanisation
• Test a strategic approach to planning and implementation of actions
• Apply EU guidelines to integrate competences, needs, techniques and resources
• Test a model of concerted actions, participation and dissemination
• Test a multidisciplinary training model representing different interests concerned with coastal zones
• Carry out pilot actions in coastal areas to improve environmental and social conditions, with the aim of wider and sustainable use of cultural resources
• Demonstrate the effectiveness of techniques of natural environment engineering with low environmental impact

Beneficiary:

Type of beneficiary
Regional authority

Name of beneficiary
Regione Sicilia
Assessorato Territorio e Ambiente – Dip. dell’Urbanistica - Servizio 1/DRU

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Name of contact person
Fabrizio Cimino

Duration of project:
36 months (Oct 2004 – Sep 2007)

Total budget in euro:
2,366,000.00

EC contribution in euro with %:
1,183,000.00 (50.00%)

Generic theme:
1.3: Sensitive area management (coastal, protected)
Better management of coastal leisure facilities

Official title

Playground harbour and research of sustainability

Background

Harbours and golf courses are spreading throughout North Western Mediterranean coastal zones (France, Spain, Portugal and Italy). They create environmental, territorial and social problems. ‘Districts’ comprising different golf courses linked to one another are emerging in response to demand from players for different types of facilities.

A range of tools exists to minimise the environmental impact of such development: Environmental Management Systems (EMS), Local Agenda 21 and other good practice guidelines. However, effective integration of these tools is lacking.

Project Objectives

The project will test, implement and disseminate integrated coastal zone management tools that will improve the environmental management of high impact activities such as golf clubs and harbours. Specifically, the project will:

- Test the adoption of EMAS II (Eco-management and audit system) by golf clubs and harbours (covering at least two tourist structures)
- Define guidelines for adoption of EMS in the management of golf clubs and harbours
- Integrate EMS and local and regional policies in the context of ‘Mediterranean coastline governance’
- Reinforce the regional planning and programming strategy by means of specific documents and guidelines

Beneficiary:

Type of beneficiary
Regional authority

Name of beneficiary
Regione Liguria

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Name of contact person
Daniela Minetti

Duration of project:
24 months (Dec 2004 – Dec 2006)

Total budget in euro:
1,444,986.00

EC contribution in euro with %:
722,493.00 (50.00%)

Generic theme:
3.2: Integrated environment management
A fresh approach to Fraschetta

Official title

LIFE-Environment interventions for Fraschetta Area: Innovative measures for the improvement of air quality and the reduction of noise in Fraschetta area

Background

Fraschetta, an area in the Eastern suburbs of Alessandria, is an important industrial district and creates associated impacts, such as concentrations of pollutants, noise and heavy transport use. The area was also formerly used for waste landfill.

Fraschetta also has a significant residential population. At present, steps to limit pollution are only taken when regulatory limits have already been exceeded – thus the approach is one of damage limitation rather than prevention.

Project Objectives

The project aims to build a new preventative approach to environmental problems in the Fraschetta area. This will involve creating an integrated culture to tackle problems, involving stakeholders such as public authorities, educational facilities and companies.

A new methodology for checking air quality and noise levels will be developed. Future planning will address the need to integrate environmental protection and sustainable development. This will be supported by the establishment of a set of environmentally aware decision-making and operating principles.
Creating green connections in Pianalto

Official title
A sustainable development plan for Pianalto

Background
Local policies are normally managed in a fragmented manner, with decisions being taken at municipal, provincial or regional level. Environmental decision-making seldom involves citizens in phases of planning.

A new approach is called for, involving environmental planning management covering territorial areas with similar environmental and land-use characteristics.

Project Objectives
The project will involve 19 municipalities in three provinces in the Pianalto area. It will target four sectors – eco-building, sustainable transport, waste management and natural landscape protection – and will use incentives, training and raising of public awareness to maximise opportunities for exchange of knowledge between municipal councils, citizens, associations and employers.

More environmentally advanced municipalities will be used as best practice models as part of an initiative to achieve better results across all the municipalities involved. A sustainable development plan for Pianalto will also be developed. Sustainable development principles will be disseminated through multi-level information campaigns.

Beneficiary:
Type of beneficiary
Development agency

Name of beneficiary
Agenzia Energia e Ambiente di Torino

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Name of contact person
Cristina Barbero

Duration of project:
36 months (Dec 2004 – Nov 2007)

Total budget in euro:
599,749.00

EC contribution in euro with %:
180,175.00 (30.04%)

Generic theme:
1.1: Urban design - Quality of life - Transport planning
Reducing greenhouse gas emissions in Rome

Official title

Realisation of Rome’s action plan to achieve the Kyoto Protocol’s objective of Greenhouse Gas Reduction

Background

Italy ratified the Kyoto Protocol on 30 May 2002, and has the objective of reducing its greenhouse gas emissions by 6.5 percent by 2012. This objective has been formalised in a National Action Plan, which was adopted in December 2003.

Achieving the target implies action at both national and local levels. The city of Rome must play its part in helping Italy achieve its target.

Project Objectives

The project will draw up an action plan for the city of Rome tackling greenhouse gas emissions, as part of the Italian target of a reduction in greenhouse gas emissions of 6.5 percent by 2012 (compared to 1990 levels). Expected results are:

- Collection of data and indicators on emission reductions achieved by pilot actions
- Demonstration of the effectiveness of Rome’s action plan through data produced by the pilot projects, and adoption of the action plan by the municipality of Rome
- Dissemination of information to citizens, explaining the plan’s objectives and its relevance, and to encourage citizen participation
- Sharing of information and results with other EU Member States and capital cities.

Beneficiary:

Type of beneficiary
Local authority

Name of beneficiary
Comune di Roma
Dipartimento X- Politiche ambientali ed agricole

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Name of contact person
Claudio Baffioni

Duration of project:
48 months (Oct 2004 – Sep 2008)

Total budget in euro:
2,285,250.00

EC contribution in euro with %:
1,085,125.00 (47.48%)

Generic theme:
1.2: Climate protection - Quality of air and noise abatement
Monitoring nitrogen levels for better farming

Official title

Optimisation of nitrogen management for groundwater quality improvement and conservation

Background

Agriculture, particularly intensive livestock production, contributes 60 percent of the nitrogen released into the soil and water of the Po Plain. Assessing the amount of soluble nitrogen in the environment during different periods of the year and in different climatic and cultivation conditions is an important knowledge-gathering process for optimising nitrogenous fertilisation of crops.

Project Objectives

The project will establish a network for nitrate monitoring. This will feed information directly to farmers via the Internet. Data will be available in real time and will help determine levels of nitrogenous fertilisation in response to real nitrogen availability in the soil.

This will help evaluate the contribution to nitrogen pollution made by agriculture, and foster the application of environmentally and economically sustainable practices, covering for example crop rotation, cover crops, and quantity of fertilisers. The utilisation of nitrogen resources in agriculture will be enhanced, as will systems enabling farmers to balance production and environmental goals.

Beneficiary:

Type of beneficiary
Mixt enterprise

Name of beneficiary
Centro Ricerche Produzioni Animali S.p.A.

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Name of contact person
Marco Ligabue

Duration of project:
36 months (Oct 2004 – Sep 2007)

Total budget in euro:
754,212.00

EC contribution in euro with %:
374,354.00 (49.63%)

Generic theme:
2.2: Water supply - Water quality - Ground water protection
Tackling plastic overload in Liguria

Official title

Biodegradable materials for Sustainable agriculture and tourism

Background

Agriculture and tourism are important for the economy of the Liguria Region, but both generate an environmental impact in terms of waste. The agriculture sector produces quantities of plastic waste, whilst the amount of waste generated by tourism and disposed in landfills has risen significantly in recent years. Planning controls and prevention strategies are lacking.

Project Objectives

The project aims to reduce the volume of waste produced by the agriculture and tourism sectors in Liguria. Recycling methods in compliance with EU legislation will also be introduced, and the use of biodegradable materials in agriculture and bathing establishments will be encouraged.

Non-biodegradable waste will be reduced, in particular: polypropylene pots for horticulture, polyethylene mulching films, crop management accessories and cutlery used for summer catering in beach front concessions, or public catering during local events.

Beneficiary:

Type of beneficiary
Professional association

Name of beneficiary
Centro Regionale di Sperimentazione e Assistenza agricola – Azienda speciale Camera di Commercio industria artigianato e agricultura di Savona

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Name of contact person
Giovanni Minuto

Duration of project:
36 months (Oct 2004 – Oct 2007)

Total budget in euro:
1,854,260.00

EC contribution in euro with %:
726,147.00 (39.16%)

Generic theme:
4.9 General: Waste management
District-wide application of EMAS

Official title

Voluntary Environmental Tools for the continuous improvement of a district

Background

EMAS II (Eco-Management and Audit Scheme) offers benefits beyond the traditional production sectors, in terms of reducing environmental pressure along the whole production chain, and introducing a territorial approach.

However, the scheme has some limitations. For it to be applied in a territory, there must be an organisational structure to make voluntary registration possible, whilst applying the scheme across different productive sectors and social conditions can impede widespread application of ISO 14000 principles. This can mean there is limited impact for a territory as a whole. A different approach directed to overall environmental improvement is needed.

