

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**

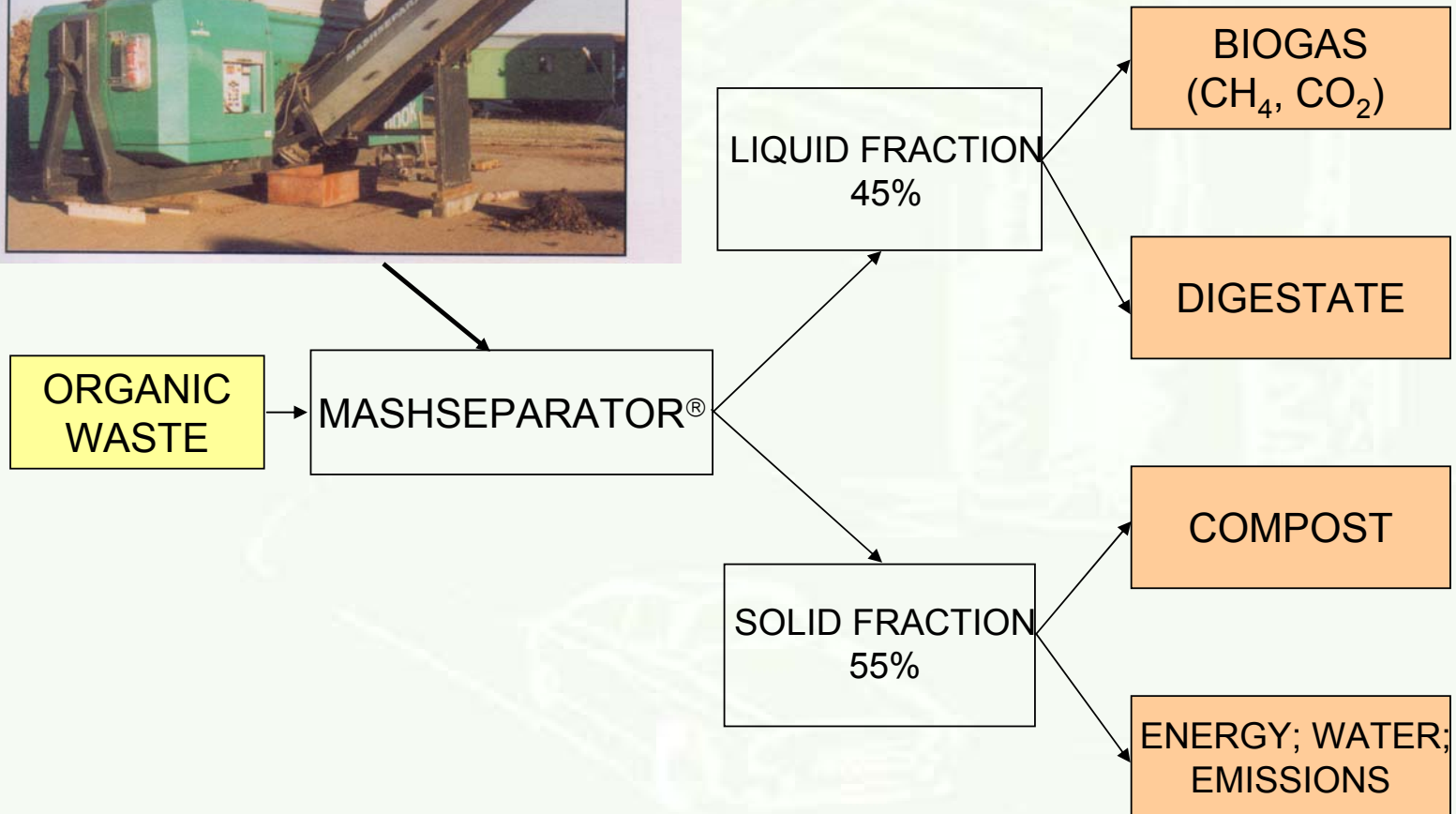
Budapest ,16-17 October 2003

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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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

