



UNION ZUR FÖRDERUNG VON OEL- UND PROTEINPFLANZEN E.V.



# Good reasons for biofuels

Facts about the ongoing decarbonisation of road transport



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## Facts about the ongoing decarbonisation of road transport

The agricultural commodities market is precarious!.....	6
Importance for agriculture .....	8
Securing domestic protein feed production .....	10
The biodiesel market ensures sales of GMO-free rapeseed meal.....	12
Vegetable oil production growing more strongly than demand .....	14
Germany: Requirements to minimise greenhouse gases, drivers for efficiency in minimisation of raw biomass materials, greenhouse gas minimisation and costs .....	16
Climate protection in the agricultural and forestry sector .....	18
Road transport: Decarbonisation is only possible together.....	20
Survey confirms: Consumers have positive image of biofuels*.....	22
That's what we want! .....	24

# Introduction

Human-caused climate change is already visible and is especially evident in agriculture, as the “drought year” of 2018 clearly demonstrated. Agriculture, however, is not only affected. It is also part of the solution for reducing greenhouse gas emissions.

The Climate Action Plan 2020 and Climate Action Plan 2050 highlight the challenges of decarbonising road transport. The special report of the Intergovernmental Panel on Climate Change (IPCC) is likewise urgent. Because, by 2050, the transport

sector will have to cope with practically no fossil fuels and engines.

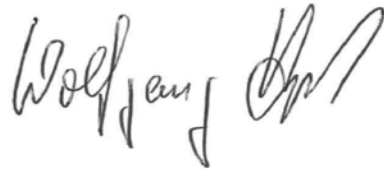
Sustainably certified and greenhouse gas optimised biodiesel from rapeseed can already make a noticeable contribution to the decarbonisation of road traffic, agriculture and forestry, in combination with other renewable fuels and engines.

Although Germany is making progress with the 2050 Climate Action Plan, it will not achieve the

climate protection target of 40% by 2020. An even higher target of 55% reduction has been set for 2030.

By 2020, signatories to the Paris Agreement are obliged to present national action plans. These will show how seriously they have taken their commitments. The EU member states in particular are being called upon to submit ambitious plans. Biofuels from cultivated biomasses such as rape, cereals or sugar beet will play a key role in national transport action plans in the short to medium term.

This is the only area in which sufficient production capacity is already in place at the moment. In addition, German biofuel legislation sets global standards for the sustainability of raw materials.

A handwritten signature in black ink, appearing to read 'Wolfgang Vogel', with a stylized flourish at the end.

Wolfgang Vogel, Chairman of UFOP

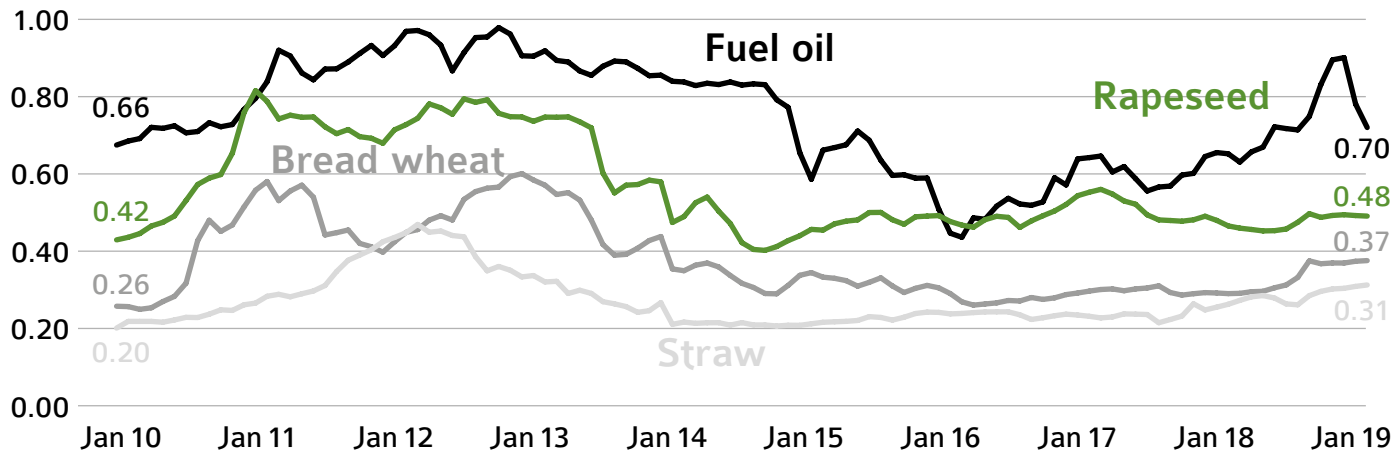
# The agricultural commodities market is precarious!