Project Objectives

The project aims to spread adoption of ISO 14001/EMAS procedures across public and private bodies and to monitor the environmental effects. The ‘Environmental improvement plan’ will be edited and a ‘Handbook for continuous improvement’ created. The project will also seek ISO 14001/EMAS registration for six municipalities in the district, for the local waste/wastewater treatment agency and for the consortium of ham producers. Local companies may also be certified within the scope of the project.

Beneficiary:

Type of beneficiary
Public enterprise

Name of beneficiary
Distretto industriale dell’alimentare – San Daniele del Friuli (UD)

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Name of contact person
Luigi Ciaccio

Duration of project:
44 months (Jan 2004 – Aug 2007)

Total budget in euro:
910,225.00

EC contribution in euro with %:
452,613.00 (49.72%)

Generic theme:
3.2: Integrated environment management
**Official title**

Environmental Management through Monitoring and Modelling of Anoxia

**Background**

The EU's Water Framework Directive (2000/60/EC) addresses water quality assessment, control and management. In Italy, marine coastal environments are protected under Legislative Degree 979/82 (Disposition for the protection of the sea). Further regulations and decrees govern protection of marine and underground waters, dealing with pollution and recovery of polluted water bodies. The coastal areas of the North-Western Adriatic and rivers up to 10km from the coastline are identified as sensitive areas for protection.

**Project Objectives**

The project will develop a local integrated strategy for reducing the environmental and socio-economic impact of hypoxia and/or anoxic seasonal events in the marine and coastal zones of the North Adriatic Sea.

This will involve: transfer of scientific and technical knowledge to local authorities so that degradation of the marine ecosystem can be countered; raising awareness about the need for and use of integrated environmental management systems, including those of local authorities not directly involved in the project; and exchange of experience enabling diffusion of the model throughout Italy and to other parts of Europe.

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**Beneficiary:**

**Type of beneficiary**
Research institutions

**Name of beneficiary**
Consiglio Nazionale delle Ricerche
Istituto di Scienze Marine-Sezione di Bologna

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**Name of contact person**
Mariangela Ravaioli

**Duration of project:**
36 months (Oct 2004 – Sep 2007)

**Total budget in euro:**
1,868,917.00

**EC contribution in euro with %:**
903,709.00 (48.35 percent)

**Generic theme:**
1.3: Sensitive area management (coastal, protected)
Eco flower power

Official title

Demonstrative project for the Environmental Product Declaration: the flowers of Terlizzi and the local eco-label ‘Eco-Flower Terlizzi’

Background

The EU’s Sixth Environmental Action Programme encourages improvement of environmental performance of products throughout their life cycles. ISO standards 14040 and 14020 make specific reference to the Life Cycle Assessment method (LCA), the Environmental Products Declarations (EPD) and eco-labelling of products. However, this approach has not yet found a real application.

The Ecoflower Terlizzi project focuses on the intensive flower industry in Terlizzi, which has very high production levels and may provide a suitable eco-labelling application.

Project Objectives

The project aims to demonstrate the potential of an Integrated Product Policy (IPP) approach, using the EMAS environmental declaration, EPD and the environmental label applied to flowers. The project also seeks to lessen the potential negative environmental impacts of floriculture.

A preliminary study will be carried out, followed by development of the EPD model for the main flower species produced in Terlizzi, the creation of an ‘Eco-Flower Terlizzi’ label, and the establishment of a floriculture research centre. Guidelines for EPD and flower production at international level will be developed.
EMAS in Abruzzo

Official title

EMAS for tourism in internal and coastal areas: integrated management

Background

Abruzzo has a 120km long shoreline and a high income from seaside tourism. For several years, the region has supported studies and projects aimed at protecting coastal zones and solving urgent coastal problems. Nonetheless it remains necessary to improve the quality of services and management processes in local institutions. A fundamental goal is to adopt EMAS (Eco-Management and Audit System) in at least two local authorities.

Project Objectives

The project will assess the environmental situation in the participating municipalities. This will result in the establishing of environmental targets and implementation of a specific planning programme. Personnel training will also be introduced to underpin the adoption of the EMAS environmental management system.
Improving Protected Area Management

Official title

Self-financing protected areas

Background

The World Commission on Protected Areas has published guidelines for financing of Protected Areas (PAs). The guidelines promote a business oriented management approach, and could prove the springboard for self-financing mechanisms tailored to specific needs of European PAs or Natura 2000 sites. However, the potential for this remains to be explored.

Such mechanisms will need to be adequately integrated into existing management frameworks using an approach emphasising participation of all stakeholders.

Project Objectives

The project will explore self-financing mechanisms for PAs, as follows:

- Increase financial resources available to PAs
- Reduce bureaucratic inefficiencies constraining PA management
- Change the current approach to management of PAs and their use by visitors
- Create and promote added value cultural, landscape and natural services and products offered by PAs
- Promote new forms of partnership to stimulate the involvement of local communities

The project will build sufficient know-how to provide Italian and European PA managers with the tools and best practice guidance necessary for developing self-financing mechanisms tailored to their needs.
Official title

Integration of Agenda 21 and EMAS in a wide area with relevant ecological value

Background

The project explores the possibility of integration between local Agenda 21 and EMAS (Eco-Management and Audit System) in the Parco Nazionale Dolomiti and in the surrounding municipalities. The project partnership includes the largest municipalities in the area (totalling 62,000 inhabitants).

Project Objectives

The project will:

- Identify a management and organisational model to promote EMAS registration
- Obtain EMAS registration
- Define the role and functions of the park authorities as an ‘agency for sustainable development’
- Transfer project activities to other surrounding municipalities (presently 12 of these are already involved in the Agenda 21 process)
- Examine the potential for exporting the model to other areas, especially to places where important natural resources are under pressure from human activities. The Parco Nazionale Dolomiti belongs to a number of networks that will help facilitate this, covering partners from Austria, France, Germany, Liechtenstein, Slovenia and Switzerland, 300 protected areas in Italy and the regional parks federation in Veneto.

Improving park life

Beneficiary:

Type of beneficiary
Park-Reserve authority

Name of beneficiary
Parco Nazionale Dolomiti Bellunesi

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Name of contact person
Giuseppe Campagnari

Duration of project:
36 months (Apr 2004 – Mar 2007)

Total budget in euro:
700,505.00

EC contribution in euro with %:
350,252.00 (49.99%)

Generic theme:
3.2: Integrated environment management
Comprehensive water management

Official title

Water-bearing characterisation with integrated methodologies

Background

Management and distribution of water requires more innovative and sustainable methods to improve on the current approach. A new approach might address complete appraisal of groundwater bodies at the scale of the hydrographical district, and combining methodologies currently used in the field with development of more innovative techniques.

Project Objectives

The project will apply an innovative methodology in order to obtain a wide data set of integrated geo-physical, geochemical and reclamation methodologies. This can be used to:

- Forecast the assigning of quantities of water to different uses (civil, agricultural, industrial)
- Carry out an evaluation of new industrial and civil development on water resources
- Quantify underground waters
- Quantify research on water ecosystems

Beneficiary:

Type of beneficiary
Research institutions

Name of beneficiary
Istituto Nazionale di Oceanografica e di Geofisica Sperimentale - OGS

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Name of contact person
Daniel Nieto Yabar

Duration of project:
30 months (Dec 2004 – May 2007)

Total budget in euro:
1,172,659.00

EC contribution in euro with %:
560,869.00 (47.82%)

Generic theme:
2.1: Water management at the scale of the river basin
An integrated approach to groundwater

Official title

Serchio River alimented well-fields integrated rehabilitation

Background

The EU’s Ground Water Directive (GWD) requires the adoption of specific measures for prevention and control of groundwater pollution.

This involves a number of factors: coordinated administration of river basins; environmental objectives; requirements for analysing the characteristics of river basin districts, with an assessment of the impact of human activities and an examination of the economics of water use; establishment of a register of protected areas; identification of potable water abstraction areas and safeguard zones; and monitoring requirements.

Project Objectives

The project aims to validate a methodology that will lead to a 40 percent reduction of water pollution, in the context of the GWD. An integrated management planning approach will be used as part of a strategy to increase farming sustainability and implement river park activities.

As a starting point for in-depth analysis of non-point source human-induced pollution, an assessment of shallow and deep aquifer processes will be carried out. This will also enable identification of weak areas and unsustainable farming techniques. Practical application of solutions will be promoted using a participatory approach amongst stakeholders.

Beneficiary:

Type of beneficiary
Local authority

Name of beneficiary
Comune di Lucca

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Name of contact person
Giovanni Marchi

Duration of project:
36 months (Sep 2004 – Aug 2007)

Total budget in euro:
2,424,026.00

EC contribution in euro with %:
1,125,254.00 (46.42%)

Generic theme:
2.4: Diffuse and dispersed sources of pollution
Official title
Sustainable industrial area model

Background
Industrial areas designated according to zoning regulations can often be located in suburban areas with infrastructures appropriate for business activities. Where SMEs predominate, facilities for minimising environmental impacts are often centralised. An example of this is ‘Ecologically Equipped Industrial Areas’ (EEIA) which use the good relationship between local enterprises as a basis for limiting pollution.

