



## **Bio Fuels**

Analyst Meeting July 4, 2006

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## Supporters of Renewable Fuels



**“The use of vegetable oils (bio diesel) for engine may seem insignificant today. But such oils may become in course of time as important as Petroleum and Coal tar products of the present time – Rudolf Diesel 1912”**

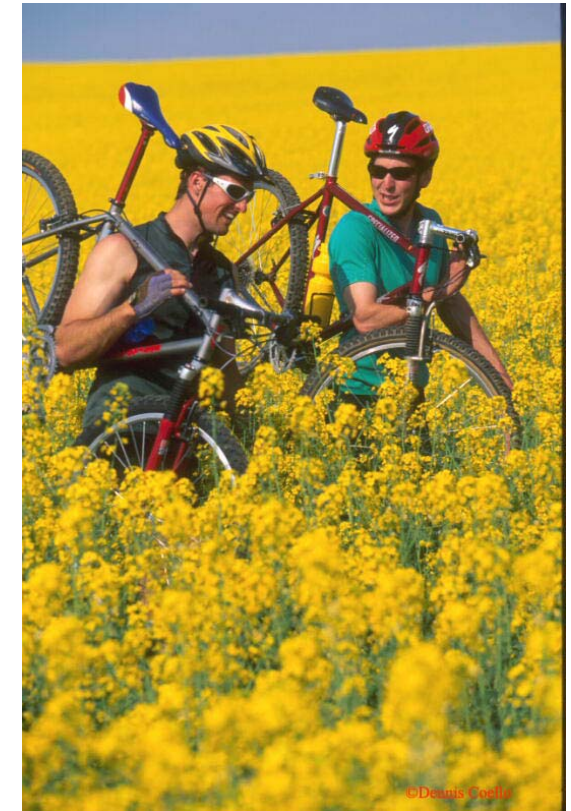
- **Farmers, ranchers**
- **Government through tax incentives designed to stimulate business growth**
- **Environmentalists**
- **Consumers**



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# Governmental policies drive the production and consumption of Bio Fuels

- **EU – Bio fuels directive: 2010 – share of 5.75% for bio-ethanol and bio diesel:**
  - focus on bio fuels due to targets for reduction of emission (Kyoto)
  - Reduction of mineral oil dependency and agricultural interests
  - Each member state can implement own tax incentives
  - Europe is the leading producer-region and market for bio diesel
  - Future talks: EU target 8% in 2015; French target of 7% in 2010 and 10% in 2015
- **USA - Focus on ethanol but the bio diesel market will grow with mandated use**
- **Sweden has targeted independency from fossil fuel oil for the transportation sector by 2020**
- **Other Countries - Brazil, China, Thailand, Malaysia have programs for bio fuels to reduce oil dependency, improve trade balance and reduce greenhouse gases**



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# Policies that promote the use of Bio Fuels in Europe

- **Fiscal incentives/ Excise Duty exemption:**
  - *Austria, Czech republic, France, Germany, Ireland, USA, Belgium*
  - *Carbon or CO2 tax Sweden*
- **(Production) Subsidy:**
  - *Czech republic / Capital subsidy: Many countries*
- **Mandatory Blending / Sales Obligation etc.:**
  - *UK, Netherlands (Sweden, Germany, Spain consider)*
- **Voluntary agreement:**
  - *Portugal considers*



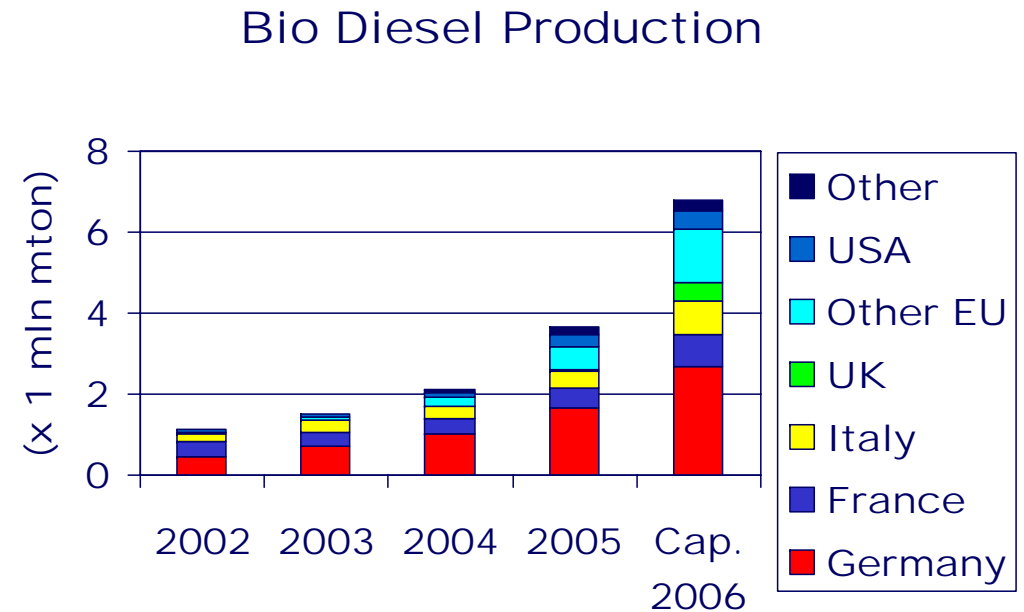
Mandatory blending and other obligations seem to become the preferred regulation