## Fuel oil is often considered to be “worth more” than rapeseed and cereals

- › For years, an extremely low price level has been the major determining factor for revenues from rapeseed and bread wheat and this has not been changed by the **drought year of 2018**.
- › Prices for energy and for agricultural raw materials are developing in opposite directions, with agriculture acting as a kind of brake on inflation!
- › There is no foreseeable additional demand that would drive the urgently-needed improvements in the prices of rapeseed and cereals. There is practically no political debate about the precarious market situation.
- › Arguing against sustainably certified biofuels during debates about iLUC or in food vs. fuel discussions will not ultimately help the situation.

## Food cheaper than energy!?

Prices for bread wheat, rapeseed, straw, and fuel oil, converted into heating oil equivalent, in EUR per kg or l, inclusive VAT.



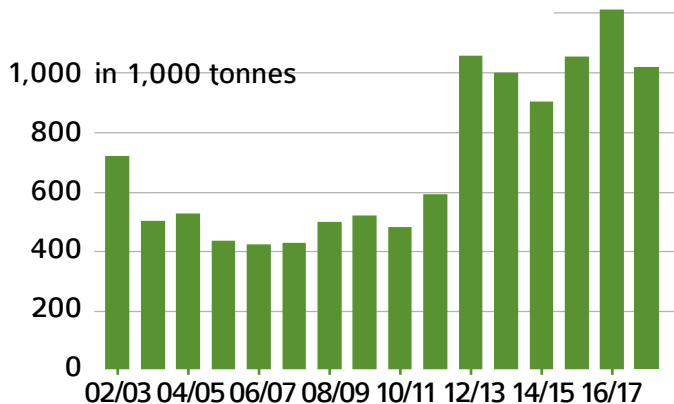
Conversion of producer prices for agricultural products with heating oil equivalent (1 l heating oil = 1.35 kg rapeseed = 1.95 kg bread wheat = 2.9 kg straw) and heating oil price for quantities of 3,500 and over l franco domicile | source: AMI

# Importance for agriculture

**Biofuels provide relief for agricultural markets, slowing down the decrease in producer prices**

- › Record harvests and surpluses dominate the global supply situation and compensate for lower harvests in other regions.
- › Record harvests in South and North America allow worldwide inventories to grow.
- › **However, the price of the raw material determines the end use. Food use always takes precedence over energy use due to its higher value.**