However, in practice, few areas have optimal environmental facilities and there is no official standard for managing EEIAs. This is an issue that needs to be addressed.

Project Objectives
The project will identify and implement a new approach to sustainable development involving local authorities, businesses and the general public. This will involve:

- EMAS (Eco-Management and Audit Scheme) registration for three organisations in different industrial areas, with registration procedures initiated in a further five areas
- Validation of eight territorial environmental programmes and development of guidelines for Sustainable Industrial Area Management (SIAM) application
- Training at least thirty new professionals as Sustainable Industrial Area Designers and Managers

A model of Sustainable Industrial Areas will thus be developed for transfer to elsewhere in the EU.

Beneficiary:
Type of beneficiary
Public enterprise

Name of beneficiary
Ente per le Nuove tecnologie, l’Energia e l’Ambiente (ENEA)

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Name of contact person
Ferdinando Frenquellucci

Duration of project:
36 months (Oct 2004 – Sep 2007)

Total budget in euro:
2,494,638.00

EC contribution in euro with %:
1,233,819.00 (49.45%)

Generic theme:
3.2: Integrated environment management
EMAS to benefit North Milan

Official title
Sustainable EMAS North Milan

Background
The North Milan region, comprising Bresso, Cinisello Balsamo, Cologno Monzese and Sesto S. Giovanni municipalities, has seen a profound transformation of its economic base in the last ten years. This transformation requires the reuse of many abandoned industrial areas by new small and medium-sized enterprises that have been established in recent years. Local Agenda 21 identifies EMAS (Eco-Management and Audit Scheme) as a useful tool to underpin the management quality and sustainability of businesses as they manage change.

Project Objectives
The project will:
• Demonstrate a concrete application of the EMAS II Regulation in selected industrial areas of North Milan
• Achieve EMAS registration for at least one industrial area, where about 20-25 SMEs are located
• Stimulate EMAS registration in other areas involved in the project by creating best conditions (area audit, involvement of businesses, policy statements)
• Design a model that is transferable to other industrial and reindustrialised areas
• Promote the outcomes of the project through an operational handbook

Beneficiary:
Type of beneficiary
Development agency

Name of beneficiary
Agenzia per la Promozione e il Sviluppo Sostenibile dell’Area Metropolitana Nord

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Name of contact person
Luigia Bigatti

Duration of project:
24 months (Oct 2004 – Sep 2006)

Total budget in euro:
1,000,000.00

EC contribution in euro with %:
500,000.00 (50.00%)

Generic theme:
3.2: Integrated environment management
New life for old televisions

**Official title**

Integrated pole for recycling and valorisation of waste

**Background**

The amount of waste electrical and electronic equipment (WEEE) generated is growing rapidly. WEEE often contains hazardous components, causing concern during the waste management phase. WEEE recycling is not presently carried out on a large scale. The quantity and hazardous nature of such waste needs to be reduced significantly, waste recovery processes need to be enhanced, and treatment processes need to be encouraged.

**Project Objectives**

The project will create a collection and recycling centre primarily for cathode tubes from televisions, and for computers. An integrated system will be created with the objective of:

- Installing machinery for recycling of cathode tubes and recovering glass fibres as raw material
- Implementing an innovative technology for the recycling and recovery of mobile phone batteries, which can be used to create energy for electric vehicles

The aim will be to recycle 50 000 tonnes of TV sets and computers, with a reduction of global costs by 10 percent. Batteries generating 3 MWh will be produced by recycling mobile phone batteries.

**Beneficiary:**

Type of beneficiary
Mixt enterprise

Name of beneficiary
Tred Carpi S.r.L.

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Name of contact person
Emilio Guidetti

Duration of project:
24 months (Dec 2003 – Dec 2005)

Total budget in euro:
1,350,000.00

EC contribution in euro with %:
300,000.00 (22.22%)

Generic theme:
4.7: Waste from Electrical and Electronic Equipment (WEEE)
Official title

Demonstrating the reduction of greenhouse gases and air pollution through homeostatic mobility planning aiming at road traffic balancing

Background

Italy is committed to reducing greenhouse gas emissions by 6.5 percent under the terms of the Kyoto Protocol. Road transportation is one of the most important factors to tackle in this respect. In congested commercial areas like Bologna, traffic overload is worsened due to extensive roadworks. Car exhaust emissions are related to the number of circulating cars and average travelling times. EU Directives oblige Member States to monitor air quality and to implement plans to ensure air quality levels within certain parameters.

Project Objectives

The project will test a new method of homeostatic open traffic balancing in a congested commercial area by implementing an innovative prototype based on an integrated multi-sector supervision real-time feedback system.

This will enable development of a model that will gather live data on mobility, environment, air pollution, roadworks and safety. Overarching objectives are: reduce air pollution caused by traffic; analyse the integrated mobility model; demonstrate homeostatic control; improve road safety; raise environmental awareness among citizens.

The project is framed in the context implementing a Traffic Plan in the Bologna region.
Official title

Sustainable highway development in rural areas

Background

Pollutants produced by highway traffic cause significant environmental damage, both in terms of air quality and on use of rural land through which highways run. Traffic dust causes contamination of agricultural produce, and roads also contribute to territorial fragmentation, with consequent loss of continuity within ecosystems.

Project Objectives

The project aims to mitigate the impact of highways cutting through rural areas by creating plant corridors along the roadside that will help prevent diffusion of pollutants generated by traffic into the wider area. The barriers will be monitored and the degree of reduction of pollutants assessed.

Best use of financial resources normally paid to farmers in compensation for damages caused by new roads will also be examined. Limiting production of food on the flanks of highways may be a better solution for avoiding contamination of agricultural produce.
Saving water in the textiles sector

Official title
Sustainable water management in the textile wet industry through an innovative treatment process for wastewater re-use

Background
The ‘wet processes’ involved in textile production produce the main environmental impacts caused by the sector. These processes use huge volumes of water, which is discharged as polluted wastewater. Treatment and reuse of this water will help minimise the stress on water resources, in both qualitative and quantitative terms.

By introducing better water reuse systems, the textile industry will contribute to a more rational water management policy and promote the allocation of the purest water sources for potable use. Other industries may also be encouraged to improve their processes.

Project Objectives
The project will:

- Demonstrate the technical and economic feasibility of textile wastewater treatment based on physical-chemical processes and innovative membrane technologies
- Build and test a new wastewater treatment system covering four wet textile processes (dyeing, finishing, washing, dyeing and finishing)
- Significantly reduce fresh water consumption and pollutant discharge
- Develop a general operative procedures handbook for selecting and managing a process for wastewater treatment and reuse in different textile sectors
- Disseminate the project results across the EU.
Eco-friendly furniture

Official title
Dissemination of IPP tools in the furniture industry

Background
The Italian industrial sector is characterised by very small enterprises concentrated in zones where similar types of businesses are clustered – so-called industrial districts. This makes the spread of Integrated Product Policy (IPP) principles and tools pivotal.

Marche is a centre for wood-furniture production, where similar production techniques are employed across a number of businesses. The industry is also geographically concentrated. It offers an ideal situation for integration of IPP tools in a sector strongly characterised by SMEs, whilst providing a reference for all furniture producers.

Project Objectives
The project will:
- Survey businesses and build a database for environmental benchmarking
- Develop and implement pilot actions in six companies (office and kitchen furniture), resulting in drafting of Life Cycle Assessments (LCA) of products and assigning of Environmental Product Declarations
- Implement Product Oriented Environmental Management Systems (POEMS)
- Establish Product Category Rules on the basis of the LCAs
- Create an advisory board involving public bodies, trade associations and companies
- Create a web service
- Promote the project results.
New technology for tiles

Official title

New clean technology for the decoration of all kinds of ceramic surfaces, whether flat or textured, with a minimal use of raw noble materials

Background

Present technologies allow machine decoration of ceramics only for flat surfaces. Haut and bas-relief decoration is handmade, resulting in the exposure of the artisan to enamels and solvent fumes.

Serigraph and air-brush technologies can only be used on simple surfaces and for simple decoration models. They also produce large volumes of waste – 100 litres of enamel waste for each colour used.

Project Objectives

The project will explore new technology to limit and even eliminate waste from decoration of ceramics. New equipment will allow the glazing of flat and textured surfaces using the minimum necessary quantity of glaze, eliminating dispersion of waste oxides and pigments, and producing a faultless result.

It is expected that glazes used per product unit can be substantially reduced. Energy consumption will be reduced by 20-30 percent, and exhaustible raw material consumption will be reduced proportionately. The technology also offers the potential for excellent, high definition results on non-flat surfaces, as well as painting of much larger pieces.

