

F R O S T & S U L L I V A N

Biofuels Lessons for Africa from Europe's Emerging Market Experiences

Presented at

BiofuelsMarketsAfrica

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*"Partnering with Clients to
Create Innovative Growth Strategies"*

Topics for Discussion

- **Challenges Facing the European Biofuel Market**
- **European Biodiesel Demand**
- **European Bioethanol Demand**
- **European Supply and Competition**
- **European Emerging Market Insights**
- **Recommendations for South Africa from Europe's Experiences**

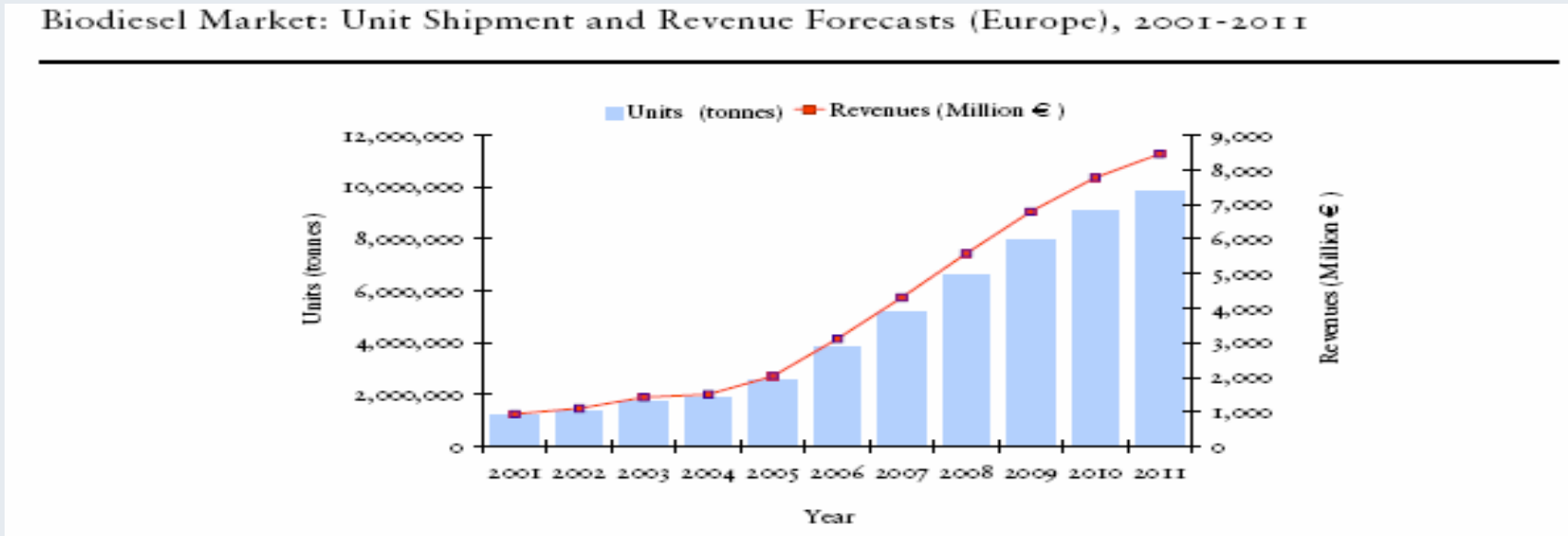
Challenges facing the European Biofuel Market

- **Increased production puts pressure on raw material supply**
- **Oil major participation needs to be more positive**
- **Reducing production costs**
- **Securing political support and long term tax relief**
- **Customer awareness and trust in biofuel is required for market growth**
- **Consistency of blends and marketing would increase market penetration**
- **Approval from engine manufacturers is required for expansion of biodiesel**

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European Biodiesel Demand



- Diesel a) has higher energy content than gasoline (>11%), b) engines are more durable, and c) vehicles have lower running costs → 50% passenger vehicle market share
- Mineral diesel demand growth leads to disparity between demand and supply → Price Increases
- Initial consumer uncertainty requires competitive pricing i.e. road haulage market → Initial subsidising

