Sustainability criteria for biodiesel – strategic issues for rapeseed production

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EU Legislation

Directive 2009/28/EC - I

- Specific target by 2020: each member state shall ensure **at least 10%** share of energy from renewable sources in the final consumption of energy **in all forms of transport**, § 3 (4)
  - road and rail transport are concerned

  Target can be met by:
  - Biofuels: Bioethanol, Biodiesel, vegetable oil (blend and pure)
  - Electricity produced from renewable sources (valued x 2,5)
  - Biomethane (blended to CNG)
  - Hydrogen from renewable resources

Sustainability criteria for biofuels and bioliquids, § 17

1. To safeguard **biodiversity**, no raw materials are allowed from sensitive areas (reference: January 2008):
   - Primary forest or wooded land
   - Areas for nature protection
   - Highly biodiverse grassland (natural and non-natural)

2. To safeguard land with **high carbon stocks** no conversion of
   - wetlands, undrained peatland or
   - continuously forested areas

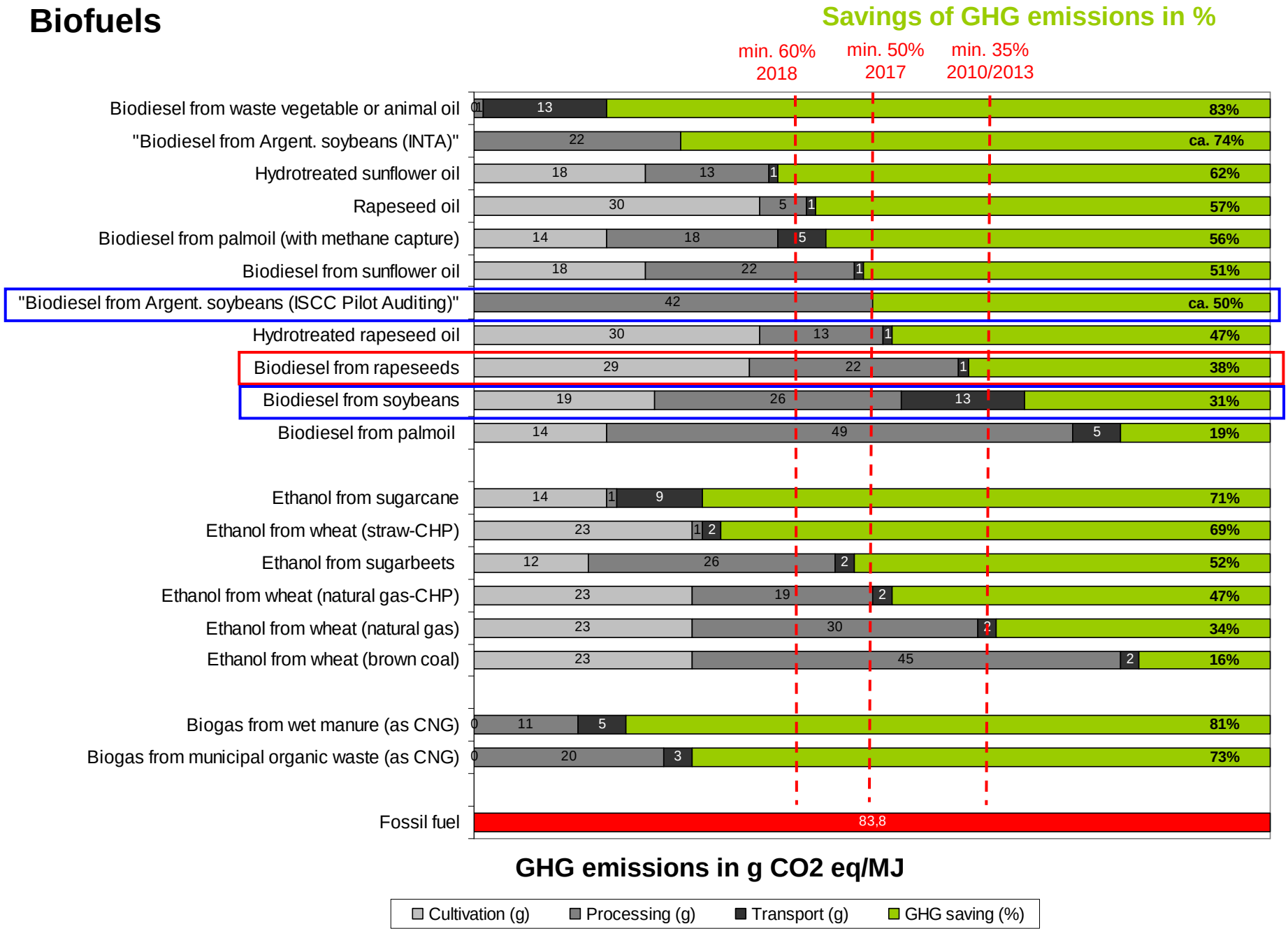
Sustainability criteria for biofuels and bioliquids, § 17