Beneficiary:
Type of beneficiary
Small and medium sized enterprise
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Name of contact person
Adriano Venturelli
Duration of project:
36 months (Oct 2004 – Sep 2007)
Total budget in euro:
3,116,450.00
EC contribution in euro with %:
860,310.00 (27.60%)
Generic theme:
3.1: Clean technologies
Saving resources in Sicily through better building

Official title

Sun and wind

Background

Poor quality building practices can cause excessive energy consumption. This can be due to bad design and layout of buildings and ineffective heating/conditioning systems, with a consequent impact on the quality of the environment. Lack of eco-compatible criteria in planning single residential units results in, on large urban scale, poor management of a territory’s resources (such as energy and water).

Project Objectives

The project aims to demonstrate energy savings of 20 percent in residential buildings, resulting from use of particular building techniques and materials. Energy savings should repay any additional costs of construction over a short time period.

A set of Best Practice Guidelines for Sustainable Buildings will be produced. Financial incentives and de-taxation measures will be analysed in a municipal context. The Region of Sicily has undertaken to adopt new rules based on the project experience and will integrate best practice guidelines into its regional strategy for sustainable development. Formal adoption of the regional strategy will be completed before the close of the project.
Reducing the impact of lead-acid batteries

Official title

PNEUMA (Pneumatic Uninterruptible Machine) System: An Uninterruptible Pneumatic Power Generator

Background

Lead-acid batteries have a life of 3-4 years. In most European countries, batteries are then recycled, at which time there is a risk of pollution.

European metallic lead consumption was around 2 Mt in 1999, with battery manufacturing accounting for 70 percent. This can be expected to rise, however, with used and recycled batteries from mobile telecommunication applications alone amounting to 150 Kt in 10-12 years.

Project Objectives

The project will create a new back-up system for use in mobile telephone radio-base stations. This will eliminate the use of lead-acid batteries, the traditional approach to energy-storing. The project will develop a pilot system and four demonstrator units using stored compressed air and guaranteeing at least two hours of service to the transmitting apparatus.

This will: eliminate the battery stack in the energy station; be cost compatible with battery solutions; be low maintenance; be plug and play compatible with lead-acid batteries; and be based in proven technology.

Beneficiary:

Type of beneficiary
Development agency

Name of beneficiary
MAGNETEK S.p.A.

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Name of contact person
David Martini

Duration of project:
30 months (Jan 2004 – Jun 2006)

Total budget in euro:
4,134,178.00

EC contribution in euro with %:
1,226,753.00 (29.67%)

Generic theme:
3.1: Clean technologies
Sparing the rods

Official title

New ESD (eco-sustainable drawing) system, environmental-friendly to process steel wire rods/by-products …

Background

The wire rod processing industry has significant environmental impacts. It leaks dangerous acids (sulphuric and hydrochloric); it produces acid sludge and exhausted acids, most of which cannot be recycled; it produces dangerous wastewater; it uses a great deal of road transport; it has high energy consumption; and it produces other waste materials, such as sludge composed of lubricants, which are used in large quantities and which mix with wire rod scales at high temperatures.

Project Objectives

The project aims to drastically reduce the environmental impact of steel wire rod production by transforming the production process, specifically:

• Implementing a new mechanical dry de-scaling treatment, thus reducing production of dangerous wastes
• Developing a new drawing system using polycrystalline diamond dies and recyclable sodium lubricants
• Developing a low energy consumption thermal treatment process that works in a controlled atmosphere; this will be a substantial improvement on the currently widely used, expensive annealing process.

Beneficiary:

Type of beneficiary
International enterprise

Name of beneficiary
Metallurgica Abruzzese S.p.A.

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Name of contact person
Giovanni Cavatorta

Duration of project:
36 months (Nov 2004 – Oct 2007)

Total budget in euro:
3,848,250.00

EC contribution in euro with %:
964,725.00 (25.06%)

Generic theme:
3.1: Clean technologies
Encouraging EMAS

Official title

Innovative approach in EMAS II implementation in the local authorities of new Member States

Background

Local authorities in Latvia and other new EU Member States face a range of common environmental problems: air, water and soil pollution, waste, uncontrolled resource consumption, urban decay and so forth. Local authorities can also be significant contributors to environmental degradation and it is important that they improve their performance. EMAS II (Eco-Management and Audit Scheme) provides organisations with a systematic approach for solving environmental problems, but the system is not yet widely used by municipalities in the new EU Member States.

Project Objectives

The project aims to:

- Demonstrate and promote EMAS II to the local authorities in new EU Member States, using Latvia as a model
- Introduce new effective tools for EMAS II implementation and dissemination
- Assist new EU Member States in implementing EU environmental regulations

The overall objective of the project is to achieve one of the goals of the EU’s Sixth Environmental Action Programme: encouraging a wider uptake of EMAS.

Beneficiary:

Type of beneficiary: Small and medium sized enterprise

Name of beneficiary: Biznesa konsultantu grupa

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Name of contact person: Alina Dudele

Duration of project: 31 months (Nov 2004 – May 2007)

Total budget in euro: 444,383.00

EC contribution in euro with %: 191,397.00 (43.07%)

Generic theme: 3.2: Integrated environment management
Lower energy use through better ventilation

**Official title**

Ecologically friendly ventilation system design

**Background**

About 50 percent of European greenhouse effect causing gas emissions result from energy use in buildings. The EU is addressing this by calling for more rational energy consumption in buildings to reduce CO2 levels.

Energy use by ventilation systems and fans accounts for almost 10 percent of EU energy consumption. Long term savings can be achieved by introducing hybrid ventilation systems at the construction stage.

**Project Objectives**

The project will demonstrate the use of an ecologically-friendly hybrid ventilation system, based on French and Swedish designs. The suitability of such systems for Latvia – a country with a cold but humid climate – will be tested. The system will be monitored for 12 months.

Dissemination activities will concentrate on incorporation of the new technologies into the building practices of other Baltic countries. The ultimate objective will be wide usage of ventilation systems with low energy consumption and good indoor air quality.

**Beneficiary:**

Type of beneficiary: University

Name of beneficiary: Riga Technical University

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LV-1010 Riga

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Name of contact person: Olita Belindzeva-Korkla

Duration of project: 26 months (Oct 2004 – Nov 2006)

Total budget in euro: 361,186.00

EC contribution in euro with %: 177,343.00 (49.10%)

Generic theme: 5.1: Eco-friendly products - Eco-design - Green financial products
Cutting energy consumption in buildings

Official title


Background

EU Directive 2002/91/EC requires energy certification of buildings in order to reduce CO₂ emissions. A previous project (ENERLAB) tested an energy certification scheme developed by Riga Technical University. However, this system considers only heat consumption, and not gas and electricity consumption. These however should be included as they also influence CO₂ emissions – updating of the scheme is required.

Appropriate energy certification is a cost-effective and efficient method for saving energy and can help EU implementation of the Kyoto Protocol.

Project Objectives

The project will develop further the energy certification and labelling system established by the ENERLAB project, which operated in the township of Ogre. The ENERLAB heat consumption management system will be upgraded to a full energy management system in compliance with Directive 2002/91/EC (Energy Performance of Buildings). The ENERLAB project in Ogre achieved reductions of 5-10 percent in heat consumption and the new project will build on this.
Zeolite refrigeration system aids fight against global warming

Official title

ZEOLITE

Background

Although use of ozone-depleting CFCs in industry has dramatically declined, emissions of hydrochloro-fluorocarbons (HCFCs) and hydrofluorocarbons (HFCs) have increased. These gases, which also have a greenhouse effect, have been used to replace CFCs.

The European Commission notes that emissions of fluorinated gases were 65 million tonnes of carbon dioxide equivalent in 1995, and this is forecast to increase by 50 percent by 2010. Fluorinated gases account for two percent of EU greenhouse gas emissions, but their global warming potential is high. Reduction of such gases is therefore a priority.

New zeolite/water absorption technology is one method for reducing the emission of refrigerating gases and increasing energy efficiency.

Project Objectives

Zeolite system can be used as an alternative to current, greenhouse gas producing, refrigeration systems. The project will demonstrate that this is technically and economically viable. Five new transport containers using zeolite/water technology will be constructed during the course of the project.

The project beneficiary, Dometic, will apply the process. The zeolite system technology has been developed by ZEO-TECH GmbH.

Beneficiary:

Type of beneficiary
International enterprise

Name of beneficiary
Dometic S.A.R.L.

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Name of contact person
Fernand Muller

Duration of project:
25 months (Dec 2003 – Dec 2005)

Total budget in euro:
1,712,682.00

EC contribution in euro with %:
510,942.00 (29.83%)

Generic theme:
3.3: Reduction of emission of greenhouse gases
Official title

Sustainable drinking water production from low quality ground water enabling flexible ground water management

Background

15 percent of Europe’s water for domestic, industrial and agricultural consumption comes from ground water resources. However, this can result in dessication of elevated areas with sand-rich soils, particularly in the Netherlands, Germany, the United Kingdom, Belgium, France, Scandinavia and Italy. Governments restrict ground water withdrawal in such areas.

Water companies prefer ground water as a source for drinking water as it is less contaminated than surface water and must find alternative sources. Low lying areas are one possibility, but ground water from these areas is often of poor quality, with high mineral concentrations. Suitable technology for exploiting alternative water sources, or for flexible ground water management aimed at preventing dessication, is lacking.