## German rapeseed oil exports

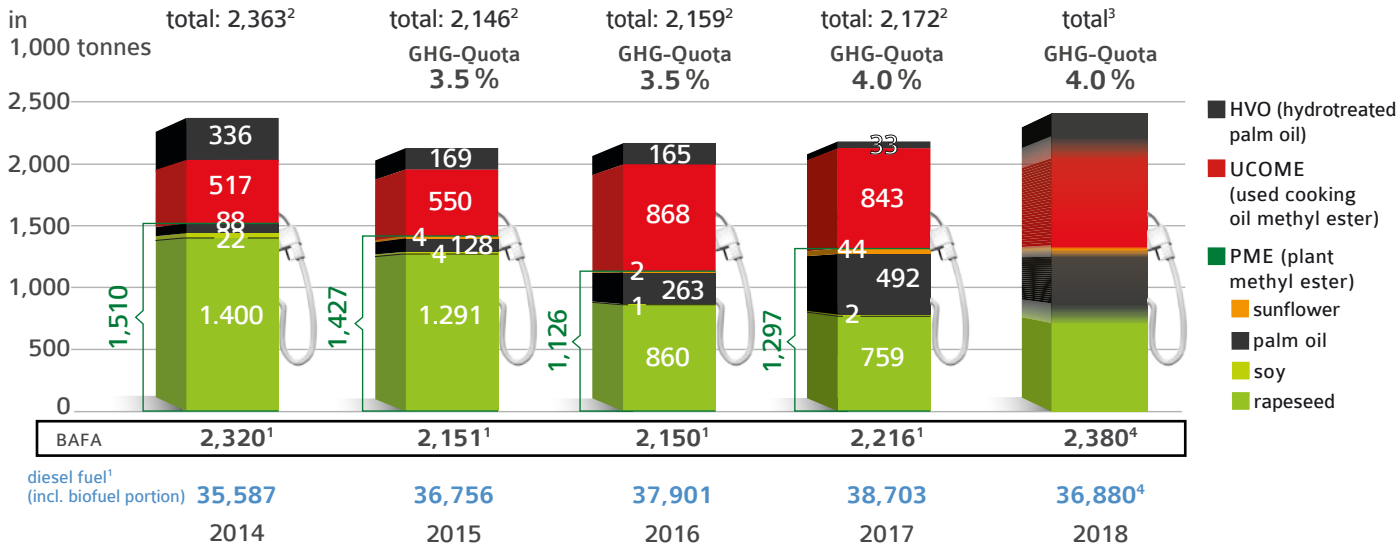


© Sources: Statistisches Bundesamt, AMI



# Biodiesel – sales and composition of raw materials

## Domestic consumption 2014–2018<sup>1</sup> | Quota assessment<sup>2</sup>



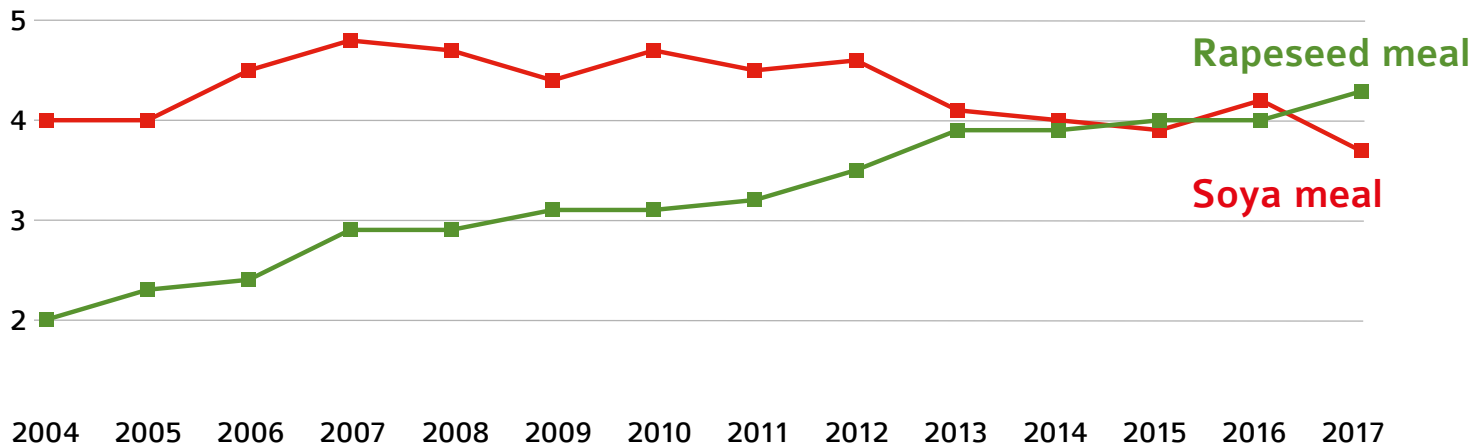
Sources: <sup>1</sup>BAFA, <sup>2</sup>BLE, <sup>3</sup>BLE Evaluation Report 2018 expected in October 2019, <sup>4</sup>projection based on BAFA monthly data

# Securing domestic protein feed production

- › Rapeseed is the most important GMO-free source of protein in Germany and the EU. German and European plant protein strategies are therefore based on rapeseed.
- › EU rapeseed cultivation, with a harvest volume of around 20 million tonnes of rapeseed, reduces soya imports and thus also surface or nutrient imports by more than 5 million hectare equivalents.
- › Use of rapeseed meal is increasing, particularly in dairy cattle feed.
- › Deutsche Milchkontor (DMK) is the largest dairy cooperative in Germany, with 7.3 billion kg from 8,600 farms. In 2017, the proportion of GMO-free milk was 31.5 per cent – 2.3 billion kg!
- › 2015 was the first year in which more rapeseed meal than soya meal was used for feeding purposes
- › **And: as a flowering plant, rapeseed is essential in grain-rich crop rotations.**