All consignments of biofuels and bioliquids to be counted towards targets must comply with sustainability criteria:

1. Greenhouse gas emission saving shall be…

From 2010 (for installations that came into operation after 23.01.2008)	…at least 35%
From 01.04.2013 (for installations in operation before 23.01.2008)	…at least 35%
From 01.01.2017	…at least 50%
From 01.01.2018 (for installations in which production started on or after 01.01.2017)	…at least 60%

Biofuels



Source: vTI after EU directive 2009/28/EC

Calculation of GHG emission (saving), § 19

1. Use of the default value in Annex V
2. Calculation of actual values using EU methodology from Annex V
3. Mix of 1. + 2.: Use default values where actual values can not be obtained

→ Values are relevant for EU and non-EU states.

→ Default values assume GHG emissions due to land use change = 0 (Commission will report to Parliament and Council by end of 2010 on iLUC: how to reduce it and how it could be considered in the calculation).

Default values of RED Directive

In general, default values in EU directive assume worst case situations.
→ Producers and Processors shall be encouraged to calculate individual values.

For example EU default value for Biodiesel from Argentinean soybeans does not consider …

- Cultivation
  - no-till, double cropping and low fertilization
- Processing
  - Oil mills and biodiesel facilities are mostly very new, modern, large and thus efficient

Default values for rapeseed and how they can be improved….

….will be presented later on by Ben Lang.