Project Objectives

The project will demonstrate new technology enabling drinking water production from low quality ground water sources. This will involve:

- Production of high quality drinking water enabling government and water companies to reallocate ground water withdrawal
- An improved sustainable technological concept for drinking water production with high efficiency, low waste water production and low chemicals usage
- An improved high velocity ion exchange process
- Re-use of regenerate chemicals
- Regeneration of recycling using nanofiltration

Beneficiary:

Type of beneficiary
Mixt enterprise

Name of beneficiary
Vitens NV

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Name of contact person
Klaas Wiersma

Duration of project:
31 months (Dec 2003 – Jun 2006)

Total budget in euro:
2,488,620.00

EC contribution in euro with %:
439,836.00 (17.67%)

Generic theme:
2.2: Water supply - Water quality - Ground water protection
Safer ship scrapping

Official title

Eco-dock – Recycling of single hull tankers and end-of-life ships containing hazardous wastes

Background

The EU does not have a facility for dismantling of ships and platforms. Stricter regulation during the 1970s saw the dismantling of ships move to other locations such as India, Bangladesh and China. This creates environmental problems in those countries.

Around 200 European registered vessels are scrapped each year, resulting in an annual export to third countries of hazardous materials including 17 280 tonnes of lubricants and 25 920 tonnes of used oil, not to mention asbestos and heavy metals. Recent regulations concerning single-hulled tankers in the wake of the Prestige oil spill are expected to considerably accelerate the rate of scrapping of vessels.

Project Objectives

The project initiators believe it is both desirable and feasible to have ship dismantling yards in the EU, for better waste management. The project will construct a demonstration plant for recycling of single hull tankers and end-of-life ships containing hazardous waste.

Innovative cutting techniques for steel structures will be introduced, making possible very high degrees of steel and waste recycling. A cleaning and recycling system for hazardous wastes including asbestos, heavy oils and bilge water will also be introduced. The project will develop a systematic, transferable ship-recycling approach.

Beneficiary:

Type of beneficiary
NGO-Foundation

Name of beneficiary
Stichting Tanker Ontmanteling Platform (St.T.O.P)

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Name of contact person
Doebren Mulder

Duration of project:
34 months (Mar 2004 – Dec 2006)

Total budget in euro:
11,554,728.00

EC contribution in euro with %:
908,395.00 (7.86%)

Generic theme:
4.3: Hazardous waste
Reducing the risk of asbestos

Official title

Asbestos fibre cement – Denaturing plant

Background

Asbestos fibre cement (AFCE) waste is a carcinogenic construction material. It has been used throughout Europe since 1920. In 1949, asbestosis – the disease caused by asbestos – was first recognised. However, by the time asbestos was prohibited, many people had already been exposed to the carcinogenic asbestos fibres and had fallen ill. Even today, large quantities of asbestos are contained in buildings and water pipes. Removal of this dangerous material is necessary, but currently the only disposal method for the waste is directed landfill.

Project Objectives

The project will demonstrate that denaturing technology is the Best Available Technology (BAT) for the treatment of asbestos fibre cement waste.

A thermal process using a prototype moving hood kiln will be demonstrated, in which asbestos fibres are rendered harmless. The project will also demonstrate the reusability of the denatured asbestos cement as a base material for the cement industry.

The project also aims to launch a European lobby with the objective of implementing the denaturing technology as the minimum standard for processing asbestos.
New technologies for tanneries

Official title
Eco-friendly tanning at ECCO Tannery Holland BV

Background
Europe has some 3 000 leather tanneries employing 50 000 people and covering all EU Member States except Luxembourg. Many new clean technologies have been introduced in the sector in recent years, but room for improvement exists.

The ECCO Group is one of the world’s largest tannery companies and has tested three innovative environmental technologies offering substantial benefits to the industry. These are: introduction of new and innovative process vessels (cangliones drums); implementation of membrane filtration in order to reuse chromium; and implementation of new waste treatment techniques (anaerobic treatment of fleshing sludge).

Project Objectives
The project will demonstrate the technical and economic feasibility in a tannery of three innovative clean technology solutions (as outlined above). These solutions go beyond BAT (Best Available Technology) as defined for the tanning industry.

The technologies will be implemented in the ECCO plant at Dongen, the Netherlands, and will be the first case of demonstration and evaluation of these technologies.
Turning package tourism green

Official title

Demonstrating how an integrated eco-labelling and tour operating supply chain management strategy can foster sustainability in tourism

Background

Tour operators represent an important part of the tourism sector, accounting for 35 percent of leisure air holidays in Europe. However, tourism generates numerous negative impacts: resource consumption, pollution and waste generation, for example. Tour operators are in part responsible for this, as they determine where many tourists go and the facilities they use. They are also a catalyst, bringing other tourism sectors together.

The tourist industry needs new tools and methods for limiting environmental impacts. Integrated sustainability into the package holiday sector means taking into consideration environmental, social and economic aspects of package tourism.

Project Objectives

The project will demonstrate the effectiveness of a common coordinated approach in the package tour sector by:

- Supporting tour operators in the introduction of a common widely accepted sustainable supply chain management system
- Creating synergies between the VISIT platform for tourism, EU Ecolabels and the tour operators’ environmental inspection systems for suppliers
- Applying common actions through a strong group of tour operators to promote sustainable development in two demonstration destinations
- Developing a common green purchasing strategy for tour operators

Beneficiary:

Type of beneficiary
NGO-Foundation

Name of beneficiary
European Centre for Eco Agro Tourism

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Name of contact person
Naut Kusters

Duration of project:
36 months (Jul 2004 – Jun 2007)

Total budget in euro:
1,871,949.00

EC contribution in euro with %:
935,310.00 (49.96%)

Generic theme:
5.2: Eco-labelling - Eco-market - Consumer awareness
Limiting pollution from herbicides

Official title

Sustainable weed control on pavements: demonstration of a decision support system for environmentally benign and cost effective weed control on hard surfaces

Background

Weed control methods used for hard surfaces generate several environmentally damaging side effects, including run-off of herbicides and contamination of soil and groundwater. In the Netherlands alone, some 60 000 kg of active ingredients are used on hard surfaces annually. The most used herbicide, glyphosate is sometimes found to be above the maximum tolerable risk level in surface water. This implies higher costs for drinking water providers, who must treat surface water for pesticide contamination, before it can be used.

Project Objectives

The project aims to reduce herbicide emission from weed control on hard surfaces to levels acceptable to major stakeholders (water companies and boards). This will involve demonstration of a new concept to potential users – managers and planners of hard surfaces and weed control contractors. The project will see five large organisations (municipalities or industrial sites) apply the concept. Information about the project will be disseminated to other users in the Netherlands in the areas of the Rhine and Meuse rivers.

Beneficiary:

Type of beneficiary
Research institutions

Name of beneficiary
Plant Research International

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Name of contact person
Cornelis Kempenaar

Duration of project:
36 months (Jan 2004 – Dec 2006)

Total budget in euro:
546,055.00

EC contribution in euro with %:
163,816.00 (29.99%)

Generic theme:
2.4: Diffuse and dispersed sources of pollution
Promoting environmental performance in Poland

Official title

Integrated environment management for Polish small and medium-sized enterprises through Environment Manager Internet tool

Background

99 percent of the businesses operating in Poland are SMEs, yet Poland currently has no nationwide scheme dealing with the environmental performance of SMEs. Whilst large companies are required by legislation to control their impact on the environment and apply environmentally-friendly technologies, SMEs need support and assistance through schemes that will enable step-by-step approval of environmental performance.

The Clean Business Programme has been developed to provide this assistance to SMEs.

Project Objectives

This project will develop the Environment Manager Internet tool as part of a strategy to demonstrate that cost-effective improvements can be made to the environmental performance of SMEs.

The project will involve 250 Polish SMEs. It will analyse their environmental performance and implement the EU Eco-Management and Audit Scheme (EMAS) in ten participating companies. The participants will represent the following sectors: healthcare, tourism, food processing, metal processing, production of car components, construction, plastic processing and business services. On a wider scale, the project will promote EMAS in Poland and develop a network of local experts.
Optimising wastewater treatment

Official title
Wastewater treatment improvement and efficiency in small communities

Background
Small wastewater plants can present problems due to poor performance arising from inadequate design, treatment and control; uncontrolled discharge of pollutants into public water systems; lack of training for operators; unmanned nocturnal plant operations; plant locations in inappropriate sites; and lack of information for water consumers.

However, demand for good wastewater treatment technologies is high due to increased environmental awareness and the need to comply with EU legislation.

Project Objectives
This project will:

• Analyse existing technology and systems in wastewater treatment plants (WWTP)
• Develop WWTP auditing models to improve efficiency
• Demonstrate the advantages of using renewable wind energy in WWTPs
• Use best available technologies for process control and equipment operation
• Implement an integrated online monitoring system for better performance and increased rapid response to emergency situations
• Develop a Lab Pilot Plan (8m³/h) connected with the Sintra municipal WWTP online network
• Demonstrate the advantages of recycling/re-use of sludge and effluent water for agriculture, industrial and local uses
• Develop a short guide for improving WWTP efficiency in small communities
• Prepare a best practices brochure for water consumers
Kick-starting IPP

Official title
Starting with the promotion of IPP approach in Mediterranean countries

Background
Integrated Product Policy (IPP) has become an important topic for the EU. All products and services have an environmental impact and IPP attempts to bring together different strands of legislation to better contribute to sustainable development goals and better integrate environmental considerations into other policy areas.