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## European Bio diesel production and demand has grown rapidly and leads the world

- European production has expanded rapidly and is mainly based on Rapeseed
- In the US production expansions are stepping up with Soybean oil as main feedstock
- Production of Bio diesel in Brazil is developing at a lower pace
- Plans for Palm Oil based Asian/Australian production are developing with Malaysia, Indonesia, China, India and Australia as the key countries



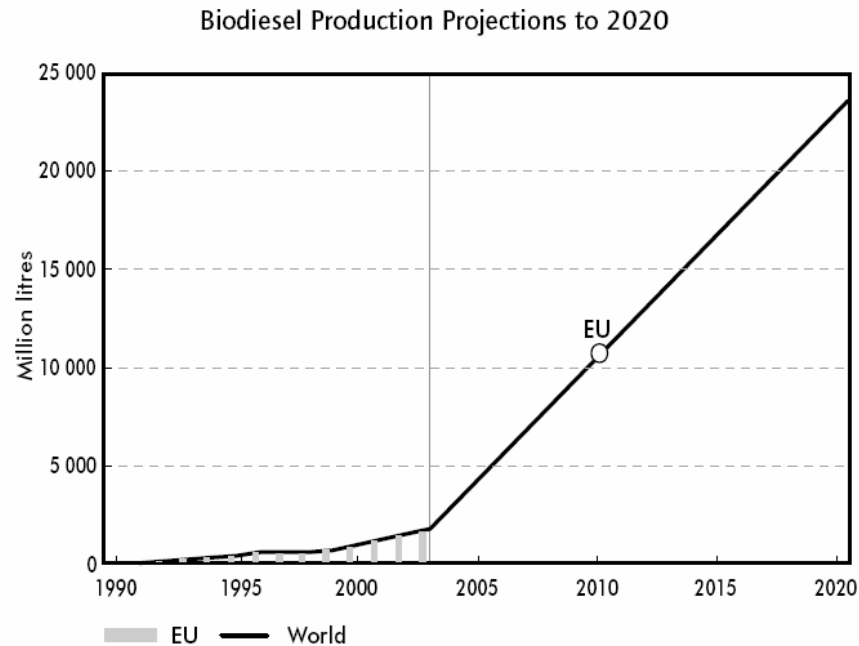


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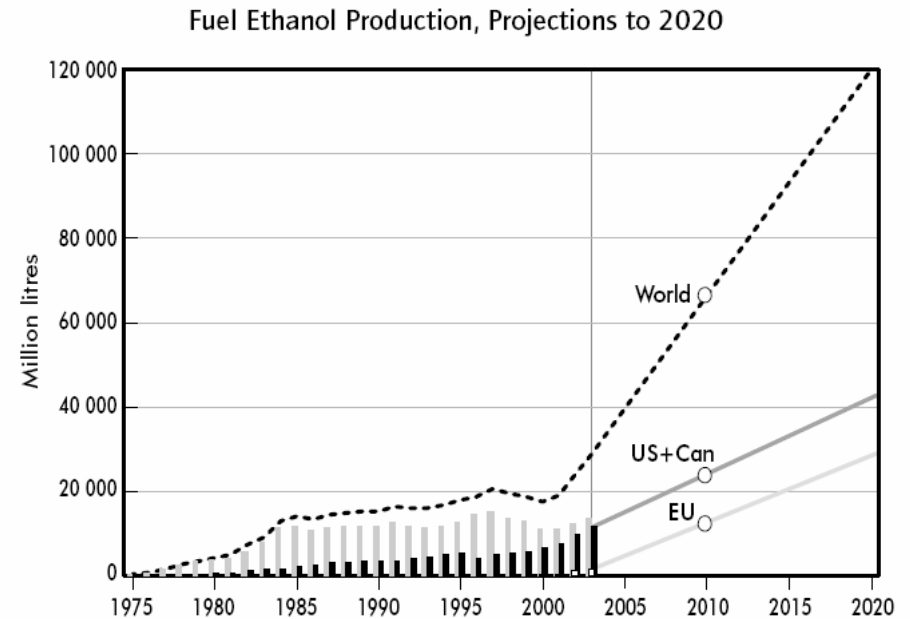
# Substantial Growth is anticipated in the coming period