German legislation

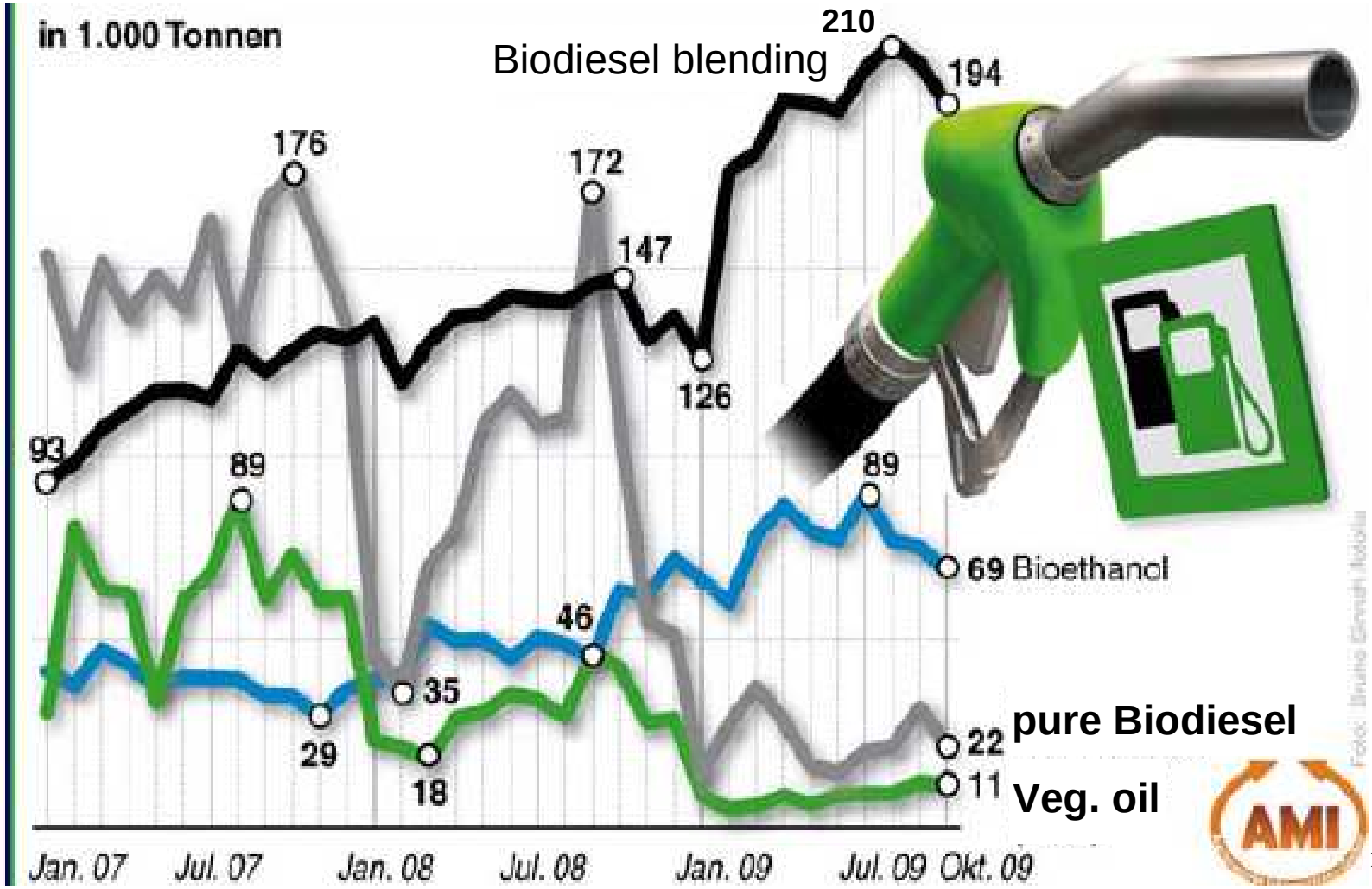
Biofuel situation in Germany

- In the past the German government exempted biofuels from taxes in order to spur on the use of biofuels
- Together with low prices for rapeseed oil this policy encouraged consumers