

# **ENERDEC**

**Maximum Energy Yield from Organic Wastes and Decontamination to a High Quality Organic Fertiliser by a Microbiological Hybrid Process**

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**IFA-TULLN (AUSTRIA)**



**BIO-ENERGY  
ENLARGED PERSPECTIVES**

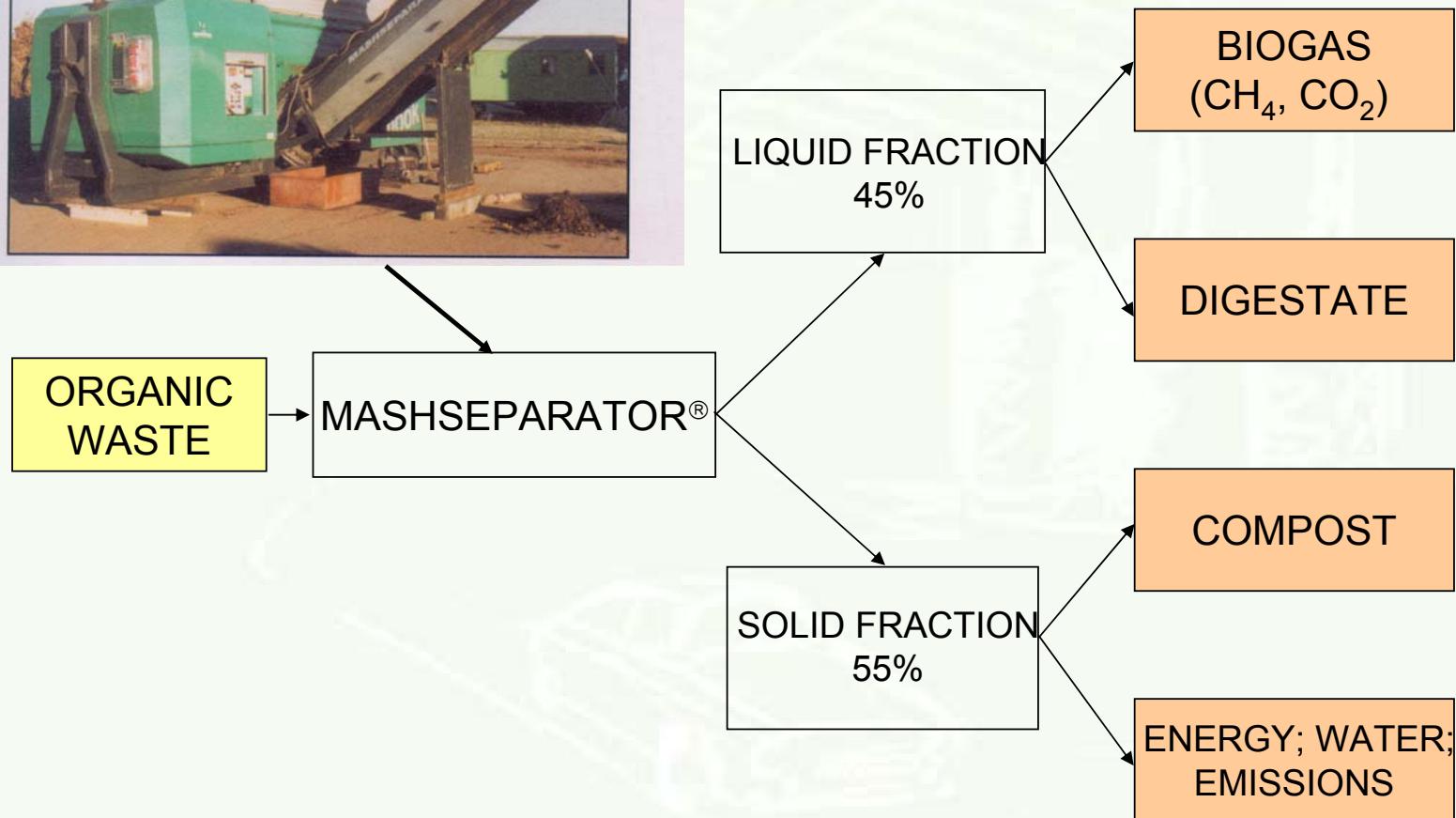
*Budapest ,16-17 October 2003*

# PARTICIPANTS

AUSTRIA	ITALY	GERMANY	SPAIN
COORDINATOR AND SME	SME	SME	SME
Komptech- Farwick	SESA Societa Estense Servizi Ambientali S.p.A.	ENTSORGUNGS UND VERWERTUNGS GmbH Eggertshofen	INDUTHERM MFN (Matadero Frigorificio del Nalon)
RTD-performer	RTD-performer		
IFA-Tulln  Profactor	Scuola Agraria del Parco di Monza		