Greener products mean better conservation of energy and natural resources, and less waste and pollution. Better information on green products and suppliers could help change production practices. Cultural change within organisations and a more environmentally-friendly orientation are also needed.

Project Objectives
The project will initiate an IPP approach in Greece and Portugal through:

- Promoting the communication on IPP for achieving greater results at EU level
- Developing a methodology for identifying strategically important products for IPP
- Test methodologies at pilot scale in industrial SMEs
- Improve information flow between key stakeholders
- Create a basis for extension of StartIPP to other EU countries
- Prepare foundations for national studies on products
- Develop country studies on IPP
- Propose IPP strategy at national level

Beneficiary:
Type of beneficiary
Research institution
Name of beneficiary
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Name of contact person
Paula Trindade
Duration of project:
31 months (Oct 2004 – Sep 2007)
Total budget in euro:
893,612.00
EC contribution in euro with %:
443,531.00 (49.63%)
Generic theme:
5.1: Eco-friendly products - Eco-design - Green financial products
Eliminating ‘priority hazardous substances’

Official title

Innovative Approach in waste reduction of propylene oxide production

Background

The project addresses the problem of chlorinate hydrocarbons in wastewater. The EU’s Water Framework Directive (WFD) considers these pollutants “priority hazardous substances”. Circulation of chlorinate hydrocarbons is to be phased out by 2006. Companies producing propylene oxide via propylenechlorohydrine could be shut down, because current technology does not provide an adequate solution to this problem.

Project Objectives

The project will focus on new technology for the production of propylene oxide that will produce almost no waste, with chlorine, volatile organics, chlorinated hydrocarbons and dissolved inorganic matter largely eliminated. The project concentrates on the reduction of emissions of chlorinated hydrocarbons and glycols in the water stream as a pilot measure. This problem will be solved effectively by using a unique reactor.

Additional improvements are envisaged as a result of changing the dehydrochlorination agent. When NaOH is used instead of lime-milk, it will be possible to recycle the waste to the electrolysis unit. In this way, it will also be possible to retain the dissolved inorganic matter (NaCl).
Awareness of global warming in Slovakia

Official title

Sustainable Development of Cities and Mitigation of Impacts of Climate Change on Quality of Life and on Environment in Urban Areas

Background

Global warming brings with it the threat of many negative phenomena: rising temperatures (especially in cities), shifting vegetation belts, problems with the drinking water supply and more frequent occurrences of extreme weather conditions. For urban dwellers, there may be serious consequences.

Consequently, it is necessary to better define urban development measures so that the need to mitigate the consequences of global warming receives greater consideration.

Project Objectives

The project aims to adapt the European Common Indicators (ECI) methodology to Slovak conditions. ECI will be applied in selected Slovak cities in the context of sustainable development capacity building and strategic development programmes based on international initiatives.

The project will also adapt the Ecological Footprint design methodology to mitigate the impact of climate change in urban areas, and contribute to implementation of the EU’s Sixth Environmental Action Programme. These measures will be accompanied by awareness-raising actions, aimed at politicians, decision-makers and the wider public.
Sustainable management of the rice straw

Rice straw, which is generated in the field during rice harvesting, is normally incinerated. This has a number of negative impacts in the area around Albufera Natural Park, where this project will take place. The detrimental environmental impacts include atmospheric contamination and problems for flora and fauna.

It is however possible to recycle the rice straw by using new, more environmentally friendly agricultural techniques. Gaining the support of rice farmers is essential if this is to be successful.

The project sets out to tackle negative environmental impacts caused by incineration of rice straw, 50 000 tonnes of which are burned annually in the vicinity of Albufera Natural Park. The objective is to eliminate air pollution which affects urban areas near the rice fields.

A Transectoral Centre for waste reuse and rice straw and other organic waste recycling will be created. Rice straw can be recycled into organic blankets for use in combatting desertification, and for dry farming (almond trees, olive trees, etc.). Water consumption savings are also achieved through this methodology.

Beneficiary:

Type of beneficiary
Local authority

Name of beneficiary
Concejalia de la Devesa-Albufera

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Name of contact person
Vicente Aleixandre Roig

Duration of project:
30 months (Dec 2004 – Jun 2007)

Total budget in euro:
1,962,795.00

EC contribution in euro with %:
948,023.00 (48.29%)

Generic theme:
4.4: Agricultural waste
Better ecological restoration guidelines

Official title

Ecotechnology for environmental restoration of limestone quarries

Background

The European mining sector is growing rapidly, but very few extraction companies have applied for environmental certification. In particular, ecological restoration programmes lack consistency of approach, resulting in unprofitable outcomes and low productivity.

One reason for the low implementation rate of environmental control systems for ecological restoration is the lack of defined minimum results. Whilst re-vegetation has been prioritised, little attention has been paid to issues such as diversity of ecosystems and quality of restored vegetation.

Project Objectives

The project will implement through ten pilot projects the latest techniques and methodologies for quarry restoration. The pilot projects will embrace a diverse set of representative sites in Mediterranean conditions.

The procedures employed will be published in a manual and disseminated to companies working in the concrete and aggregates sectors, as well as to the authorities responsible for monitoring quarry restoration.

Beneficiary:

Type of beneficiary
University

Name of beneficiary
Universidad de Barcelona

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Name of contact person
Victoriano Ramón Vallejo-Calzada

Duration of project:
36 months (Sep 2004 – Aug 2007)

Total budget in euro:
960,417.00

EC contribution in euro with %:
480,192.00 (49.99 %)

Generic theme:
3.2: Integrated environment management
Important port opportunities

Official title

Environmental integration for ports and cities

Background

The frontier between port and city has become a focal point for a wide range of tensions of an urban, environmental and social nature. Sustainable solutions to these problems are needed, contributing to a more harmonious coexistence between port and city.

One approach to this is to build a cooperative network for sharing of experience relating to integration between city and port. A similar strategy could be developed for small commercial, fishing and leisure ports found along the coastline in small municipalities.

Project Objectives

The project will:

• Demonstrate the socio-economic importance of ports and their relationship with environmental conservation

• Coordinate environmental management processes carried out in urban environments and port areas

• Develop joint port-city environmental management initiatives, emphasising monitoring and control of noise pollution, air pollution and undesirable visual impacts

• Create awareness amongst the general public about the importance of the coastal environment and the need for its conservation.

Beneficiary:

Type of beneficiary
Local authority

Name of beneficiary
Valencia Port Authority

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Name of contact person
Federico Torres Monfort

Duration of project:
36 months (Aug 2004 – Jul 2007)

Total budget in euro:
1,720,049.00

EC contribution in euro with %:
830,026.00 (48.25%)

Generic theme:
PG1.3 Integrated coastal zone management
Streamlining gelatine production processes

Official title

Demonstration project for gelatine production with use of innovative technology achieving an important washing wastewater reduction

Background

Pig skin gelatine manufacturing involves a number of steps: mincing, washing, acid treatment, washing, thermal extraction, clarification and filtration, ion exchange, evaporation, sterilisation and drying. The process is carried out in stages and uses large amounts of water and energy.

There is scope for introducing new technologies into this process in order to reduce the environmental impact and achieve reduced water and energy consumption.

Project Objectives

The project will demonstrate a new pig skin gelatine manufacturing process that both produces higher quality gelatine and reduces environmental impacts. New technology for the mincing, washing and extracting parts of the process will be demonstrated, in order to reduce wastewater. A modification to the gelatine purification process will also be implemented.

The project will also apply the Integrated Pollution Prevention and Control (IPPC) guidelines, which require conformity to consumption and emission standards based on implementation of Best Available Techniques.
Better tannin production

Official title

Saving of forest exploitation for obtaining of tanning extracts through valorisation of wine waste

Background

Deforestation is a major problem that should be restricted wherever possible. The use of renewable sources of tannin can make a contribution to reducing deforestation – currently tree species such as quebracho, mimosa, chestnut, sumac, mirabolan, valonea and tara are felled to provide tannin for the leather industry.

Alternative sources of tannin exist, chiefly from a by-product (grapeseed) from the wine industry, which is used for oil extraction and animal meat. Tannin production from the by-product would not impact on these established uses.