to use biofuels, in particular biodiesel

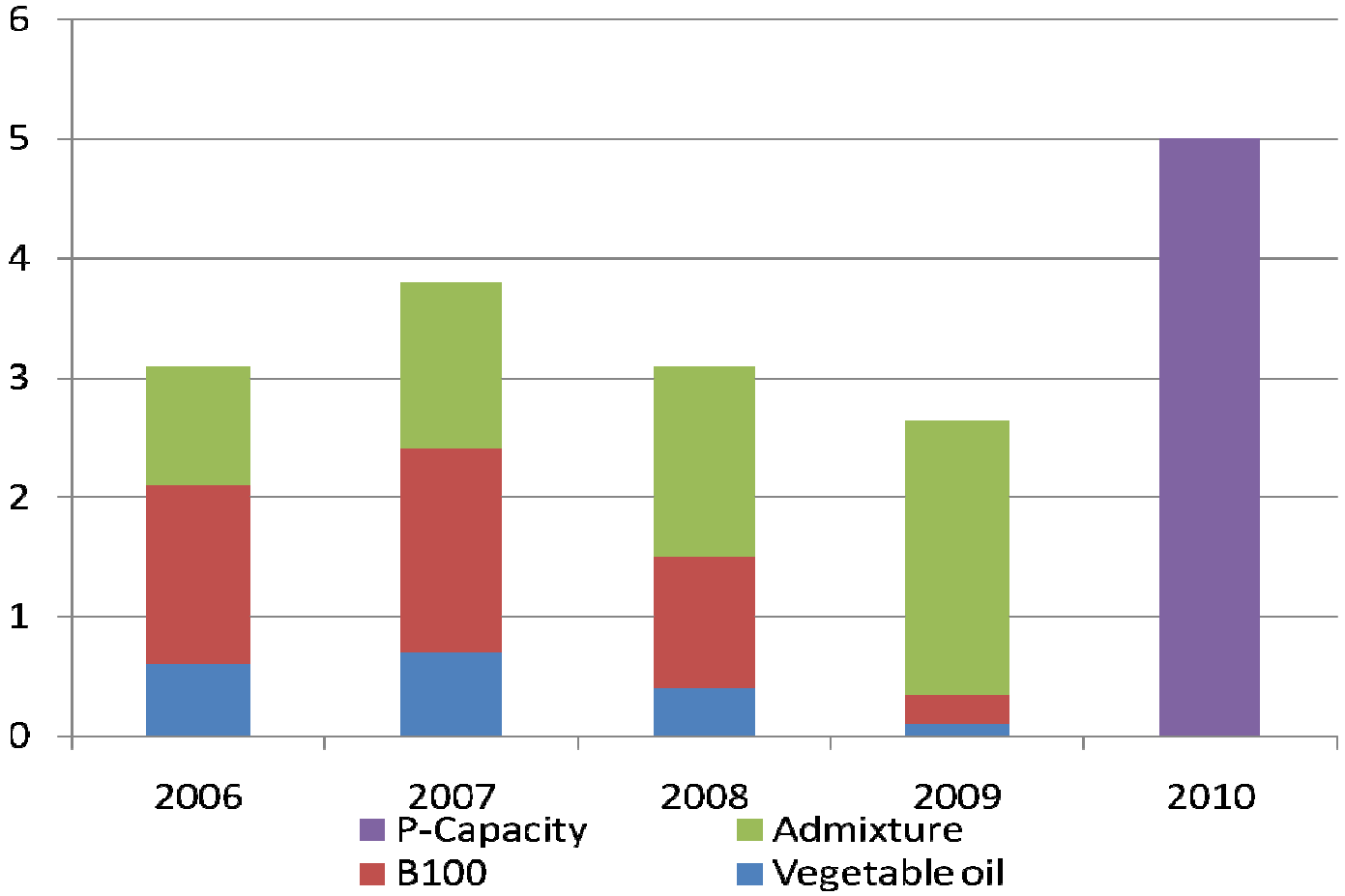
  ➔ Biodiesel-boom and big investments in 2005/2006
- In 2006-2008, government switched to a quota system for biofuels; taxes are gradually increased; higher price of rapeseed oil

