



EUROPEAN
COMMISSION

Community Research

Oil and fats for food, fuels and products

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A Diester Industrie International Company

Member of the European Biodiesel Board

EUROPEAN CONFERENCE on BIOREFINERY RESEARCH

Helsinki, 19 and 20 October 2006

EBB

European Biodiesel Board

Dii
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What is Diester Industrie International



40%

60%



Livorno (IT): 160 ktons/y (from '92)
Bruck (A): 25 ktons/y 85 ktons/y

Marl 50% (D): 250 tons/y
Mannheim (D): 120 tons/y

What is EBB?



Campa Biodiesel



EBB
European Biodiesel Board



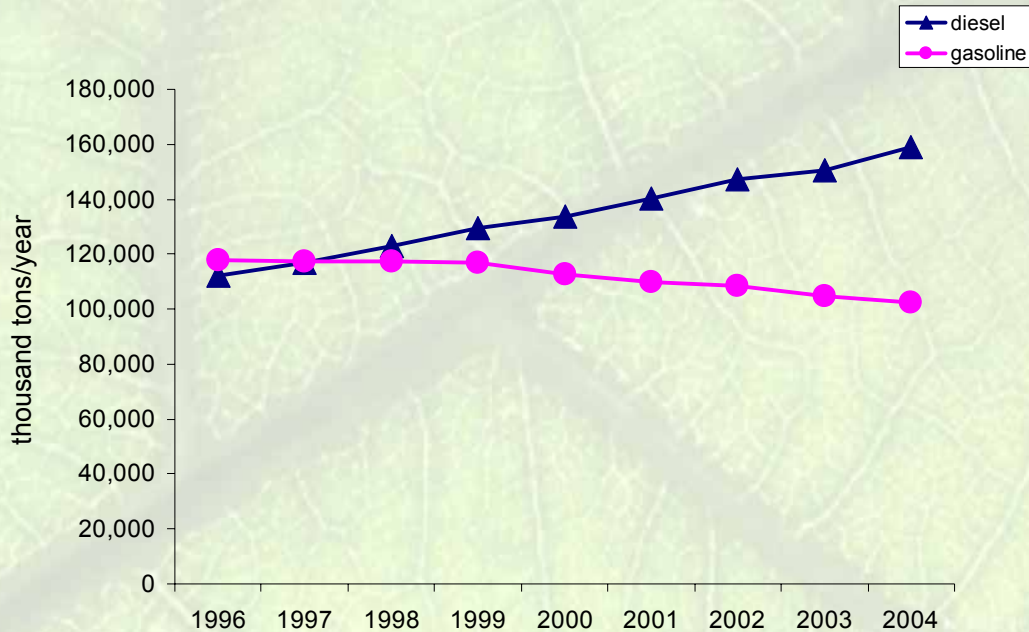


- **Why biofuels**
- **Legislation**
- **Markets**
- **RTD potential**

Why biofuels, why biodiesel

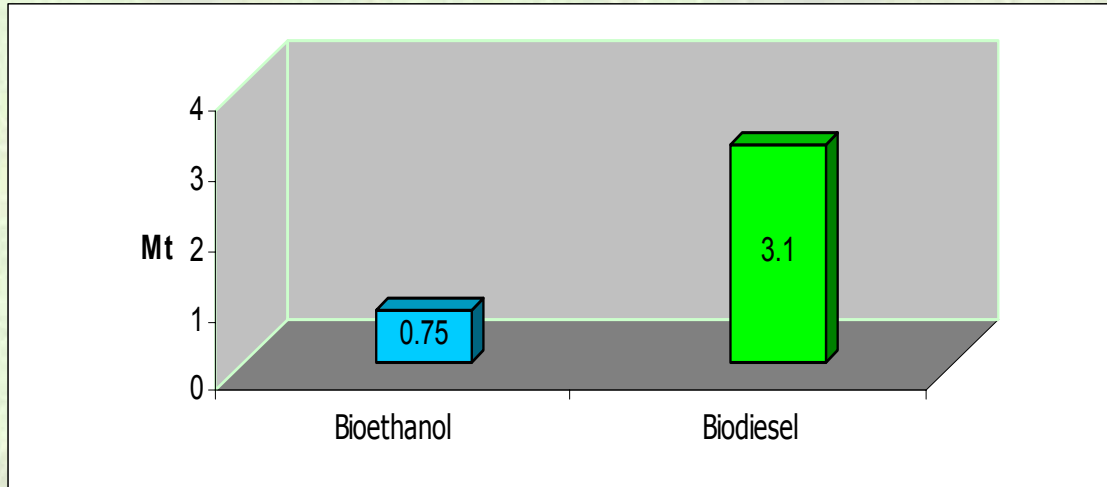
- Environmental advantages
- Rural development
- Social and economic advantages: jobs, technology, etc.
- Independence and security of energy supply
 - also EU diesel supply shortage

