

How to gain market share in a difficult environment?

1. Who is german biofuels gmbh ?

- The Biodiesel plant
- Incorporation

2. The GHG quota system

- Legislative framework 2020 and beyond
- GHG savings of different biofuels
- Lessons learnt

3. Why the transport sector ?

- GHG emissions
- Sales of mineral oil and biofuels in Germany

4. What can be done ?

- Gaining market share
- Example
- Conclusion

Who is german biofuels gmbh ?

1.Phase of construction 2002:

- Oil mill with 100.000 mt capacity rapeseed (plant 1)
- Single feedstock Biodiesel refinery with 44.000 mt Biodiesel capacity (plant 2)

2.Phase of construction 2007:

- Multi-feedstock Biodiesel refinery with 100.000 mt Biodiesel capacity
- Railway track for 2 full tank cars (1.000 mt)

Who is german biofuels gmbh ?

Incorporation of german biofuels gmbh 2011:

- Buy out of all assets of the insolvent EOP AG (asset deal) per April 2011. Private ownership.
- Resumption of production by autumn 2011
- Since 2.5 years capacity is fully loaded: 24 / 7
- Listing with all major mineral oil companies (BP, Shell, Total etc.)
- Todays market share in the German Biodiesel-market > 5 % with a total production of 140.000 mt

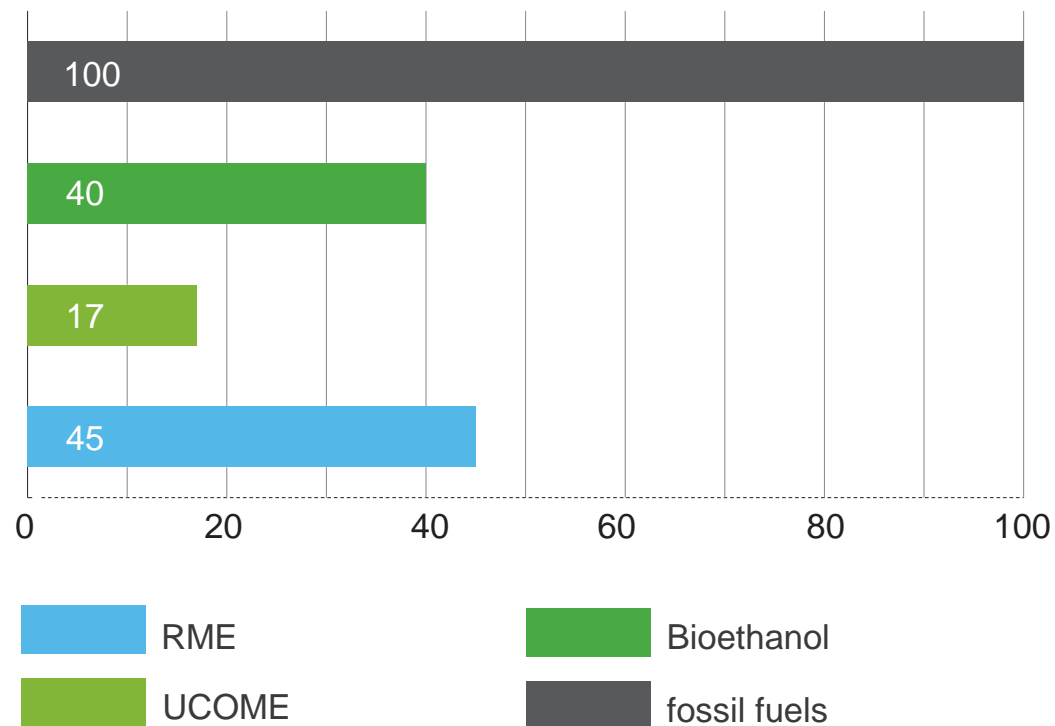
The GHG quota System

- With a specific law Germany transfers the FQD into national law
- since 2015 mineral oil companies are obliged to reduce their GHG emissions by 3,5 %. This percentage increases to 4 % by 2017 and finally to 6 % as from 2020
- Following the introduction of the GHG quota system, the real GHG quota is significantly higher than the default values:
 - RME: 58%-65% typical 45%
 - UCOME: 85%-92% typical 88%

The GHG quota System

GHG savings of different biofuels (typical values)