LEGISLATION BACKGROUND I

- **GREENHOUSE GAS AGREEMENTS**
- **WHITE PAPER (1996)**
- **PROMOTION OF ELECTRICITY FROM RENEWABLE 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; 2nd 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

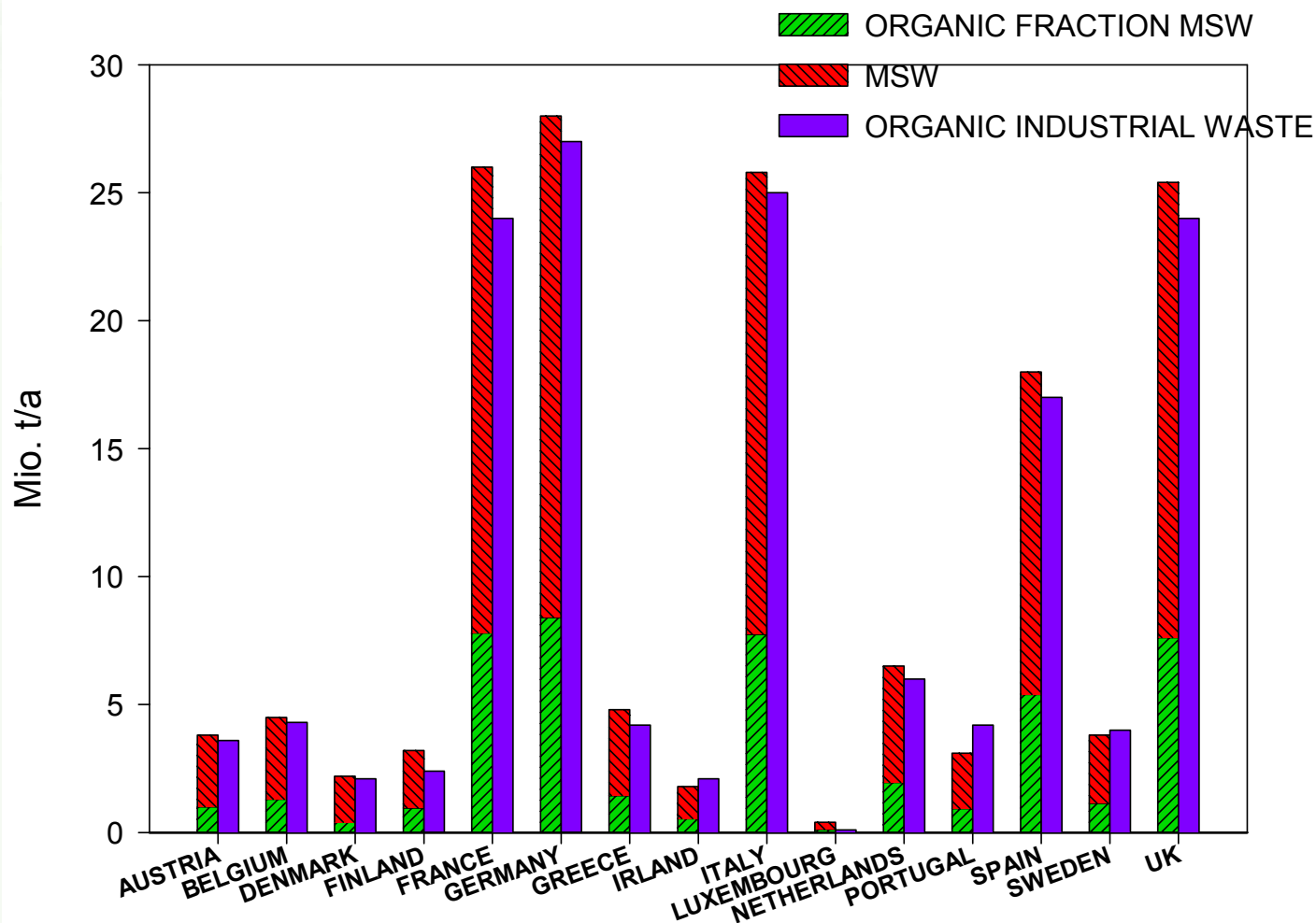


SEPARATE COLLECTION



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.