EU15 Fuel Consumption Evolution



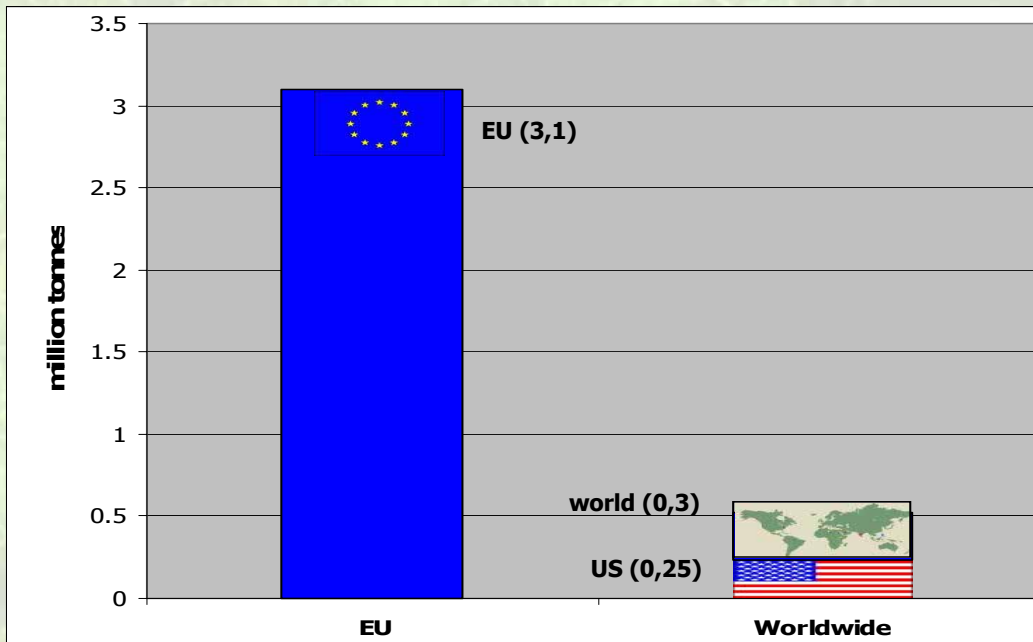
Source: EU Commission/DG TREN

2005 production of biofuels in the EU-25



Sources: EBB, EBIO

EU and Worldwide biodiesel production in 2005



(estimate - million tonnes)



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Evaluating Directive 2003/30:

a visionary policy with positive impact on biodiesel

- **Biodiesel growth accelerated in 2005 (65% when compared to 30-35% in the previous years)**
- **Approximately 1,5% of the diesel market today (although the global biofuels share is much lower)**
- **2006 biodiesel production capacities are over 6 Mtonnes**
- **Many new plants and projects should further increase the biodiesel industry capacities in 2007 and 2008**
- **The biodiesel industry is ready for the 2010 challenge**

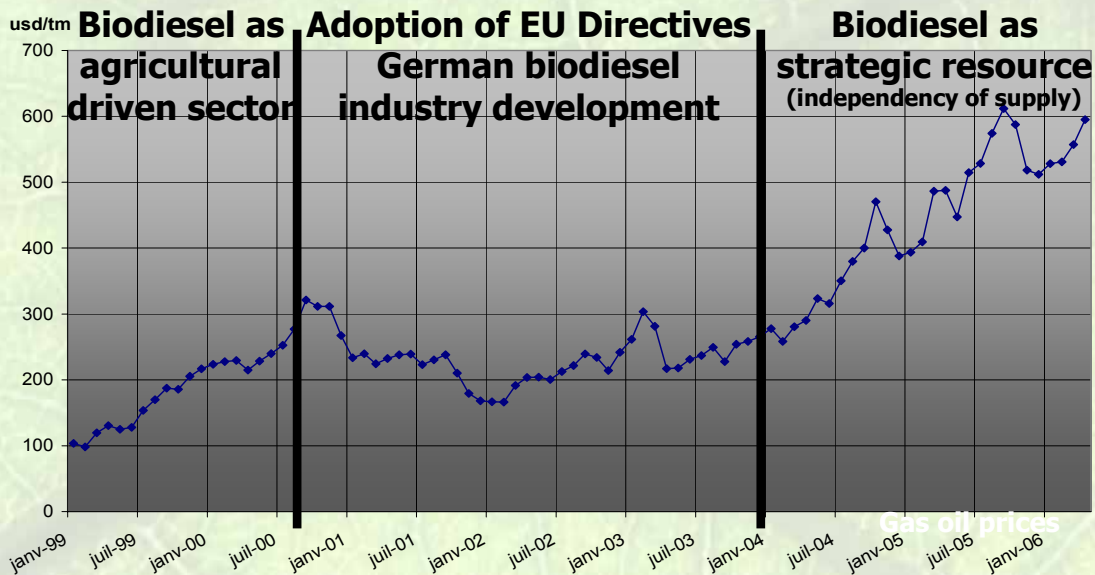
Main EU challenges

- **Revision of Directive 2003/30 and EU targets**
- **Availability of a sufficient supply of biodiesel raw materials**
- **Increase to 10% the incorporation of biodiesel in diesel**