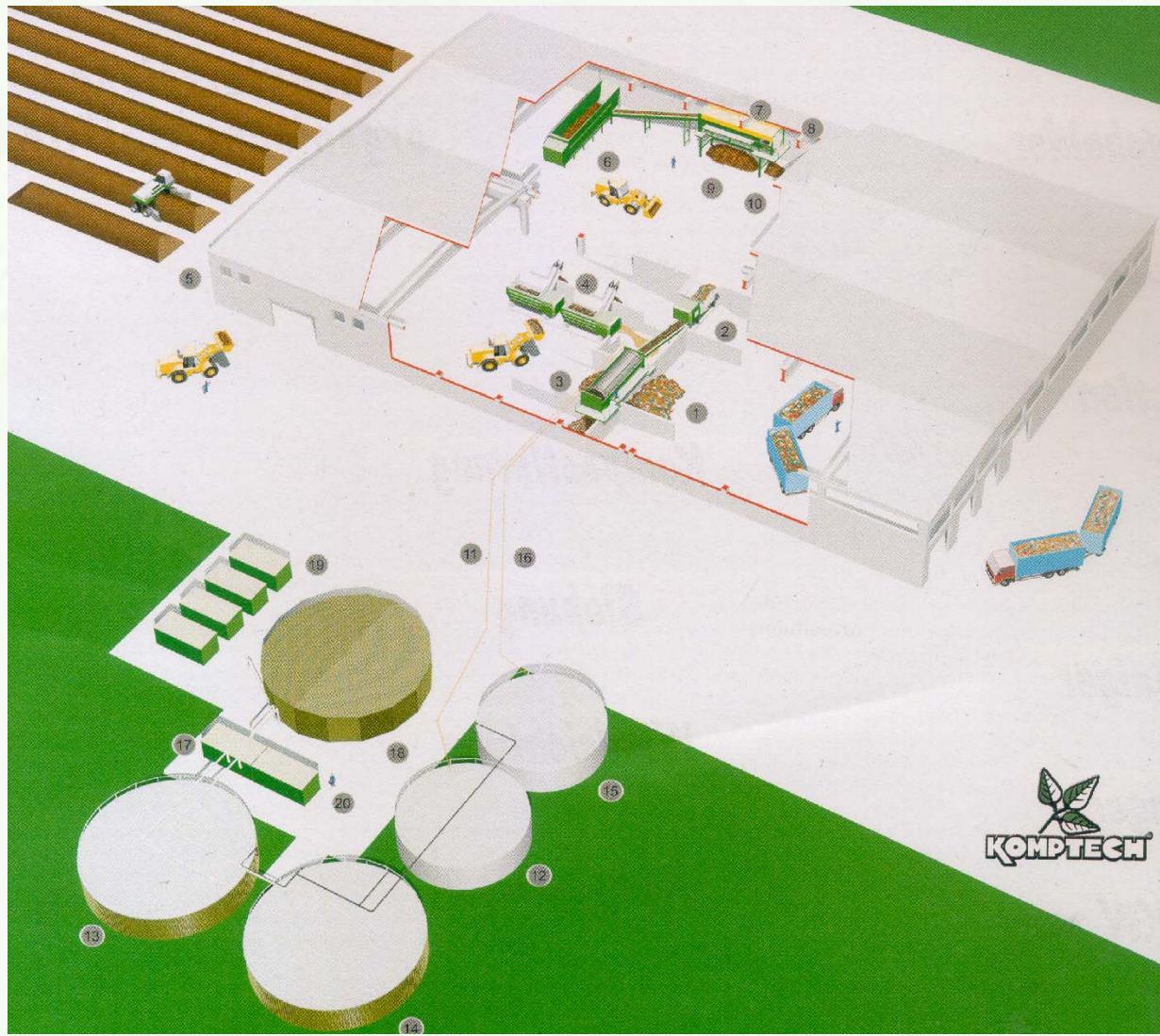
# THE B.S.F.C PROCESS I

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## B.S.F.C.- Process II

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## **BIO-ENERGY ENLARGED PERSPECTIVES**



# **ENERDEC-BIOGASPLANT (ITALY)**

## **OPTIMIZATION OF ENERGY (BIOGAS) PRODUCTION**



# WHY ANAEROBIC DIGESTION (BIOGASPRODUCTION) ?

- RENEWABLE ENERGY – SUBSTITUTION OF FOSSIL FUELS
- ORGANIC FERTILISER PRODUCTION
- ORGANIC WASTE DISPOSAL
- ENHANCEMENT OF ENERGY BALANCE
- REDUCTION OF UNCONTROLLED METHANE EMISSIONS

- **GREENHOUSE GAS AGREEMENTS**
- **WHITE PAPER (1996)**
- **PROMOTION OF ELECTRICITY FROM RENWABLE ENERGY SOURCES DIRECTIVE 2001/77/EC**
  - 12 % of gross inland energy consumption from renewable energy by 2010, of which electricity would represent 22.1 %
- **WORKING DOCUMENT BIOLOGICAL TREATMENT OF BIOWASTE;2<sup>nd</sup> DRAFT**
- **LEGISLATION ON BIOFUELS COM (2001) 547**
  - Substitution of traditional fuels by alternative fuels in the road transport sector
  - Allow member states to apply differentiated tax rates in favour of biofuels

