The LIFE Programme: Over 20 years upgrading waste management in the EU

Carlos DE LA PAZ
LIFE Programme - Communications Team

3rd International Conference on Sustainable Solid Waste Management
July 2-4, 2015 – Tinos, Greece
The LIFE Programme

LIFE = L’Instrument Financier pour l’Environnement

The only EU funding tool exclusive for the Environment

• Born in 1992
• 4 171 projects approved
• 3.4 billion euros for 2014-2020
• Two sub-programs:
  - LIFE Environment
  - LIFE Climate Action
Structure: LIFE 2014-2020

Sub Programe: Environment
- 2,6 billion € (75%)

Sub Programe: Climate Action
- 864 mio € (25%)

- Resource efficiency
  - Water
  - Res. eff.
  - Waste
  - Health
  - Air

- Nature & Biodiversity
  - min 1,15 billion € (55%)
  - Habitat & species
  - Biodiv. strategy 2020

- Governance & Information
ENVIROMENTAL PROBLEM

- Felt roofing material contains 40-50% bitumen, compared with 5-7% in road asphalt.

- At end of life, waste bitumen is landfilled or incinerated releasing heavy metals, CO₂ and VOCs into the air and soil.

- 1.8 million tonnes/year of waste bitumen from roofing materials generated in the EU. Some 40 000 tonnes in Denmark.

From Roof to Road website
OBJECTIVES

- Demonstrate a method for recycling bitumen felt roofing material and use it in road construction

METHODOLOGY

- Collection of the raw material
- Development of a mobile processing machinery for:
  - Grinding
  - Sorting
  - Mixing in the asphalt production
- Tests in road construction

From Roof to Road website
RESULTS

- Development of a waste collection network with 150 suppliers (landfills and roofing felt manufacturers)

- 1000 tonnes of waste roofing material processed

- Recycling of 70% of the waste roof, replacing 10% of virgin bitumen in road construction

- New good quality asphalt. All necessary certifications passed except for use on airport runways.

- Reduction of GHG emissions: 1.7 kg CO₂ per kg roofing felt diverted from incineration

From Roof to Road website
ENVIRONMENTAL ISSUE

Poor management of protected grasslands in Europe due to high conservation costs.

OBJECTIVES

The PROGRASS LIFE project tested an innovative bio-energy generation system using biowaste from grassland conservation actions.
METHODOLOGY

PROGRASS website
RESULTS

- **Processing capacity:**
  400 kg silage/day

- **Fuel production:**
  90 kg dry matter/day

- **Biogas yield:**
  7 kW
ENVIRONMENTAL PROBLEM

Europe dredges 200 million m³/year of port sediments. This sediment is landfilled.

OBJECTIVES

To develop an integrated system for

- Treating
- Recycling
- Valorising
dredged sediments from ports.

SEDI.PORT.SIL website
METHODOLOGY & RESULTS

Recovery of 99% of the materials in the sediment

- **Coarse sand** for beach nourishment;

- **Fine desalinated sand** → for entombments and other construction uses;

- **FerroSilicon alloys (50% Silicon)** → steel industry;

- **Vitrified inert materials** → low quality construction (or entombment) materials;

- **Non-polluted clays** → road beds or road foundations;

- **Heat**, in the form of water at 90 °C → long-distance heating networks to surrounding industrial plants
More information

New Regulation 2014-2020:
[Regulation (EC) No 1293/2013](http://ec.europa.eu/life/contact/nationalcontact)

National Contact Points:
Information on eligibility and project preparation
[http://ec.europa.eu/life/contact/nationalcontact](http://ec.europa.eu/life/contact/nationalcontact)

EU Communication tools and services:
- [LIFE website](http://ec.europa.eu/life/contact/nationalcontact)
- [Project database](http://ec.europa.eu/life/contact/nationalcontact)
- [Thematic publications](http://ec.europa.eu/life/contact/nationalcontact)
Thank you for your attention!

Questions?

Carlos de la Paz
Carlos.delapaz@neemo.eu
ENVIRONMENTAL PROBLEM

In the next 20 years, world carbon dioxide (CO2) emissions are expected to increase by 1.9% annually. This increase will mainly come from the burning of fossil fuels for energy production.

OBJECTIVES

To show the feasibility of producing bio-methane from biogas at a competitive cost and use it for:
- injection into the natural gas grid and
- as transport fuel
METHODOLOGY overview

Anaerobic Digestion Plant ➔ DIGESTATE ➔ ALGAE BIOMASS ➔ BIOGAS purification ➔ CO₂ ➔ Cryogenic Biogas Upgrading System ➔ BIOMETHANE ➔ Fuelling Station

Gasgrid Injection point ➔ Portable Injection System ➔ CNG Truck ➔ VEHICLE FUEL

BIOGRID (LIFE07 ENV/E/000829)
RESULTS

- Development of a **carbon-negative biomethane production** and distribution system linked to organic waste management

- Demonstration of **algae cultivation** with digestate and CO2 from biogas purification + **reuse** of algae biomass for biogas production

- Development **first 100% biomethane-fuelled** vehicle in Spain

- **First biomethane injection** in the Spanish natural gas distribution network

- **High replicability potential** → economically viable for plants with capacity of over 500 Nm3/h