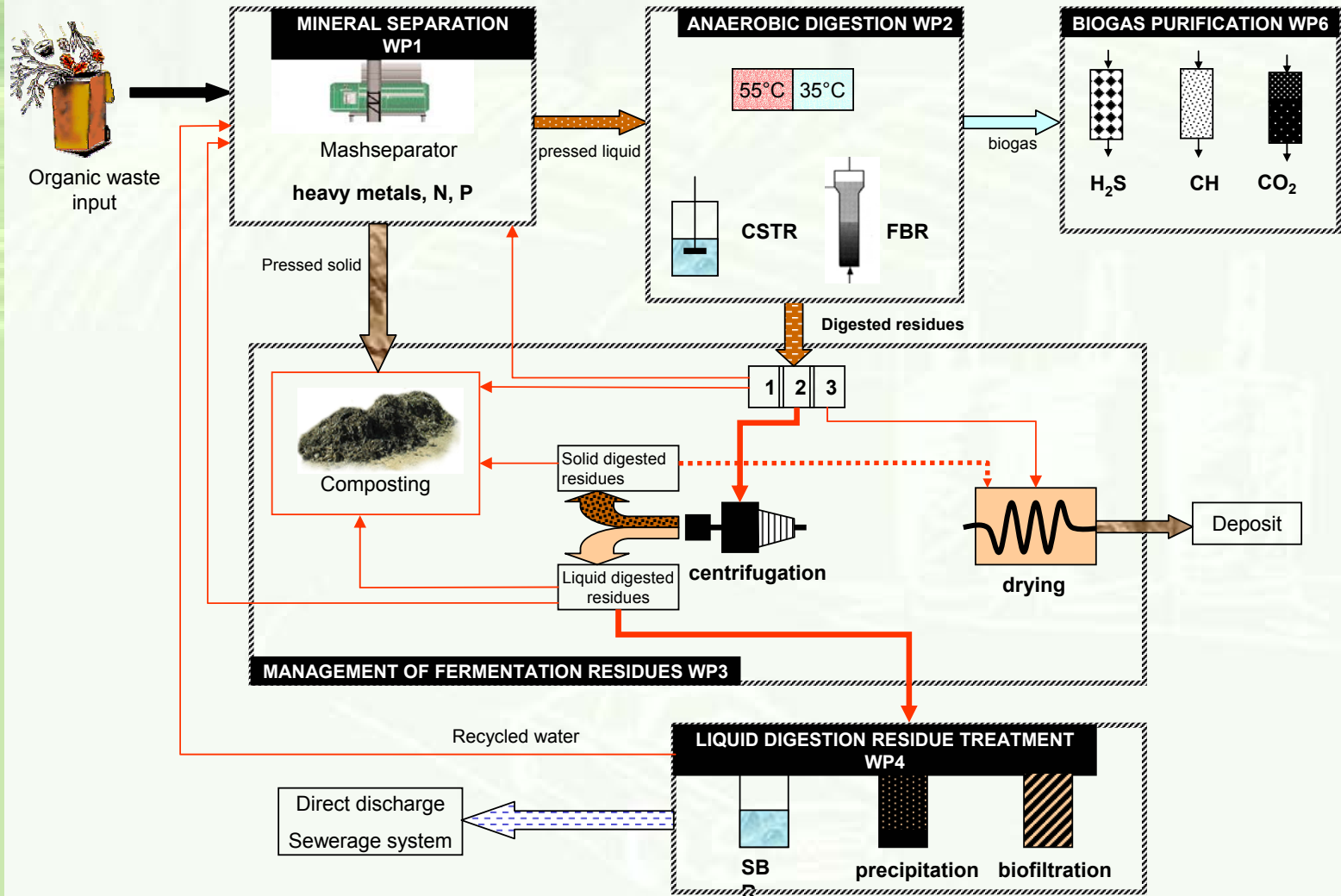
Produced Animal Fat: 1 500 000 t p.a.