# LEGISLATION BACKGROUND II

- **LANDFILL DIRECTIVE 1999/31/EC**

Reduction of biodegradable waste going to landfill

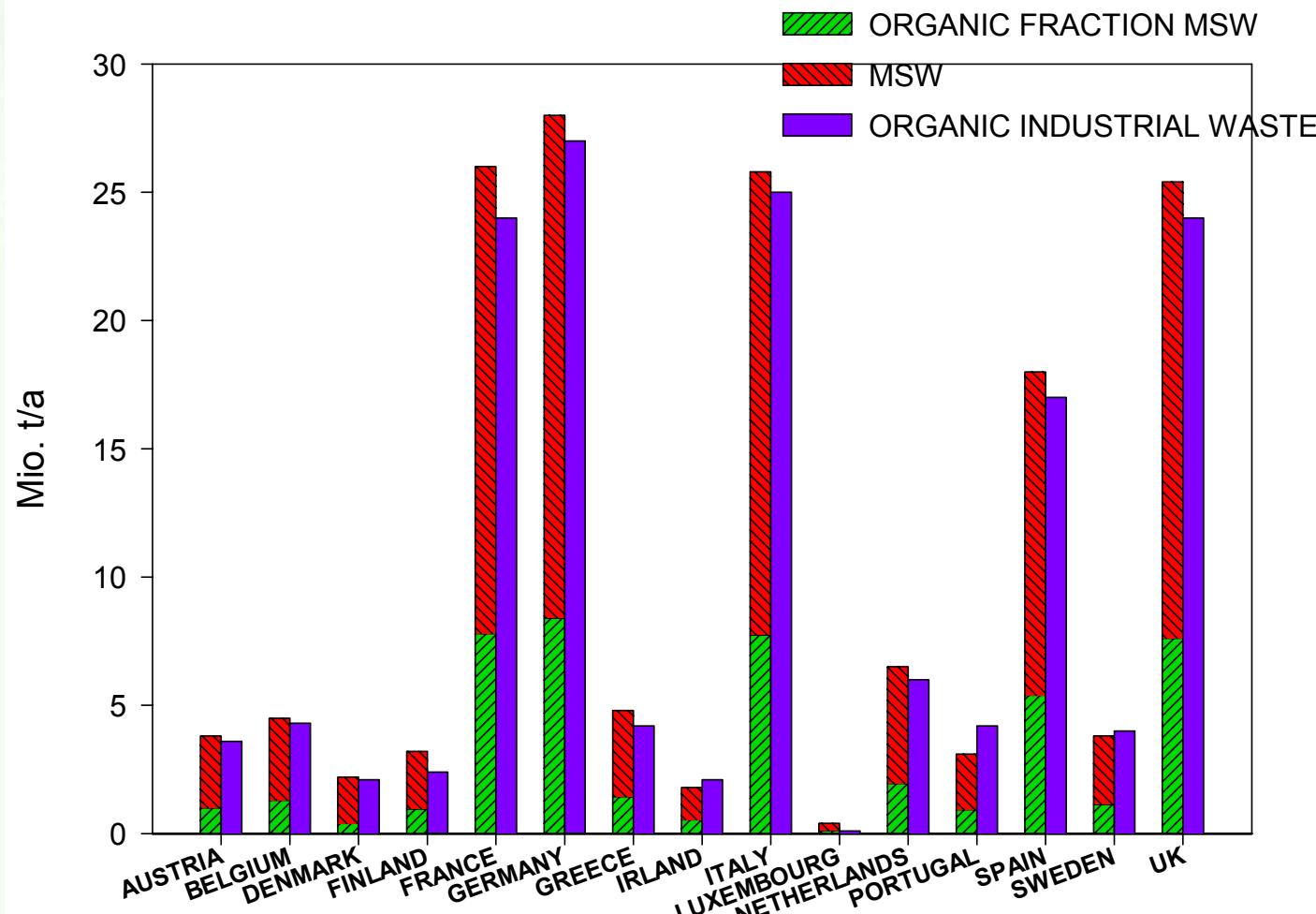


SEPARATE COLLECTION



**INCREASE OF AVAILABLE BIOGENIC WASTE FROM COMMUNITIES**

## POTENTIAL OF MUNICIPAL AND ORGANIC WASTE IN EUROPE



# Animal Waste in the EU

## EU (1998)

Animal Waste (raw total): 16 100 000 t p.a.

Thereof condemned : 1 800 000 t p.a.

Produced MBM: 3 000 000 t p.a.