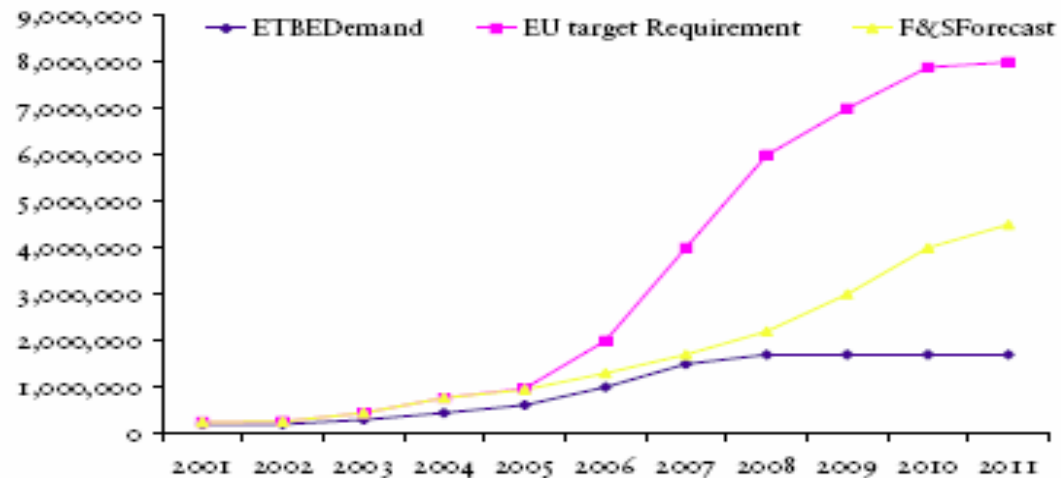
Biodiesel Revenue Growth Rates											
Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	CAGR
%	15.7	28.3	7.0	36.5	48.6	35.3	27.2	20.3	14.2	8.7	27

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European Bioethanol Demand

Bioethanol Market: Unit Shipment Forecasts (Europe), 2001-2011



- 3 likely scenarios that could occur in the European market
- Revenues of €374 million (2004) generated from ETBE
- Production and consumption depends on government decisions

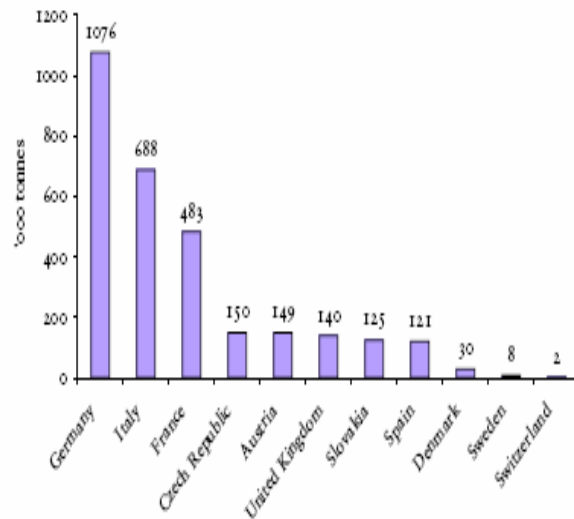
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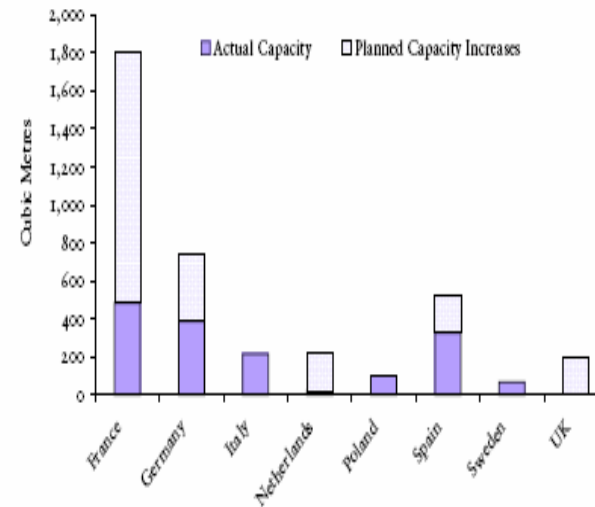
European Biofuel Supply & Competition

- **Biodiesel: fragmented market with >50 active market participants, but dominated by three**
 - Large agricultural concern backing reinforces market position and ensures financial stability
 - Leads to ability to invest in capacity expansion & reliable source of feedstock
- **Bioethanol: Despite being in its infancy (circa 2004), there are around 20 participants, but dominated by companies importing cheap Brazilian bioethanol**

Biodiesel Market: Capacities in Europe by Country (Europe), 2005



Bioethanol Market: Current and Future Plant Capacity (Europe), 2005



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European Emerging Market Insights

Emerging Biodiesel Markets:

- **Spain** → *Favourable regulatory environment & huge demand*
- **Poland** → *Agricultural capacity, geographic location & fiscal support*
- **France** → *Big market size, but quota allocation remains large barrier to entry*
- **Germany** → *Growing total diesel consumption*
- **Sweden** → *Flexfuel vehicle use increasing rapidly & fuel distribution does not use pipelines*

Emerging Bioethanol Markets:

- **Germany** → *Total tax exemption, unlimited volumes & high gasoline prices (higher margins)*
- **United Kingdom** → *Tax loopholes makes it cheap, high fuel tax & good climate for high starch grain*

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Recommendations for South Africa from Europe's Experiences

South African Biofuel Market Considerations :

- *Favourable regulatory environment & fiscal support*
- *Geographic location*
- *Growing total diesel consumption*
- *Feedstock availability*
- *Rural employment opportunities*
- *Transportation & storage of B100 requires special management*
- *Ethical issues around land for food vs land for fuel*
- *Decreased CO2 emissions*
- *Marketing strategies to create customer awareness*