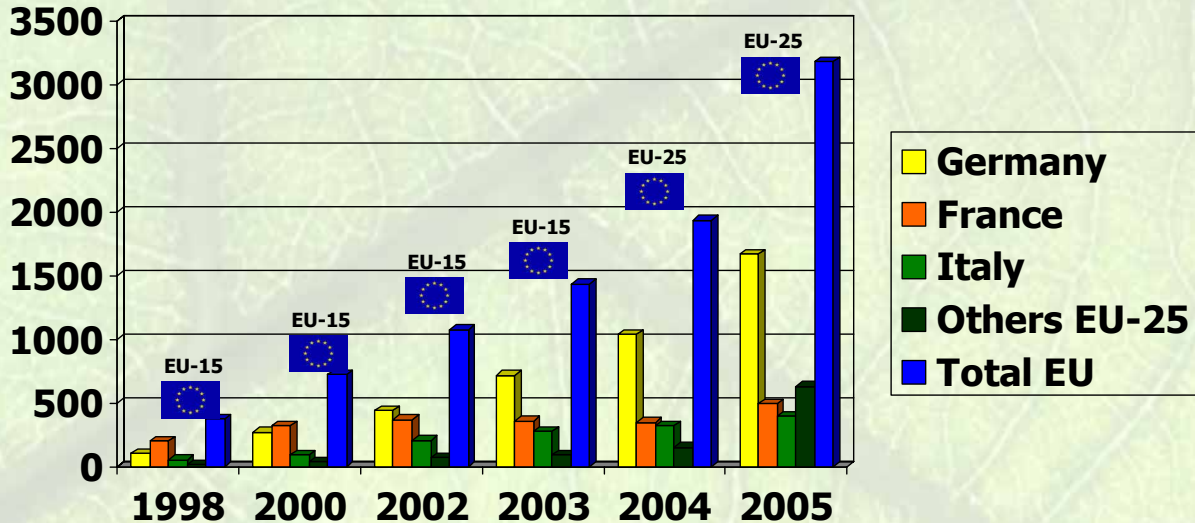


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Introductory remarks: 3 historical phases

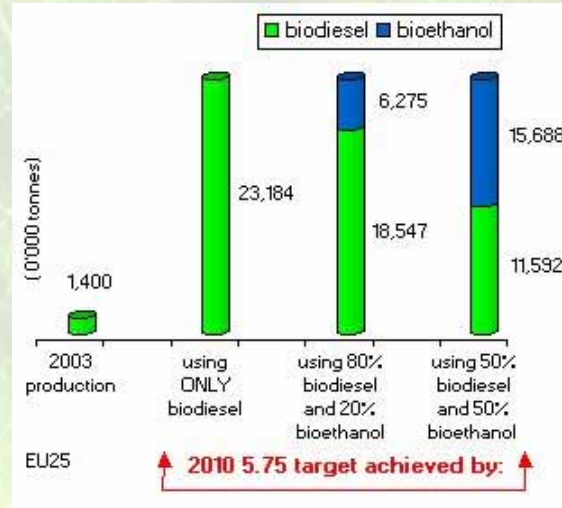


EU Biodiesel production in Member States and in the EU ('000 t)



5,75% Scenario for the EU-25

- What would the Directive's targets represent in practice?



Future availability of agricultural raw materials

- Present EU rape production is 15 MT → possible over 20 MT in 2009-10
- TO ATTAIN targets: rape prices need to be motivating for farmers
- IMPORTS: the biodiesel industry supports a free trade approach provided that the European potential is maximised

Raw materials use and biodiesel **QUALITY**

- **QUALITY** is the precondition to long term biodiesel success
- Related to standards and to biodiesel raw materials
- Strong quality commitment from the European Biodiesel Industry
- **ANNOUNCEMENT:** EBB is going to create and manage an EBB Quality Report (Biodiesel Quality Assurance System)