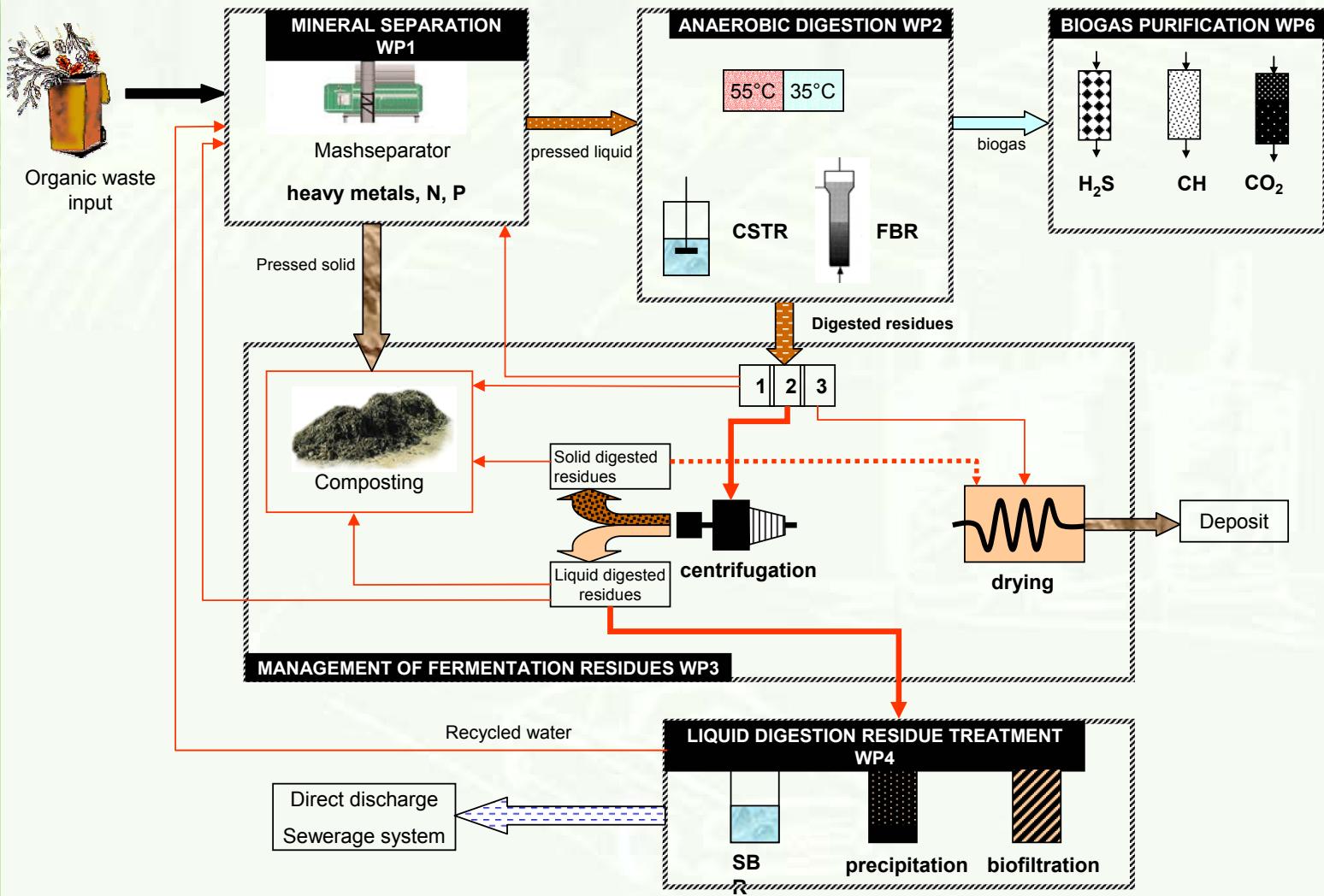
Produced Animal Fat: 1 500 000 t p.a.