- **IEA anticipates EU - Bio diesel production to reach 25 million M3 in 2020 and global ethanol production of 120 million M3**

**Figure 7.2**



**Figure 7.1**

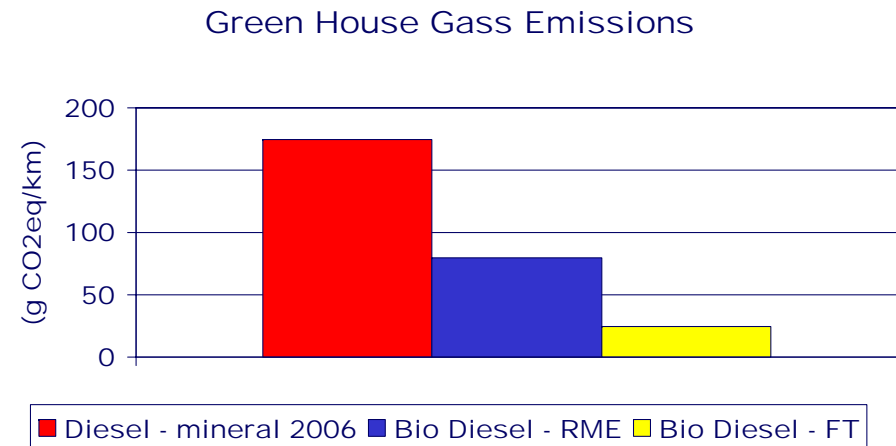
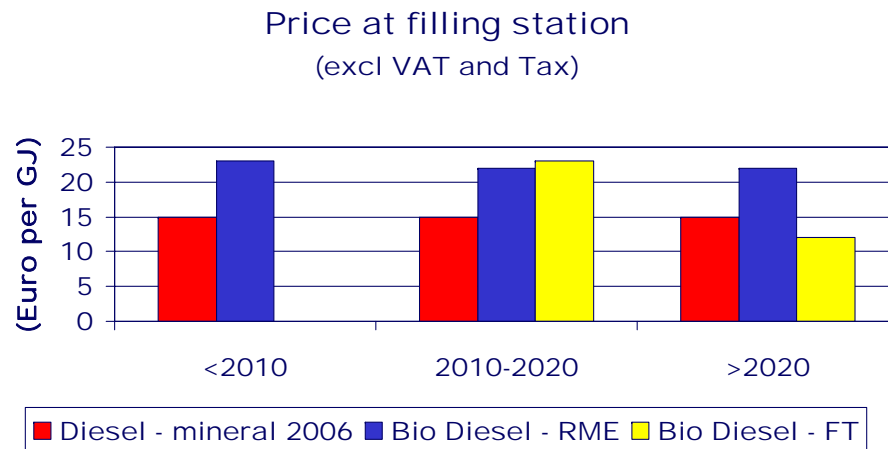


**The anticipated growth forecast is confirmed by various market sources**

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## Production Technology will change over time

- **Until 2020 first generation Bio Diesel is expected to be competitive and its economical life can be extended through integration with other production units which will emerge**
- **The evolution of the Fischer-Tropsch (FT) Bio diesel technology is anticipated to become the dominant technology from around 2020 from both a cost and Greenhouse gas emission point of view.**



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Global impact of Bio Diesel: Industrial co-siting, Logistic  
Flows of vegetable feedstock and Bio Diesel, blending  
requirements



● Current industrial co-siting locations

— Vegetable feedstock — Finished products





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## Vopak Strategy

- Tremendous growth in Bio Fuels during the next decades
- The strategy of Vopak will enable the company to:
  - Capture industrial terminal opportunities by having a global network of terminals and a track record in industrial terminals that includes bio diesel production
  - Serving global, regional and local customers that need terminals to handle and blend the growing flows of Bio Fuels and feedstock
  - Review possible new opportunities that evolve with the evolution of (FT) technologies
  - Be the partner of choice for new and existing players that emerge and grow with the development of this attractive market segment