Revision of gasoil EN590

PERCENTAGE OF INCORPORATION OF BIODIESEL (FAME) IN CONVENTIONAL DIESEL NEEDS TO BE INCREASED TO 10%

- **Urgent priority: needed to fulfil the 5,75% target**
- **5,75% in energy content = 6,5% biodiesel target in volume**
- **CEN revision of EN 590 diesel standard has just started**
- **For revision of Directive 2003/30: labelling obligation should only start with FAME blends higher than 10%**



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Presently available biofuels technologies and future biofuels technologies

- **Concept: no competition/exclusion about biofuels: we have to use all the options**
- ***“Different players of the same team “* concept**
- **Presently available technologies are not obsolete (65% increase last year and large potential for improvement)**

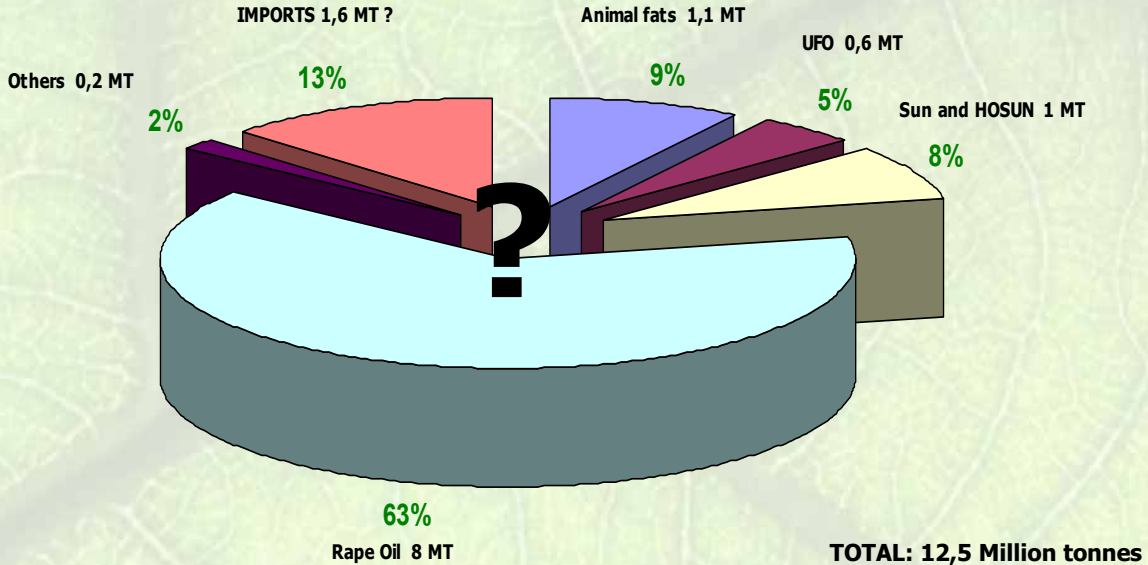
Biodiesel production RTD potential

- Raw materials
- Processing
- CO2 balance – although already very good
- By-products use
- Final uses

Raw materials

- Larger number of possible raw materials (maintaining very high quality profile)
 - *Future raw material mix*
- Improved recycled fats recovery systems
 - *Better recycling and purification potential for improvement*
- Biodiesel from Jatropha, Algae, other kind of natural fats and biomass – virtually all kind of natural fats could be employed
- Reduction or absence of Agricultural inputs depending on raw material employed

5,75% biodiesel target a possible raw materials scenario



Processing

- **FAEE: Fatty acid ethyl esters**
 - *CEN process is starting*
 - *Some studies in France and Italy*
- **Improvements of oil extraction and esterification process due to different choice of raw materials**
 - *Flexibility of the plant is a must in the technology choice*
- **Reduction in energy employed**
 - *Actual technology improvement*
 - *New technology: microwave, others*
- **Biodiesel from Jatropha, Algae, other kind of natural fats and biomass**

CO2 balance

- **More efficient processing**
- **Waste (UFO, animal fats) or alternative raw material use – algae from waste waters**
- **Better use of glycerine and other by products**
- **Use of Oilseeds meals for power generation in the plant**

By-products use

- **New outlets for glycerine**
 - *Animal feed uses*
 - *Substitution of mono ethylene glycol in automotive antifreeze*
 - *De-icing in airports*
 - *Energy generation (burning, fermentation)*
- **Improved research on GTBE**
 - *Oxygenate for fuels*
- **By products of alternative raw materials (Jatropha, algae) employed for energy in processing plant**
 - *“bio-refinery concept”*

Final uses

- **Biodiesel as navigation fuel**
 - *No toxicity (less toxic than salt)*
 - *Fully biodegradable*
- **Used in Erika and Exxon Valdes cleaning**
- **Biodiesel in special environments (mining, agriculture, national parks, protected areas)**



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