# What do German farmers use as feed?

in millions of tonnes



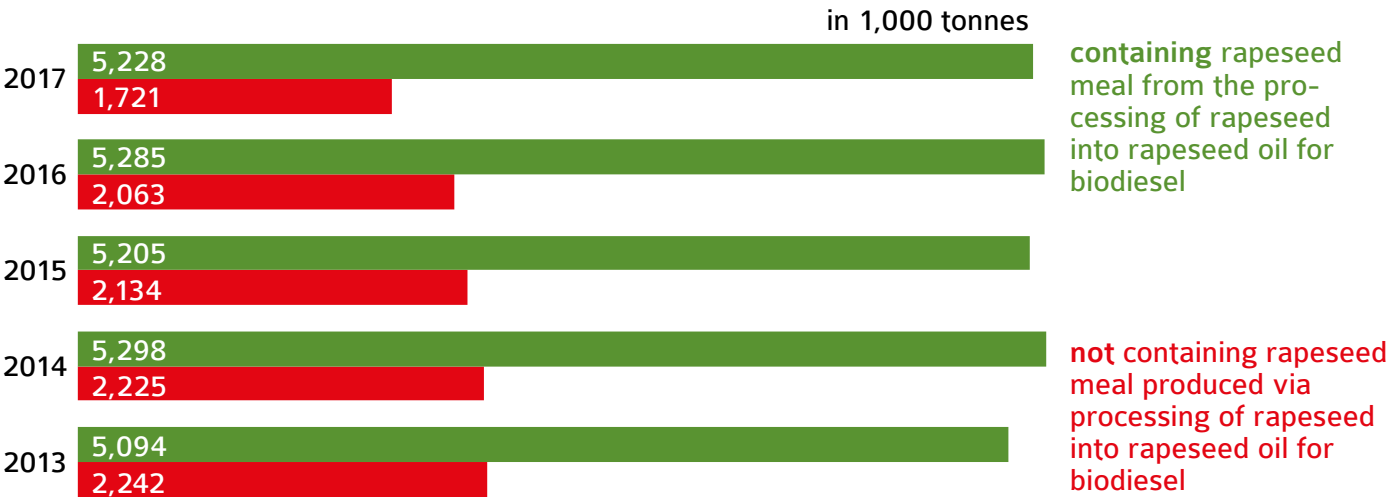
© OVID Homepage | Source: Oil World, UFOP, DLG Feed value table, BMEL, Eurostat

# The biodiesel market ensures sales of GMO-free rapeseed meal

(indirect) land use change – it's all about monitoring!

- › The surface area of rapeseed crops in the EU has remained similar over the past 10 years at around 6.5 million hectares
- › EU biodiesel sales from rapeseed since 2008: about 6 million tonnes per year, or about 4.3 million hectares
- › Biodiesel sales ensure the profitability of rapeseed cultivation and thus the GMO-free production of about 8.5 million tonnes of protein feed
- › EU biofuels policy – a cause and effect relationship for iLUC cannot be scientifically proven. In fact, EU rapeseed cultivation reduces the need for imports and the total surface area used
- › Greenhouse gas penalties (iLUC factors) only punish European oilseed producers! Globally, palm oil is sold at higher prices
- › **Rainforest protection is essentially a task for governments and cannot be delivered by means of iLUC-related actions alone. Therefore: The ban on the use of palm oil should be enforced, as called for by the European Parliament**

# Rapeseed processing in Germany – ending biodiesel production means significantly less GMO-free rapeseed meal



Sources: BLE, AMI

# Vegetable oil production growing more strongly than demand

- › Global vegetable oil production is growing steadily, especially palm and soybean oil.
- › Soybean meal/protein feed demand is driving land expansion in South America.
- › Palm oil and soya oil production is increasing, although the biofuel industry in the EU is stagnating.
- › Germany exports rapeseed oil because sales of biodiesel are stagnating.
- › There are abundant resources for food and material use.