Project Objectives

The project will assess the value of the wine industry by-product for producing tannin suitable for use by the leather industry. This will be beneficial in a number of ways:

- Reduction in the felling of some tree species
- Obtaining a better return from a by-product that is typically of low profitable value
- Reducing dust formation in the tanning industry by replacing a powder-based product with a liquid one
- Reducing the high level of energy consumption necessary for production of tannin powder, as well as for its transportation

Beneficiary:

**Type of beneficiary**
Research institutions

**Name of beneficiary**
Asociación de Investigación de las Industrias del Curtido y Anexas

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**Name of contact person**
Xavier Marginet

**Duration of project:**
36 months (Sep 2004 – Aug 2007)

**Total budget in euro:**
964,608.00

**EC contribution in euro with %:**
474,804.00 (49.22%)

**Generic theme:**
3.1: Clean technologies
Putting waste to work

Official title

System for the integral management of the wastes produced by the mussel cultured in rafts and long-lines

Background

Mussels have great filtering capacity, resulting in considerable accumulation of bio-deposits (mussel faeces) beneath mussel rafts. These deposits gradually change the marine bed conditions, resulting in anoxia and subsequent environmental risks, including a decrease in biodiversity, increasing pollution and rising seabeds (up to 2cm per year) beneath the mussel rafts.

When appropriately treated however, the wastes can be used to produce recycled materials for reforestation and regeneration of soils in eroded areas, former industrial regions and areas adversely affected by mining and construction.

Project Objectives

The project aims to develop an integrated system for management of wastes produced by raft-cultured mussels. This will involve establishment of a system for extracting sediments deposited under mussel rafts and selective collection and transportation of the wastes.

A system for using the wastes to restore degraded soils around mines will also be developed, and mussel producers will be involved in order to develop good working practices for waste management and ecosystem preservation.
Developing kinder extraction technologies

Official title

Demonstration of innovative models at European level based on clean technologies and on the obtaining of final scenes with a positive environmental balance in extraction activities of barren and gravel

Background

Use of barren land (gravel and sand) for extraction purposes for construction is a huge enterprise on an EU-wide scale. This generates a range of environmental impacts when techniques such as crushing, washing, sizing and transporting minerals are employed.

Pollution is generated in the form of water pollution, noise pollution and emissions into the atmosphere of CO₂, and atmospheric pollution from solid particles. There is a lack of integration with the environment and unfavourable impacts on biotopes and biodiversity.

Project Objectives

The project aims to demonstrate the potential for minimising the negative environmental impact of the mining sector. Innovative clean technologies will be used to reduce water, air and ground pollution, and negative effects on biodiversity.

The feasibility of an innovative sustainable extraction transferability model will be assessed. This will combine clean technologies with environmental good practice. The project will also promote these innovative concepts to the wider sector.

Beneficiary:

Type of beneficiary
Small and medium sized enterprise

Name of beneficiary
Hormisoria, S.L.

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Name of contact person
Alberto Soto Orte

Duration of project:
36 months (Jul 2004 – Jun 2007)

Total budget in euro:
1,624,573.00

EC contribution in euro with %:
641,828.00 (39.50%)

Generic theme:
3.1: Clean technologies
Re-greening brownfield sites

Official title

Project to demonstrate the feasibility of compost bioremediation technology for the reclamation and sustainable urban management of brownfields

Background

Rehabilitation of urban brownfield areas is a priority for many European countries. There are a number of benefits from doing this: promoting land-use planning, integrating new socio-economic activities and reducing pressure on the use of greenfield sites. However, past industrial activities in derelict urban sites have left a serious legacy in the form of polluted soils. The need to rectify this and clean up pollution slows the urban rehabilitation process.

Project Objectives

The project will demonstrate the technical and economic feasibility of compost bioremediation technology as a process for reclaiming polluted brownfield sites.

The benefits of this will be:
- An accelerated decontamination process
- Accelerated rehabilitation of brownfield sites
- Promotion of integration of environmental considerations into the urban planning process and integration of new socio-economic activities as part of the sustainable development strategies in European cities

The project also addresses the design of future national and local sustainable urban development policies.

Beneficiary:
- Type of beneficiary: Small and medium sized enterprise
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- Name of contact person: José Benito Badiola Belaustegui

Duration of project: 36 months (Nov 2004 – Oct 2007)

Total budget in euro: 1,296,836.00

EC contribution in euro with %: 389,051.00 (30.00%)

Generic theme: 1.1: Urban design - Quality of life - Transport planning
Friendly farming for wetland environments

Official title

Integrated management of agriculture in the surroundings of community importance wetlands (sustainable wetlands)

Background

Mediterranean wetlands are threatened by the economic activities carried out in their catchment basins.

Conventional agricultural techniques have environmental impacts that are aggravated when they are employed in wetland catchment basins. These impacts include diminished production capacity and content of organic material; contamination of surface water by sediments, fertilisers and phytosanitary products; increased CO$_2$ emissions and gradual impoverishment of biodiversity.

Project Objectives

The project objectives are to:

- Reduce soil losses caused by erosion
- Increase the primary and secondary biological productivity of wetlands due to water transparency
- Implement training activities relating to conservation and integrated production, with the aim of reaching at least 25 percent of the farmers working in the project area.

Beneficiary:

Type of beneficiary
Professional association

Name of beneficiary
Asociación Agraria Jóvenes Agricultores de Sevilla (ASAJA-Sevilla)

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Name of contact person
José Fernando Robles del Salto

Duration of project:
36 months (Oct 2004 – Oct 2007)

Total budget in euro:
1,087,480.00

EC contribution in euro with %:
541,255.00 (49.77%)

Generic theme:
3.2: Integrated environment management
Improving pulp industry processes

Official title

Multi-stage biological reduction of EDTA in Pulp Industries

Background

Most pulp bleaching processes use hydrogen peroxide as the main bleaching chemical. Bleaching processes are sensitive to metal ions, which negatively effect the final result, and so substances such as EDTA (ethylene diamine tetracetic acid) are used to collect the metal ions, preventing deterioration.

EDTA-complexes are stable and not degraded biologically. Because of its ability to form metal complexes, EDTA leads to harmful remobilisation of metals. EDTA also causes de-loading of useful metals in the sediments and suspended particles, leading to an increase of metals in the water phase.

Project Objectives

The project will demonstrate the new BIORED concept based on a Multi-Stage Biological Reduction process, designed for biological treatment of EDTA in pulp mills.

This will be done at the sulphite pulp mill in Seffle, Sweden, by Nordic Paper Seffle AB. The experience gained during the demonstration phase will provide an important reference for the European pulp and paper industry.
Official title

Processing sludge for the recovery of energy and phosphorous with removal of heavy metals

Background

Sludge derived from sewage plants is a potentially hazardous waste that is currently deposited, incinerated or used as fertiliser. Conventional incineration of wet sludge is mainly a method of decreasing the volume of sludge, and may generate other environmental problems. Incineration does not allow recovery of nutritional content in the sludge, and offers only limited recovery of energy.

The impact of sludge as a fertiliser has not been fully investigated. Cadmium levels are generally high in sewage sludge; the level of this metal has reached very high levels in agricultural soil in some parts of Europe. Use of sludge as a fertiliser results in spreading of heavy metals, infectious pathogens and complex organic substances into the environment.

Project Objectives

The project will demonstrate a new sludge processing concept. This involves drying and hygienically treating the sludge, recovering its energy and phosphorous content, and removing of heavy metals. The methodology is adaptable to different sizes of treatment plant and different sludge conditions.

The methodology will be evaluated and disseminated throughout Europe, making a contribution to the attaining of waste management policy objectives.

Beneficiary:

Type of beneficiary
International enterprise

Name of beneficiary
Sigma Engineering AB

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Name of contact person
Tomas Haokansson

Duration of project:
18 months (Apr 2004 – Sep 2005)

Total budget in euro:
1,261,134.00

EC contribution in euro with %:
542,125.00 (42.98%)

Generic theme:
4.3: Hazardous waste
New life for underground cable waste

Official title

Converting wastes into secondary raw materials: an innovative method for material recycling of underground cable and condensers containing oil

Background

In all cities, underground cables and oil-containing condensers are used for power supply. Scrap condensers and cables are a growing environmental problem due to a lack of effective methods for separating components.

These include a mixture of plastic, rubber and heavy metals such as copper and lead. Some underground cables and condensers contain the persistent toxic organic pollutant PCB. Many cables and condensers also contain oil, which must be handled appropriately. Several thousand tonnes of underground cables and condensers are scrapped in the EU each year.

Project Objectives

The project aims to demonstrate a new technical approach to dismantling and recycling of underground cables and condensers. As well as external environmental impacts, this will also address work environment and economic issues. Demonstration projects in Sweden and Poland will be compared, and underground cable and condenser waste will be converted into secondary raw material, for reuse by metal and steel producers.
Managing animal by-products

Official title

Demonstration of a new concept for a safe, environmental advantageous, economical sustainable and energy effective system for handling animal by-product Europe

Background

Europe produces, renders or destroys 16 million tonnes of animal by-products annually. New regulations concerning animal by-products not intended for human consumption were introduced following the spread of BSE. These regulations stipulate combustion as the means for disposal of animal by-products.

Incineration is energy consuming and complex, resulting in high costs. A method based on crushing and grinding whole animal carcasses and slaughterhouse waste offers a more energy efficient and environmentally favourable alternative.

Project Objectives

The project will demonstrate the Biomal concept for handling and combustion of animal by-products. This will be tested in a full-scale application and a new modern plant will be built with a 50 000 tons capacity. The new approach will reduce Nox emissions by up to 50 percent.