ENERDEC (CRAF-1999-71916)

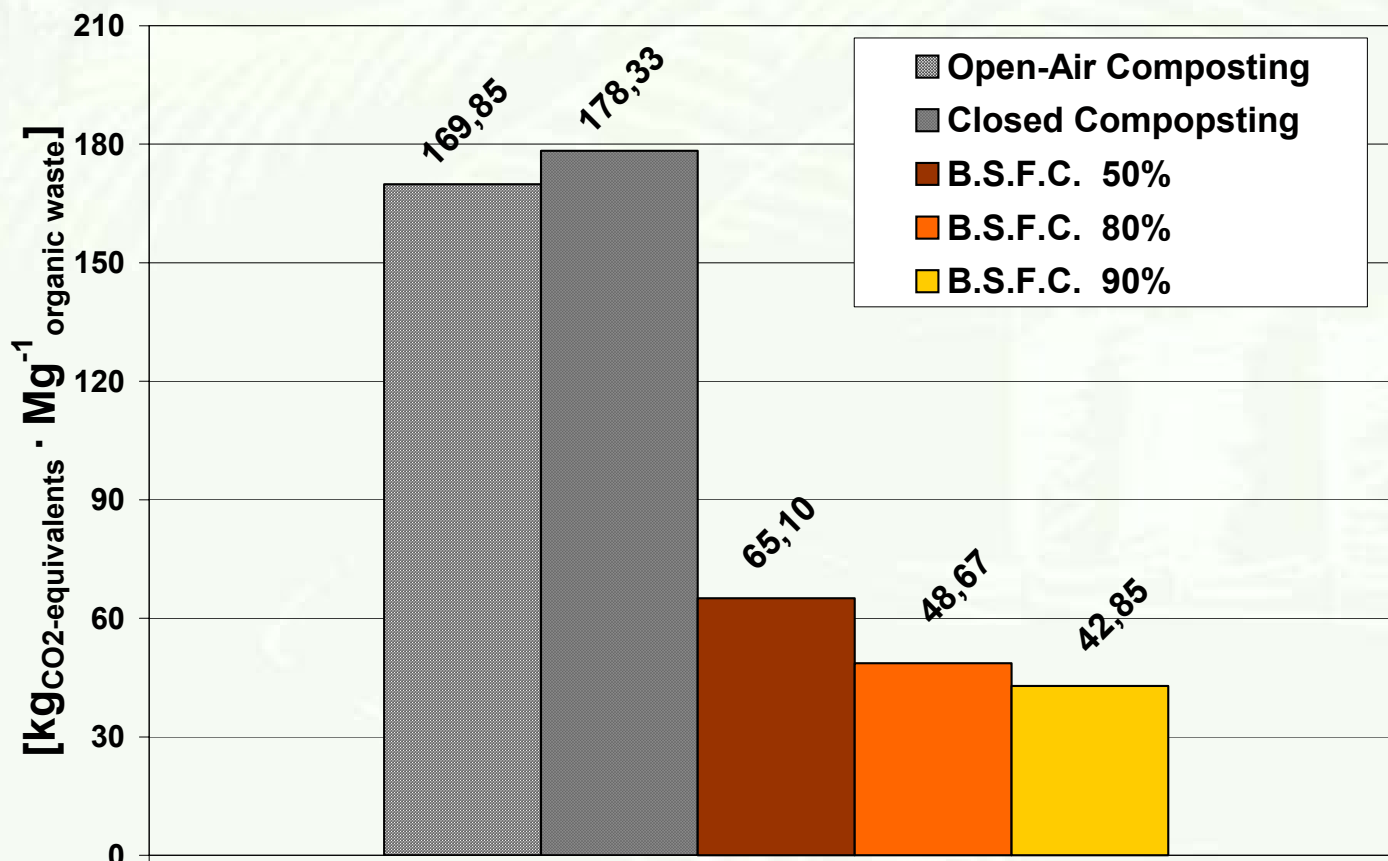
Maximum Energy Yield from Organic Wastes and Decontamination to a High Quality Organic Fertiliser by a Microbiological Hybrid Process

- 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



Global Warming Potential

DIFFERENT UTILIZATION POSSIBILITIES OF BIOGAS

ENERDEC SHOULD FORCE BIOGAS UTILIZATION

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