  ➔ overcapacity ➔ bankruptcy of many production facilities

Monthly use of biofuels in Germany 2007 to 2009

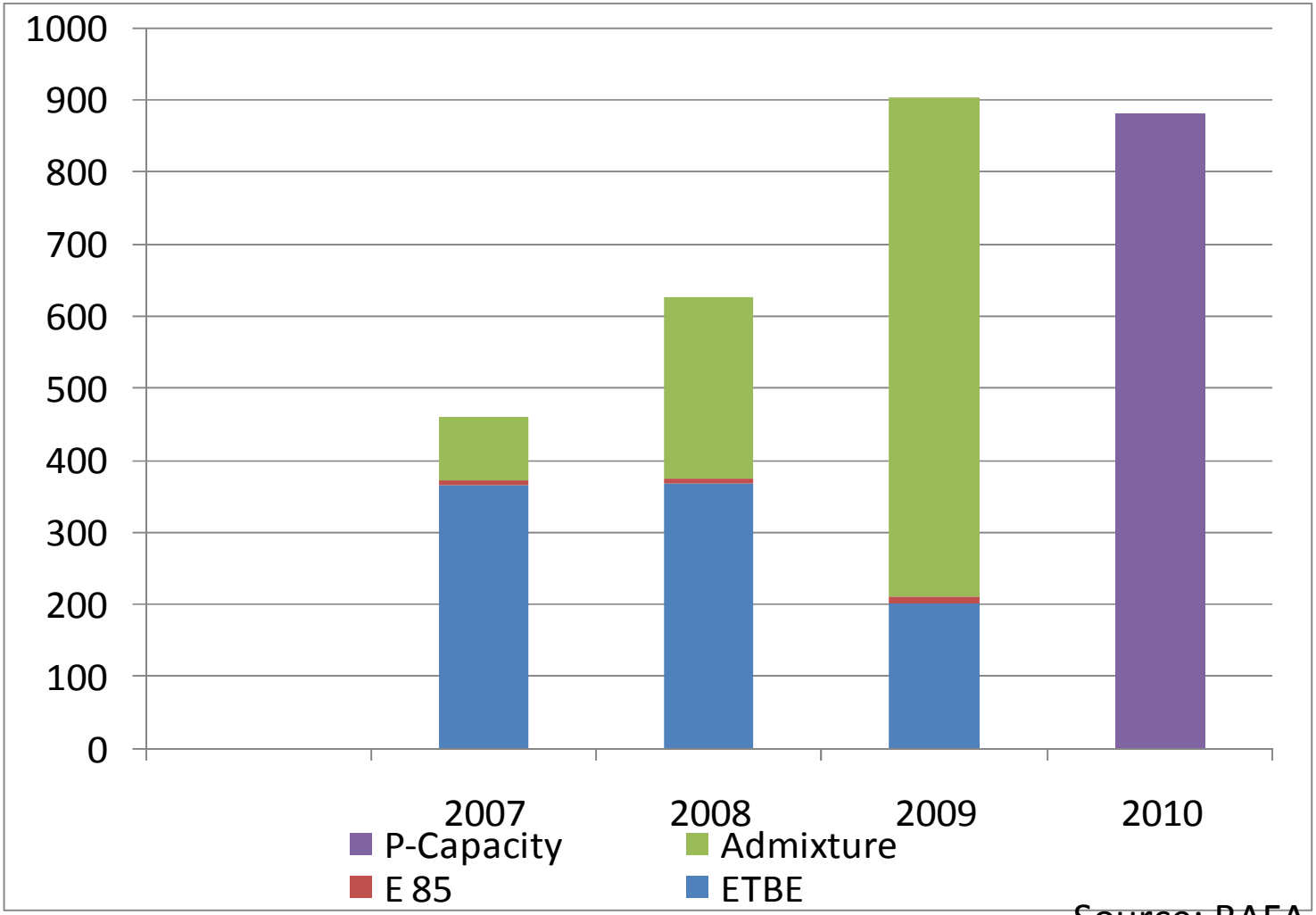


Biodiesel use in Germany 2006 – 2009 in Mio. t



Source: BAFA

Bioethanol use in Germany 2007 – 2009 in Mio. t



Source: BAFA

Situation for farmers in Germany

- Regular tax for Diesel in Germany 47 ct/Liter (0,63$/l)

Farmers ….

- get a tax reduction of 21 ct/Liter Diesel for the total amount of Diesel they consume (in the past limited to 10,000 Liters)
- pay no tax for Biodiesel (regular tax: 18,6 ct/Liter)

→ In practice: Farmers buy fuel with tax and the government pays the tax back at the beginning of the next year

→ In recent time, lots of farmers gave up biodiesel use, because there is only little to no economic benefit.

German quotas and GHG emission saving targets

	Quota to replace Diesel	*Quota to replace Petrol*	Combined quota	GHG saving quota*	Min. EU net GHG saving	*Biofuels in the mix approx.*
Year	***cal %***	***cal %***	**cal %**	**%**	**%**	***cal %***
2008	*4,4*	*2,0*				
2009	*4,4*	*2,8*	5,25			*5,25*
2010-14	*4,4*	*2,8*	6,25		35%	*6,25*
2015				3,0	35%	*8,5*
2017				4,5	50%	*9,0*
2020				7,0**	50-60%	*10-12*

* Based on EU Fuel Quality directive 2009/30/EC

** 1% higher than mandatory EU value

German Sustainability regulations

- Germany passed 2 regulations in order to implement the RED
  - For bioelectricity to be in force from 01.01.2010
  - For biofuels to be in force from 01.01.2011
  - Same GHG emission saving targets and requirements how biomass shall be cultivated as compared to EU directive

- Proof of sustainability through “sustainability certificates” (for German and foreign biomass)
  - Can be issued by an environmental auditor or the last company/interface in the supply chain
  - This issuing company needs to be certified
  - Certification bodies and systems need to be registered and accredited with the Federal Agency for Agriculture and Food (BLE)

Declaration of the Farmer

- Grain and rapeseed (biomass) is produced on traditional farm land → no land use change took place (~ 99 % of the German farmland)
- Biomass is produced while complying with ***EU Cross Compliance*** regulations "good farming practice" to be entitled to get direct payments (regards use of nitrogen, water & nature conservation etc.)
- Biomass is not produced on
  - Primary forest or wooded land,
  - Areas for nature protection
  - Highly biodiverse grassland, wetlands

➔ Today, farmers shall not have any problem to produce biomass under the German Sustainability regulations

➔ However, in future when biofuels shall save 50 to 60 % of GHG emissions biomass production for this purpose will be a challenge