- › **A path for third countries: increase commitment targets for blending biodiesel into diesel fuels.**

## Biofuel mandates\*

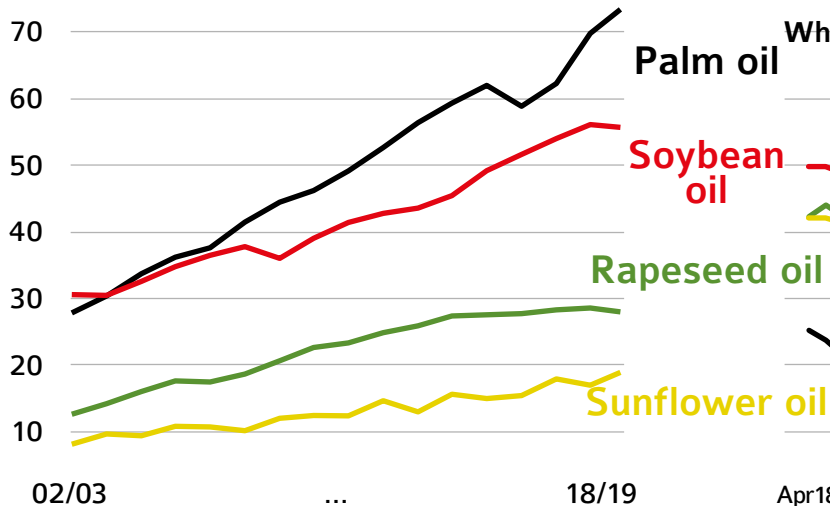
Biofuel mandates %	2018	2019
Indonesia	20	20 (30 being checked)
Malaysia	7	10
Argentina	8	12
Brazil	8	10
Thailand	7	10
USA RFS programme	5.8 million tonnes	6.3 million tonnes (2017: 6.7 million tonnes)

\*higher outside the EU

Source: F.O. Licht, Biofuel Digest, FAS, Platts

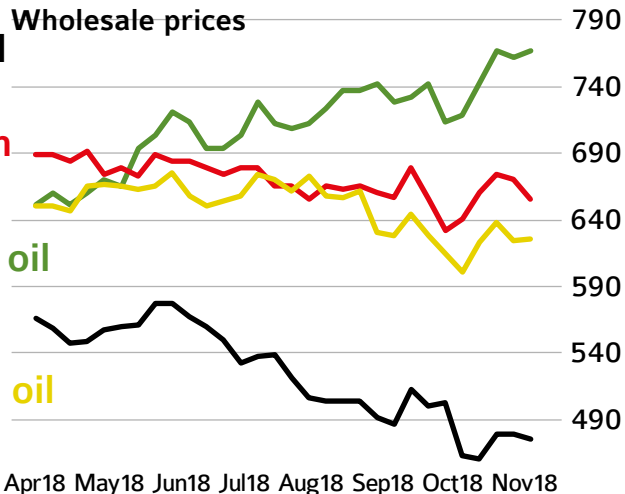
## Global vegetable oil production

in millions of tonnes



## Price development for vegetable oils

in EUR/tonne



© Sources: USDA, AMI

Source: AMI

# Germany: Requirements to reduce greenhouse gases, drivers for efficiency in raw biomass consumption, greenhouse gas reduction and cost efficiency

The obligation to reduce greenhouse gases drives GHG competition: climate protection potential is not being used

- › The German Federal Office for Agriculture and Food (BLE) has confirmed vastly improved greenhouse gas efficiency.
- › The obligation to reduce GHGs must be based on the blending ratios for biofuels (E10, B7, B30) set out in the standards.
- › A stabilised, gradual increase of GHG reduction obligations is appropriate so that the parties with obligations and the biofuel industry can adjust flexibly.
- › Biodiesel is currently the only full-coverage option for the decarbonisation of heavy goods traffic and non-road machines (agriculture, construction and forestry) with high power requirements in the diesel market.
- › The GHG reduction potential can be raised **immediately** for existing vehicle fleets.
- › **2017: Contribution of biofuels to greenhouse gas reduction: 7.7 million tonnes**