# **ENERDEC (CRAF-1999-71916)**

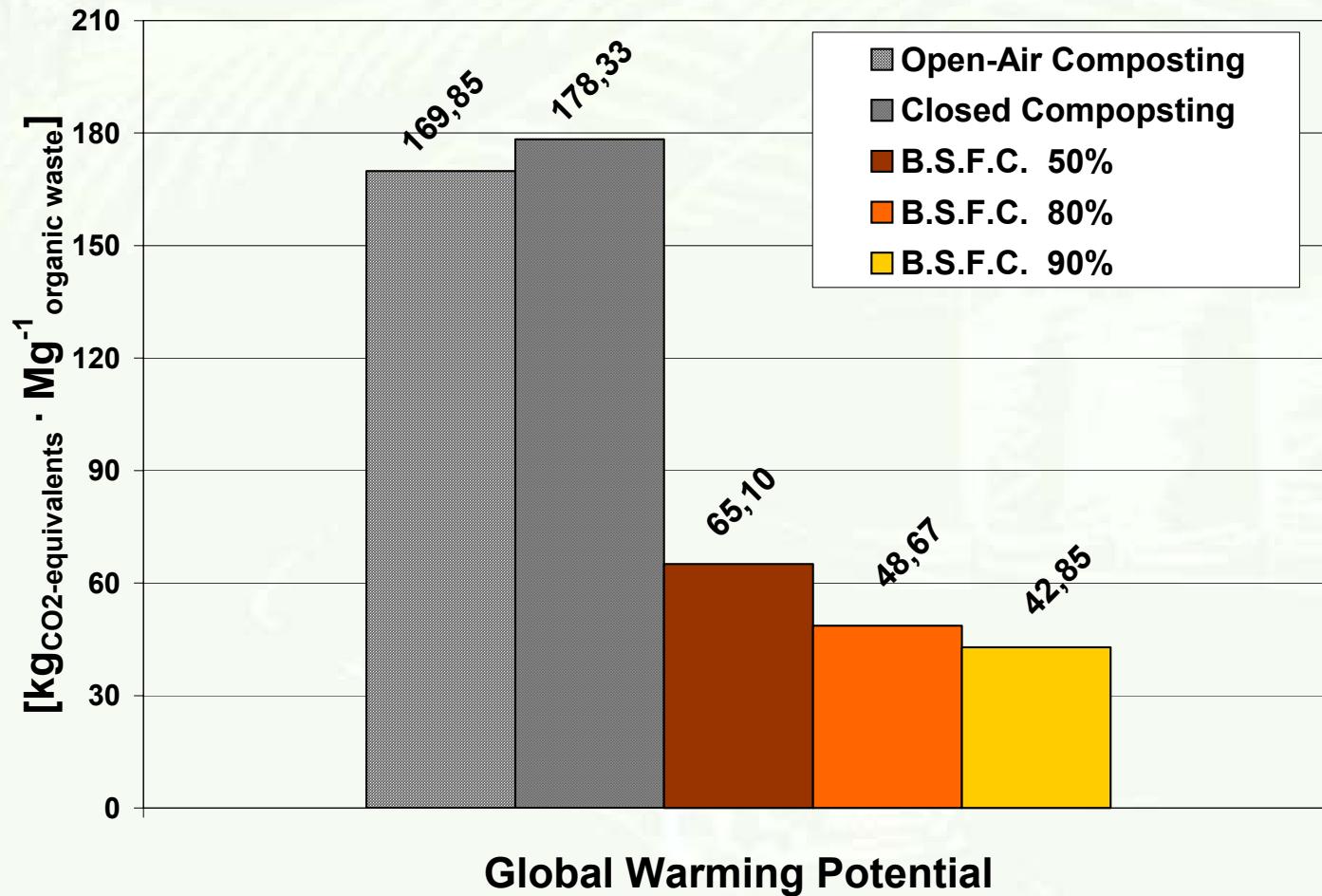
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- Improving energy production for different new organic waste materials
- Upgrading of the biogas for use in the natural gas grid and in future in fuel cells
- Decrease of heavy metals and salt in raw material to improve compost quality
- Development of an economically acceptable method to reduce N and P contamination in the digestate (aerobic treatment)

# RESEARCH ACTIVITIES DURING THE PROJECT ENERDEC



## FIRST RESULTS



# DIFFERENT UTILIZATION POSSIBILITIES OF BIOGAS

## ENERDEC SHOULD FORCE BIOGAS UTILIZATION

- BIOGAS FOR CONVENTIAL CHP
- BIOGAS FOR THE NATURAL GAS GRID
- BIOGAS FOR FUEL CELLS
- BIOGAS FOR TRANSPORT FUEL