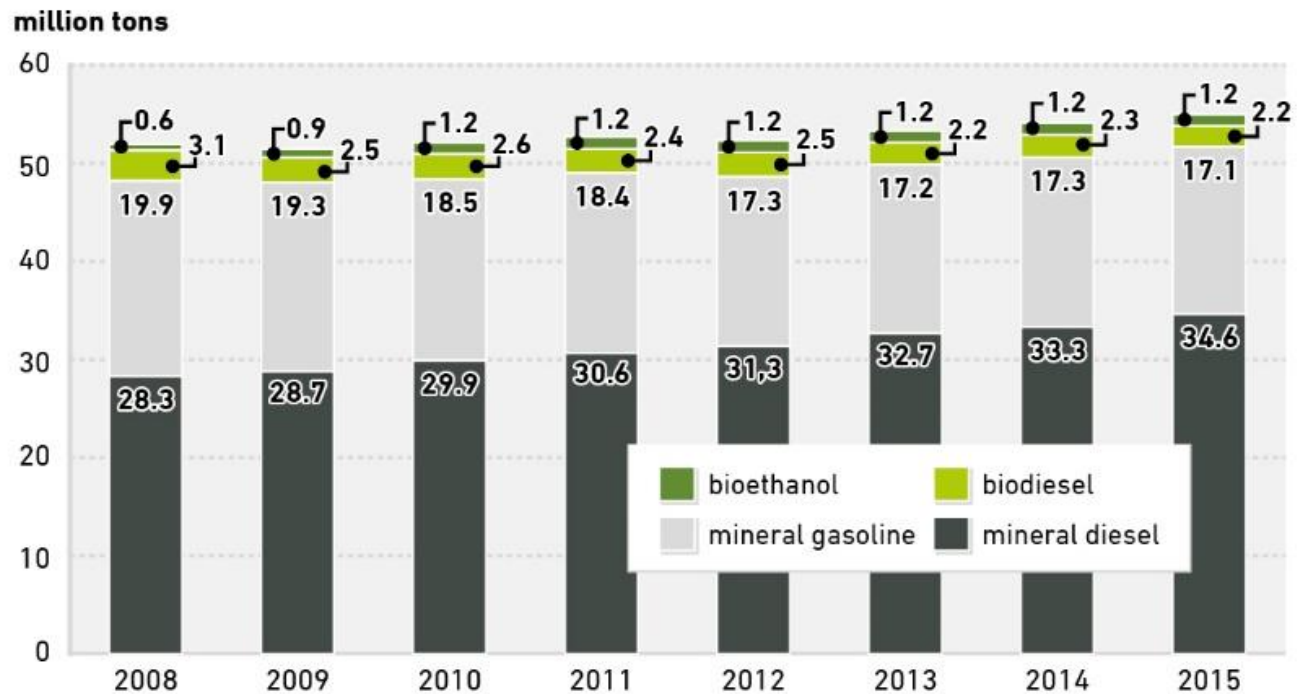
fossil reference value: 83,8 gCO₂/MJ



Renewables in transport

Sales of mineral oil and biofuels in Germany

While sales of mineral oil have increased, biofuel sales have dropped.



Source: Federal Office for Economic Affairs and Export Control (BAFA); as of: 04/2016
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The GHG quota System