## GHG reduction rate up until 2030\*

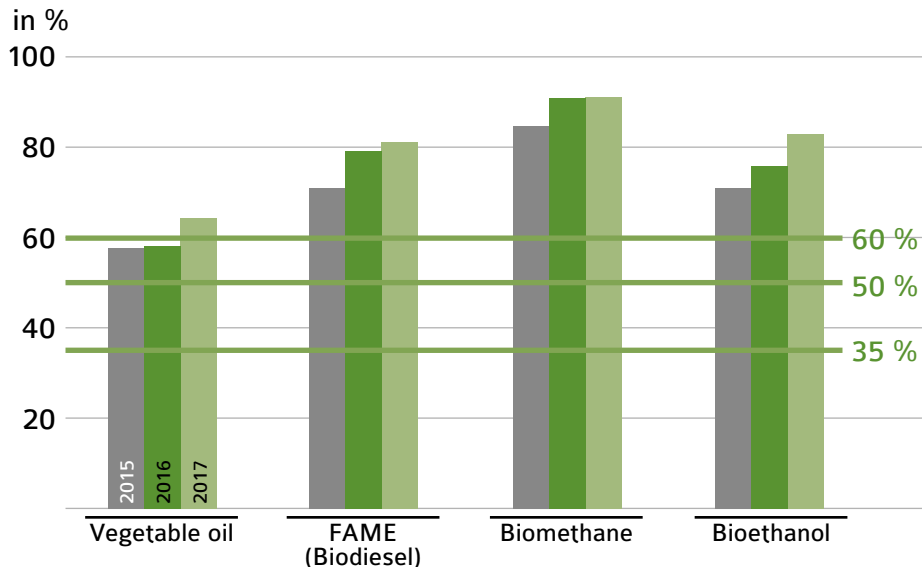
	Legal regulation**	Support from associations***	Share of renewable energy in transport***
2019	-4.0	-4.0	-
2020	-6.0	-6.0	10.0
2022	-6.0	-8.0	12.0
2024	-6.0	-10.0	14.0
2026	-6.0	-12.0	16.0
2028	-6.0	-14.0	18.0
2030	-6.0	-16.0	20.0

\* in % of total diesel and petrol volumes

\*\* § 37a (4)(2) of the German Federal Emission Control Act (BImSchG)

\*\*\* BBE proposal on the Climate Protection Act of 21 November 2018

## GHG savings on biofuels in %



Source: © BLE | 2017 Evaluation and experience report, p. 64

# Climate protection in the agricultural and forestry sector

## Sustainably certified and optimised greenhouse gas biofuels bring added value

- › Regional material cycles by means of the use of vegetable oil fuel used in agriculture and forestry (“oat principle”)
- › Public acceptance exceptionally high
- › Beginning decarbonisation only with biofuels because of the higher potential energy density (service requirement: field work, harvesting, etc.)
- › **Climate Action Plan 2050**
  - › GHG reduction obligations for agriculture: –34%!
  - › Fuel requirement in agriculture approx. 1.5 million tonnes, equivalent to approx. 4 million tonnes of CO<sub>2</sub>-equivalent
  - › Objective: 100% use of vegetable oil fuel – GHG efficiency: 65%
  - › GHG reduction potential: approx. 2.5 million tonnes of CO<sub>2</sub>-equivalent
  - › Land requirements: max. 1 million hectares of rapeseed

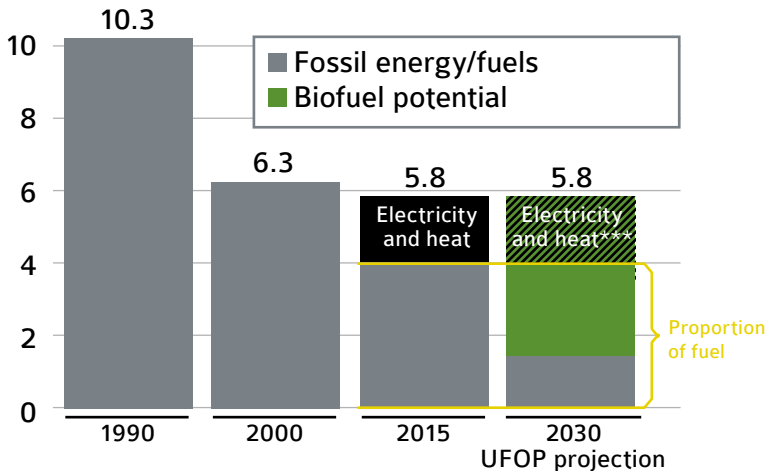
## Climate protection law: Reduction targets are binding:

Sector	1990*	2014*	2030*	2030**
Energy industry	466	358	175–183	62–61 %
Buildings	209	119	70–72	67–66 %
Transport	163	160	95–98	42–40 %
Industry	283	181	140–143	51–49 %
<b>Agriculture</b>	<b>88</b>	<b>72</b>	<b>58–61</b>	<b>34–31 %</b>
Subtotal	1,209	890	538–557	56–54 %
Other	39	12	5	87 %
<b>Total</b>	<b>1,248</b>	<b>902</b>	<b>543–562</b>	<b>56–55 %</b>

\* Emissions in million tonnes of CO<sub>2</sub> equivalent  
 \*\* Reduction target in % compared to 1990  
 Source: Climate Protection Plan 2050 (14/11/2016)

## Agricultural emissions from energy use

in million tonnes of CO<sub>2</sub> equivalent



\*\*\* GHG reduction potential through the use of electricity and heat from biogas plants, wind power and photovoltaics  
 Source (up to 2015): National greenhouse gas inventory reports | © DBV

# Road transport: Decarbonisation only possible together

**Challenge: Fuel consumption in road traffic in Germany in 2018: approx. 37 million tonnes of diesel and approx. 18 million tonnes of petrol**

**Understanding and “driving” the decarbonisation of traffic as an evolutionary process:**

- › Modal shift
- › Greenhouse gas efficient biofuels
- › Gradual electrification – hybridisation strategy
- › More efficient engines

**Challenge: use biofuels now to reduce greenhouse gases!**

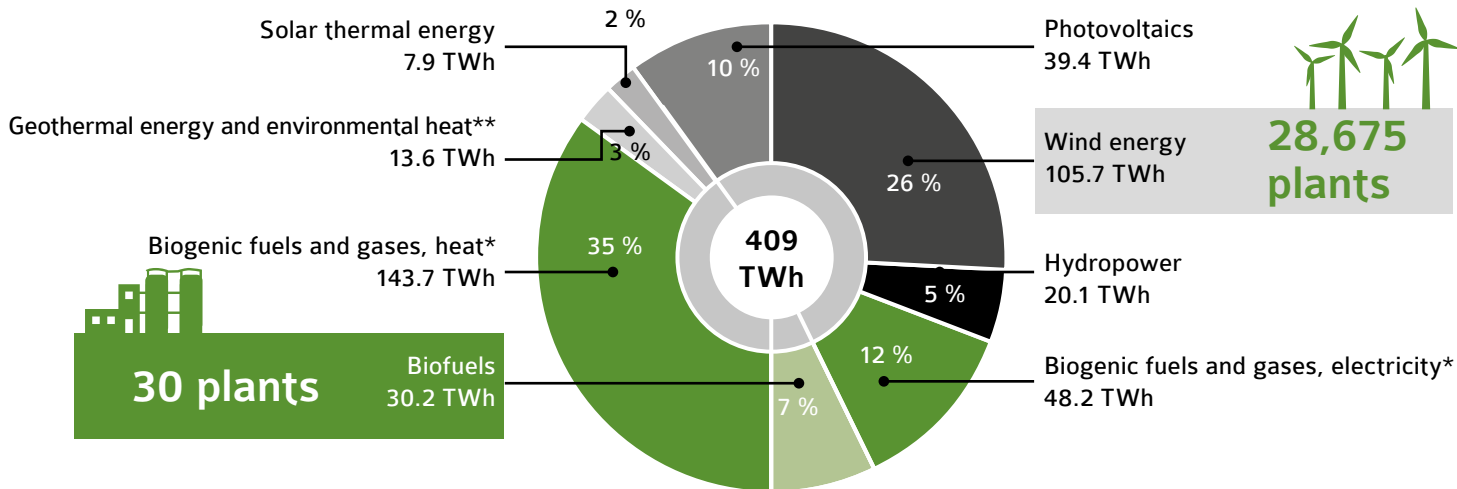
- › Use sustainably certified and greenhouse gas optimised biofuels in existing vehicle fleets
- › Biofuels as a blend component in plug-in hybrid vehicles
- › Key problem of heavy traffic: advantage of high energy density in biofuels

**The challenge of public acceptance – where does renewable electricity come from?**

- › Situation: Biofuels are the only sensible alternative with a 5.2 % market share
- › GHG efficiency and innovation determine market access: competition open to biomass raw materials and technology!