The project will contribute to implementation of EU regulations laying down health rules concerning animal by-products not intended for human consumption.
Official title

Rollsbo Enlightenment Project

Background

Two significant environmental challenges facing Europe are the environmental impact of the energy conversion industry, which generates greenhouse gas emissions, and the need to reduce the large volumes of waste generated in the rape seed oil industry.

The need for a clean power supply is paramount, with a number of European and international initiatives addressing this, including the EU’s Sixth Environmental Action Programme, the European Commission’s Green Paper on security of energy supplies and the Kyoto Protocol.

Project Objectives

The project aims to demonstrate a new technique for producing electric power from an engine-driven plant powered by bio-fuels. The technology will be demonstrated at full scale and will show that no net CO₂ is emitted when running on bio-oils.

The engine used in the plant will be capable of operating on both gas and liquids. No methane will leave the plant when operating on gas. A further project objective is to contribute to the reduction of large volume waste. This will be explored by the recycling of low grade rape seed oil, which presently creates large volumes of waste.
Partnerships for waste reduction

**Official title**

Demonstrating a European method for hazardous waste management including targets for preventing and reduction of waste.

**Background**

The amount of hazardous waste generated is increasing. Urgent action is needed so that European waste policy targets are met. The problem is particularly acute in communities remote from a waste infrastructure. This can lead to stockpiling and expensive long-distance moving of waste. SMEs also find themselves at a disadvantage as they may have the same burdens imposed on them as major industry, but lack major industry’s better access to environmental guidance and advances in clean technology.

There is a need to develop a method that will overcome these obstacles and make a significant contribution to meeting European waste reduction targets.

**Project Objectives**

HAZRED will target SMEs within six priority sectors in order to reduce hazardous waste. Specifically, the project will:

- Demonstrate a partnership approach in setting waste reduction targets for each sector rather than using tax, mandatory targets or targets set by the waste producer
- Demonstrate the benefit of using a priority sector approach to waste reduction
- Demonstrate the application of hazardous waste reduction plans in achieving reduction targets
- Work with SMEs rather than major industry, as SMEs have less access to environmental expertise and services

**Beneficiary:**

Type of beneficiary
Regional authority

Name of beneficiary
Environment Agency

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Name of contact person
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Duration of project:
36 months (Dec 2004 – Nov 2007)

Total budget in euro:
1,496,782.00

EC contribution in euro with %:
725,641.00 (48.48%)  

Generic theme:
4.3: Hazardous waste
A systematic approach to water resource management

Official title

Sustainable river catchments for the South-East

Background

The ecosystem approach (EA) is a methodology to aid decision-making. It seeks to achieve integration of the three goals that relate to the economic, social and environmental dimensions of sustainability: sustainable use of natural resources, equitable sharing of the benefits derived from the use of natural resources and conservation of those resources.

However, guidance on the practical application of EA is lacking. There is a need for demonstration projects that have the ecosystem approach at their core from the outset. The principles of the ecosystem approach can be related directly to the requirements of the Water Framework Directive so that projects structured around the ecosystem approach can also help deliver requirements under the Water Framework Directive.

Project Objectives

The project will demonstrate that the sustainability of water resource management in South-East England can be improved by practically applying the twelve EA principles into catchment area management plans.

The project will be applied in the three catchments of the Darent, the Kennet and the Kentish Stour. In each of these catchments four themes will be tackled: diffuse pollution, sustainable drainage, sustainable use and quality of life. These themes are at the core of sustainable water resource issues for catchments throughout Europe.

Beneficiary:

Type of beneficiary
Development agency

Name of beneficiary
South East England Development Agency

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Name of contact person
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Duration of project:
36 months (Nov 2004 – Nov 2007)

Total budget in euro:
2,212,267.00

EC contribution in euro with %:
1,090,138.00 (49.27%)

Generic theme:
2.1: Water management at the scale of the river basin
Official title

Wastewater polishing using renewable energy crops

Background

The cleanliness of Europe’s lakes and other bodies of fresh water is threatened by effluent discharges and excessive fertiliser usage. Currently, most domestic wastewater is treated using physical and/or biological processes to remove large particles (primary treatment) and decrease the oxygen demand on receiving waters (secondary treatment).

Additional treatment to remove nitrogen and phosphorous from sewage effluent may be required under recent European Directives. This can be achieved by installing wastewater polishing systems (or tertiary treatment). However existing wastewater polishing systems can be costly to implement and operate, and produce sludge which must itself be disposed of. More cost effective, environmentally-friendly wastewater polishing solutions are therefore being sought by the water industry.

Project Objectives

The project aims to:

• Demonstrate nutrient removal from sewage effluent using wastewater polishing and bioenergy crops

• Enhance the efficiency of the system used in the project to ensure it can be widely adopted by water companies

• Identify long-term environmental hazards from pathogens, heavy metals and hazardous organics by comparing the risks associated with their disposal in Water-Renew systems to their conventional disposal in surface waters
Turning financial market
decision-making green

Official title
Application and dissemination of value-based eco-ratings in financial markets

Background
Economic activity contributes substantially to major environmental problems such as global warming, acidification, ozone depletion and loss of biodiversity. Consequently, those firms generating more value per environmental impact can expect to be more financially and environmentally sustainable. However, because appropriate tools for integrating environmental aspects into everyday financial decision-making are lacking, financial market decisions cause an unnecessary environmental burden.

This is largely due to the fact that existing tools fall back on a natural-science based logic which is incompatible with the rationale underpinning resource allocation decisions in the financial markets. All current approaches to eco-rating concentrate on the way environmental burden is created by a company’s economic activities.

Project Objectives
This project aims to demonstrate the feasibility of, and potential for, value-based eco-ratings in today’s financial markets. Specifically, the project will:

• Promote wide acceptance of significance of environmental concerns in financial markets
• Provide eco-rating agencies with a powerful tool for offering useful information on corporate environmental performance to financial market actors beyond the “green” niche, thus promoting the economic viability of these SMEs
• Enhance optimal allocation of environmental resources and reduce environmental impacts through investments in eco-efficient companies
Easier EMAS

Official title

Networking with EMAS for sustainable development

Background

The EU Eco-Management and Audit Scheme (EMAS) can be complex for smaller local authorities to fully implement. Small authorities have limited human resources for coping with the necessary management language and implementation processes.

Many organisations have tried to adopt EMAS without success, having struggled with the concepts without reaching the stages at which genuine impacts on the environmental performance of an organisation are felt. However, careful application of EMAS has the potential to offer major benefits for local authority performance, whatever its size.

Project Objectives

The aim of NEST is to deliver a Sustainable Process for EMAS verification to small and under-resourced local authorities. This will be especially targeted at low participation countries (Greece and new EU Member States) and sectors (municipal authorities). The steps of the project are as follows:

- Problem identification: reviewing EMAS procedures and compliance problems
- Solution delivery: establishing a good practice methodology enabling local authority partners to tackle EMAS compliance problems
- Performance monitoring: obtain EMAS verification for the participating local authorities by the close of the project
- Exit strategy: exploring an exit strategy for sustaining the process

Beneficiary:

Type of beneficiary
Local authority

Name of beneficiary
Kirklees Metropolitan Council

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Name of contact person
William Edrich

Duration of project:
36 months (Oct 2004 – Oct 2007)

Total budget in euro:
1,811,196.00

EC contribution in euro with %:
900,164.00 (49.69%)

Generic theme:
3.2: Integrated environment management
Waste composting for a greener landscape

Official title
Treating Waste for Restoring Land Sustainability

Background
Europe is facing a number of large-scale environmental problems related to waste and land-use. The amount of waste produced – currently two billion tonnes a year – is increasing by 10 percent annually. 410 million tonnes of industrial waste are produced per year. At the same time, urban areas, in which 80 percent of Europeans live, face a common challenge of sustainable development. In rural areas, past industrial activity has meant an inheritance of 52 million hectares of degraded agricultural land.

In addition, Europe is committed to Kyoto Protocol compliance and must measurably reduce greenhouse gas emissions, particularly in urban areas.

Project Objectives
In-vessel composting treatment is seen as a means of re-using waste for the sustainable restoration of post-industrial and degraded land in Europe. The project will demonstrate:
• Use of in-vessel composting of waste to regenerate brownfield sites
• Restoration of post-industrial sites and degraded land in rural areas to create high conservation value habitats
• Use of waste and in-vessel composting to remove industrial pollutants
• Use of waste to create high-biodiversity areas within urban and rural settings
• Demonstrate conversion of waste by in-vessel composting to environmentally-friendly materials suitable for soil creation and large-scale land restoration
• Demonstrate diverting of waste from landfill sites, thus minimising greenhouse gases

Beneficiary:
Type of beneficiary
University
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Duration of project:
36 months (Oct 2004 – Sep 2007)

Total budget in euro:
3,127,741.00

EC contribution in euro with %:
1,525,928.00 (48.78%)

Generic theme:
4.1: Municipal waste (including household and commercial)
A great deal of additional information on the European Union is available on the Internet. It can be accessed through the Europa server (http://europa.eu.int).

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