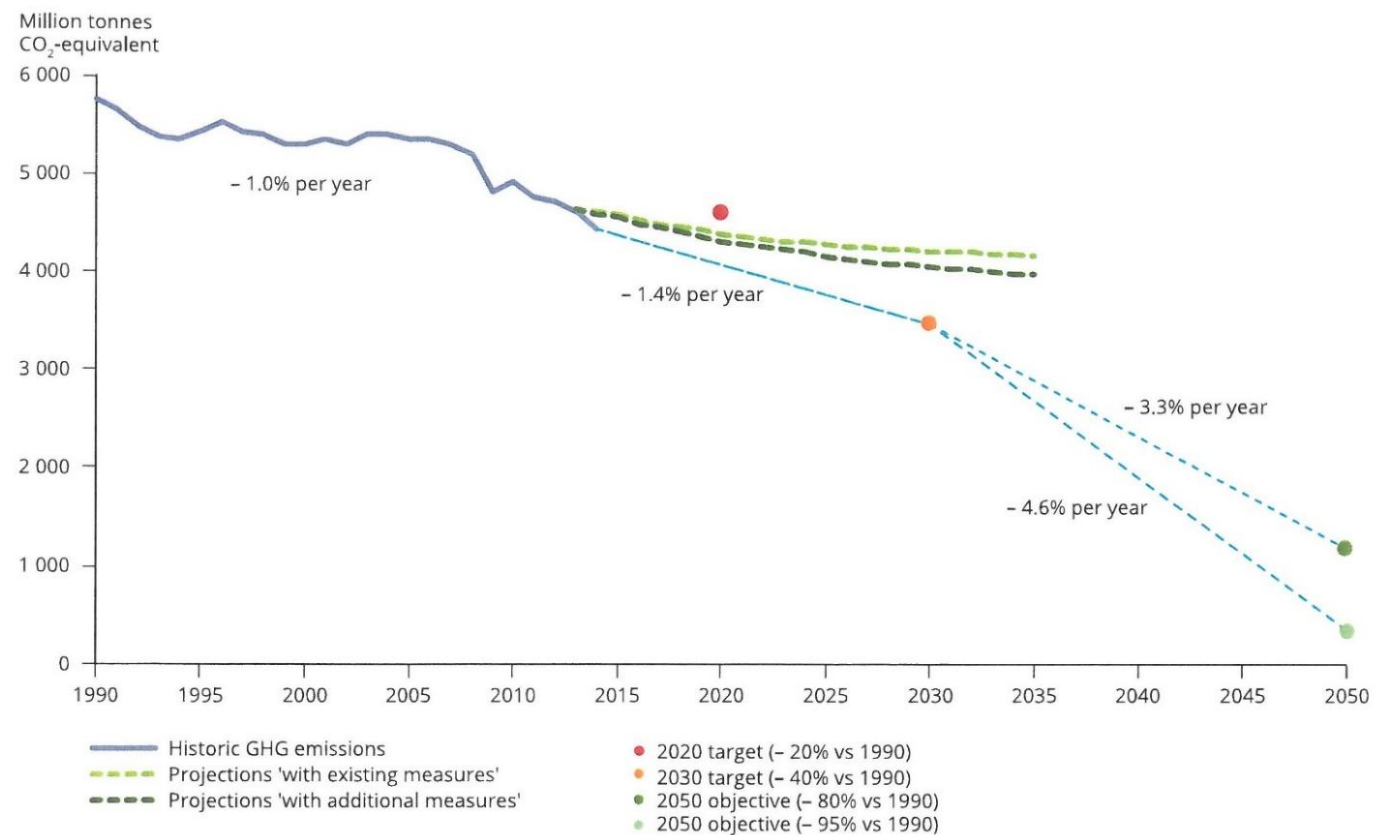
Lessons learnt

- The GHG savings, realised by the Biodiesel companies, can be significantly higher than the default values
- The higher the GHG values of the Biodiesel supplied to the mineral oil companies, the lower the volumes necessary to fulfil the GHG quota
- In the course of 2015 and 2016 the Biodiesel companies have/will suffer from shrinking sales volumes, whereas 2017 (4% GHG quota) may be volume neutral in comparison to time prior to the introduction of GHG quota

Renewables in transport

Why the transport sector ?

Figure ES.3 EU greenhouse gas emission trends, projections and reduction targets



Source: EEA, 2015.

What can be done?

To gain market share, the Biodiesel producer can:

- Improve the energy efficiency in conversion by reduction of primary energy:
 - Optimization of transesterification process, heat, cooling, energy recovery, minimizing yield losses etc.
- Reduce the energy costs
 - CHP co-generation plant
 - Dispensation from „EEG Umlage“ (feed-in tariff surcharge for electricity use from renewable energy sources)
- Improve the environmental performance
 - Gain the EMAS (Eco-Management and Audit Scheme) Certification according to EU Regulation 1221/2009
- Buy raw materials with competitive GHG values
 - NUTS II rape seed suppliers
 - sensible usage of fertilizers
 - Raise input of UCO replacing food-based raw materials (Caution: Summer Diesel vs. Winter Diesel)

What can be done? Example



Magnetic system to reduce gas consumption. It is applied on the gas tubes feeding the steam generation boiler:
- 5% reduction in average

What can be done?