# Energy supply from renewable energy sources (2017)

Around 30 biofuel plants provide as much energy as around 8,115 wind turbines



© Federal Environment Agency (UBA) based on AGEE-Stat, Version: August 2018 | \* with biogenic share of waste | \*\* Electricity generation from geothermal energy approx. 0.16 TWh (not shown separately)

# Survey confirms: Consumers have positive image of biofuels\*

## Politicians misjudge the image of biofuels

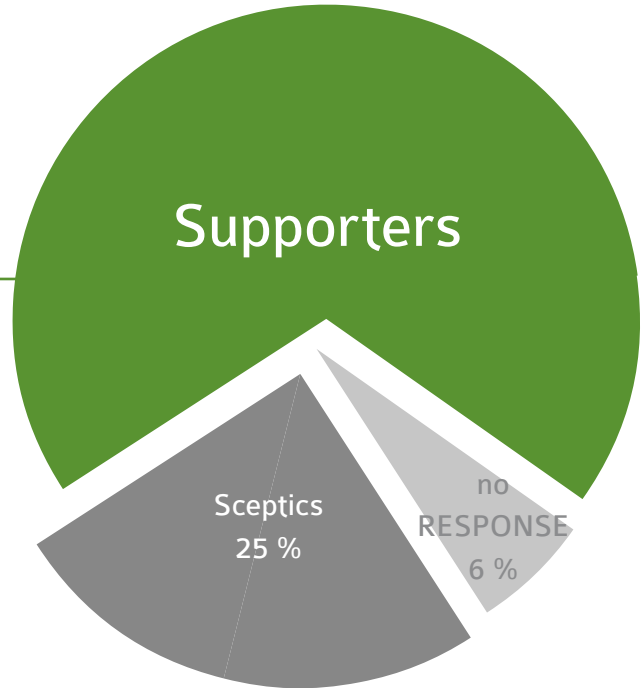
- › 69 per cent of Germans have positive image of biofuels
- › Criticism of the sustainability of biofuels has been recognised.
- › According to the survey by TNS Infratest (2016), sceptics change their minds when shown the facts.
- › **Important:** The survey shows the **fundamental need for information** on the use of biomass, regardless of whether it is being used for energy or material purposes.
- › **Required: more public relations work and factual information**

\* Consumer survey biofuels, published by UFOP, OVID, VDB; (2016)

## What does Germany think about biofuels?

69 %

of the population has an overall positive view of biofuels



# That's what we want! Increase the greenhouse gas-reduction potential of the agricultural sector as an energy supplier and user – carve out the future and gain acceptance!

**Design of a funding legal framework for a sustainable and balanced biofuel policy after 2020 – bring the agricultural sector along!**

- › Retention of cap limit of 7% for biofuels derived from cultivated biomass after 2020 as a iLUC-free base amount.
- › In 2019, limit palm oil-based fuels as far as possible and use up current stocks.
- › Land use changes must be dealt with and assistance provided as soon as possible through governmental agreements and compensation programmes.
- › The European Commission's view on iLUC cannot be the basis for political decisions – it is not possible to scientifically prove a cause and effect relationship – models are no basis for decision-making.



- › iLUC/dLUC relates to all options for the use of palm oil, a usage-independent and transparent sustainability certification must be legally implemented. Voluntary certification systems have weak sanctions.
- › Introduction of a GHG reduction obligation in the EU.
- › Gradual increase of the GHG reduction obligation in Germany, thus promoting further alternatives for renewable electricity, such as fuels (e-fuels).
- › In a competitive context, funding which is open in regards to technologies and raw materials is a driver of a (preferably) cost-efficient use of certified sustainable biomass resources (including residue products such as straw).
- › Evolutionary development of alternatives in order to reduce supply risks.
- › Hybridisation of engines is the first step. Sustainably certified biofuels aid the transition to purely electric engines and non-biogenic fuels.
- › Post-2020 continuation of full tax relief for biofuels in agriculture and forestry until at least 2030.
- › Reduce bureaucracy in tax refund procedures, make energy-tax-exempt procurement for agriculture and forestry possible.

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