Conclusion

- The legislative, both on EU and national level, has to provide a stable, reliable and long-term regulative framework
- Specific GHG reduction targets for the transport sector are indispensable to stimulate investments in advanced technologies for further reductions of GHG emissions
- Conventional sustainable biofuels are available and can be used without endangering food supplies; they play an important role in achieving the Kyoto/Paris targets: global warming $< 2^{\circ}\text{C}$, min. $1,5^{\circ}\text{C}$
- The political decision processes should refrain from ideology and populism (ILUC, food vs. fuel) and must be based on scientifically sound and solid facts and figures

Thank you !

gbf | gmbh
german biofuels



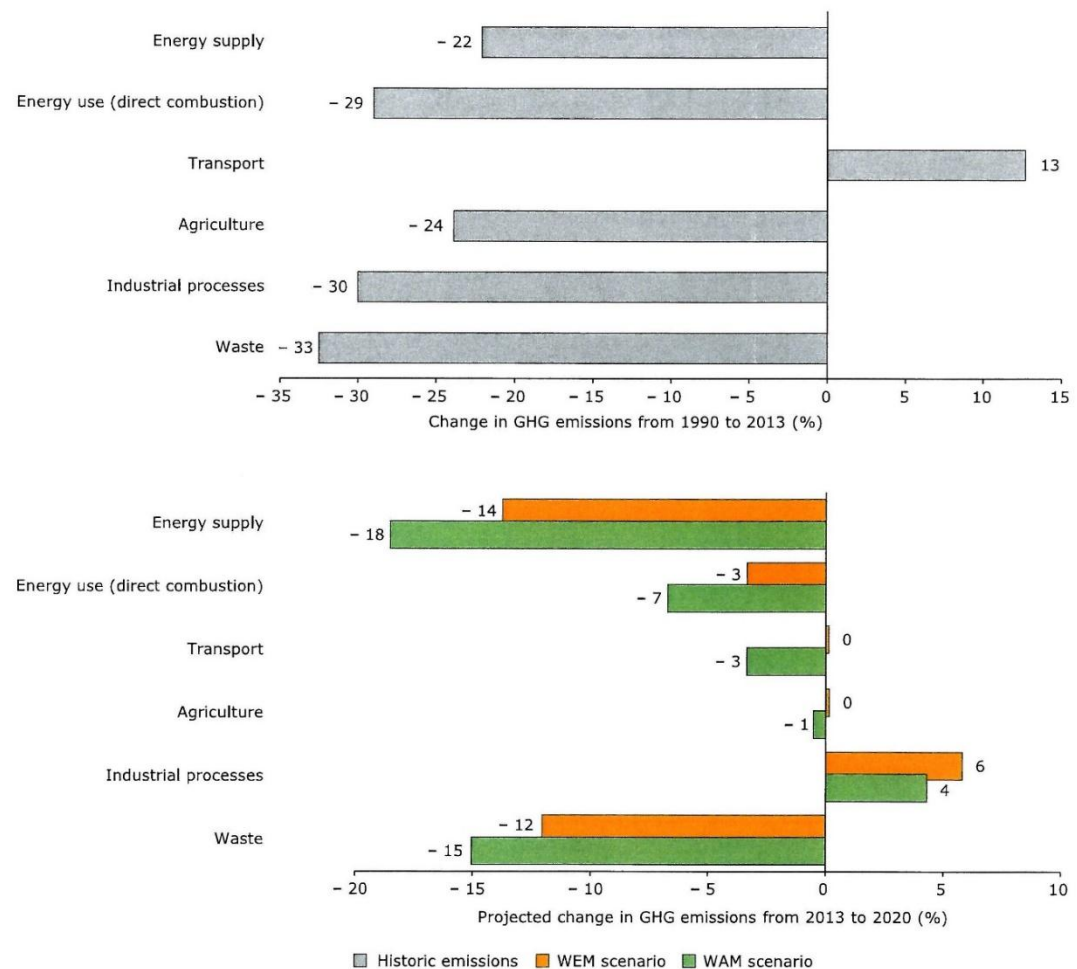
Renewables in transport

Attachments

Renewables in transport

Why the transport sector ?

Figure 4.2 Emission changes by sector, 1990–2013 (top) and projected changes under the 'with existing measures' scenario, 2013–2020 (bottom)



Why the transport sector ?

This is why:

- With 5,4% share of renewables only, the transport sector is by far the lowest of all energy sectors in Europe (power: 25%, heat & cooling 16,3%)
- The transport sector, accounting for 33% of total energy consumption, is lagging behind in GHG emission reductions and, without additional measures, will continue to chase after the other sectors
- Individual road traffic and heavy duty traffic will increase; advanced technologies like E-Mobility and second generation Bio-Fuels are not yet marketable
- Each and every available technology in Bio-Fuels has to be exploited and improved to contribute to the GHG reduction target
- Advanced Bio-fuel technologies have to be further developed to gain competitive edge in a stable regulative environment. (return on investment)