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

Good reasons for biofuels

Facts about the continuation of decarbonisation in road transport

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Introduction

Human-caused climate change is a natural disaster which measured by geological standards is already occurring at a rapid pace and is already visible and noticeable. Agriculture is immediately affected by these changes. It is also part of the solution and contributes to the reduction of greenhouse gas emissions. The Climate Action Plan 2020 and Climate Plan 2050 show the challenges of adapting to the decarbonisation of road transport. This has to involve almost no fossil fuels by 2050. Sustainably certified and greenhouse gas-enhanced biodiesel from rapeseed can – alongside other renewable fuels and engines – make a noticeable contribution to the decarbonisation of road transport and to the agriculture and forestry of today.

The climate treaty of Paris was ratified by Germany and the European Union and is now being bindingly implemented according to international law.

The national action plans to be presented by the signatory states by 2020 will show how seriously these obligations are being taken. In the national action plans, biofuels from cultivated biomass will assume a central role in the decarbonisation of road traffic in the short to medium term. European – and particularly German – biofuel legislation will determine the design, development and implementation of sustainability at the global level.

In the post-2020 funding policy, there must also be a place for biofuels introduced to market from biomass cultivation.

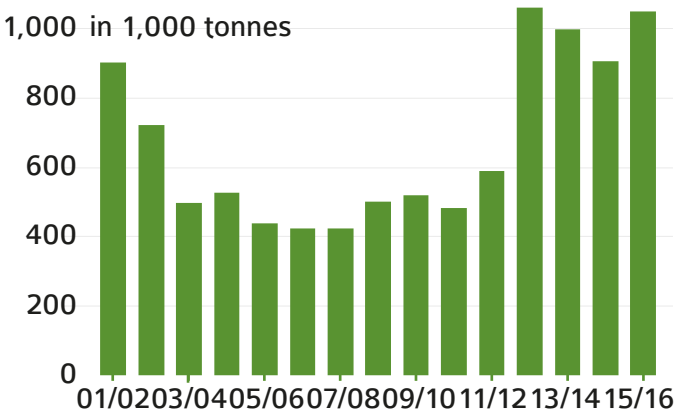
Wolfgang Vogel, Chairman of UFOP

Importance for agriculture

Biofuels offer relief to agricultural markets, slowing the descent of producer prices:

- Record harvests and structural surpluses dominate the global supply situation and compensate for lower crops in other regions, such as those currently in the EU
- 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 has always take precedence over energy use due to the higher net value.**

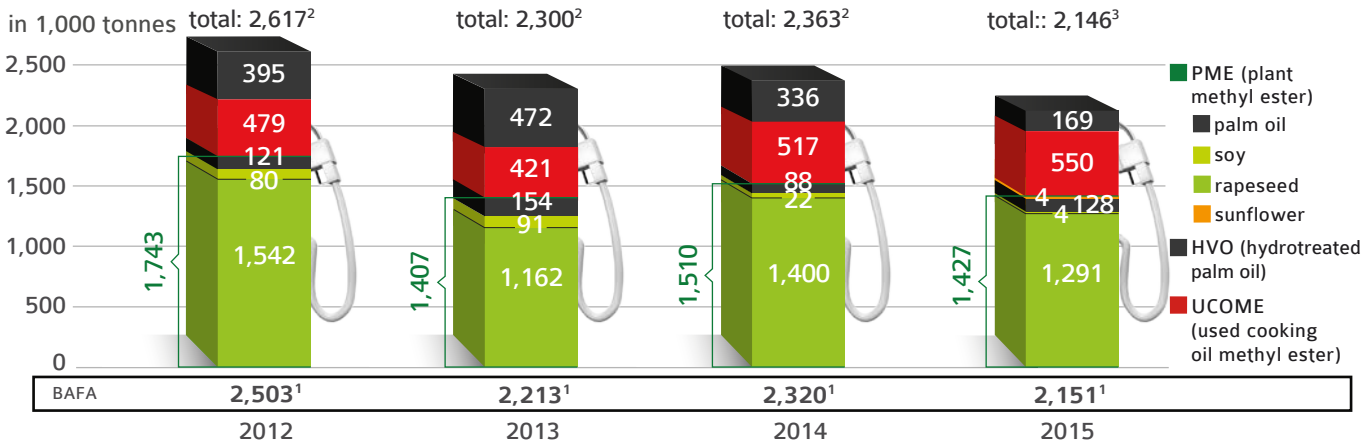
German exports of rapeseed oil



© Sources: Statistisches Bundesamt, AMI

Development of sales of biodiesel in Germany

Domestic consumption 2012–2015[1] | Quota assessment[2]

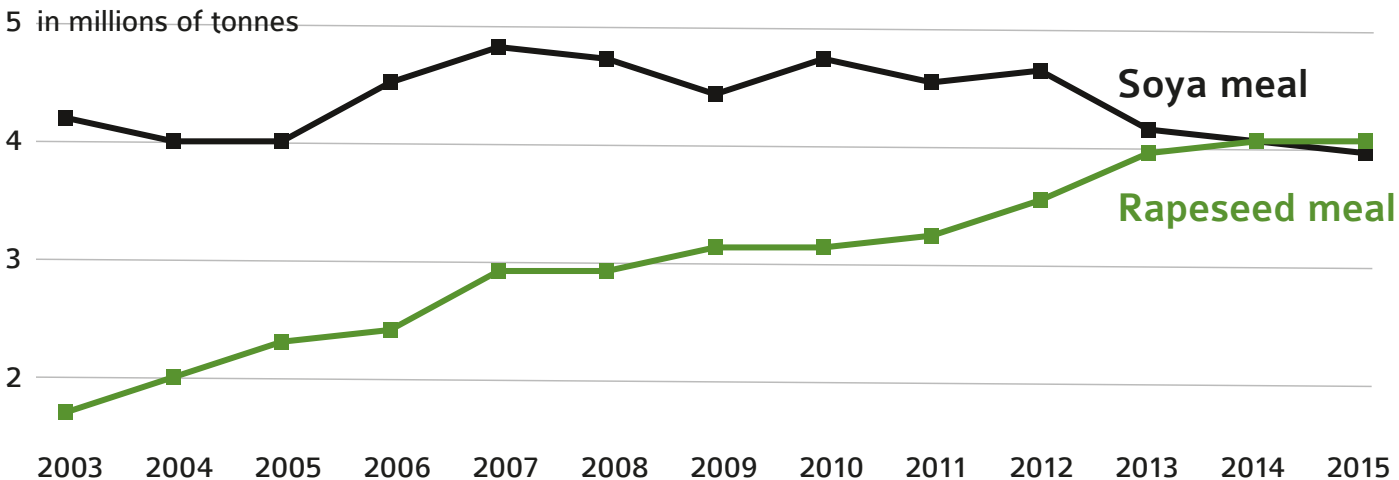


Sources: [1]BAFA, [2]BLE, [3]BLE-Evaluation and Progress Report 2015

Securing domestic protein feed production

- Rapeseed is the most important GMO-free protein source in Germany and the EU. German and European protein plants strategy are therefore based on rapeseed.
- Rapeseed cultivation reduces soya imports and thus also ‘surface imports’ and ‘raw materials imports’
- Rapeseed meal use is particularly increasing in dairy cattle feeding
- 2015 was the first year in which more rapeseed meal was used for feeding than was soya meal
- **In addition, rapeseed is as a flowering plant essential in grain-rich crop rotations**

What do German farmers use as feed?



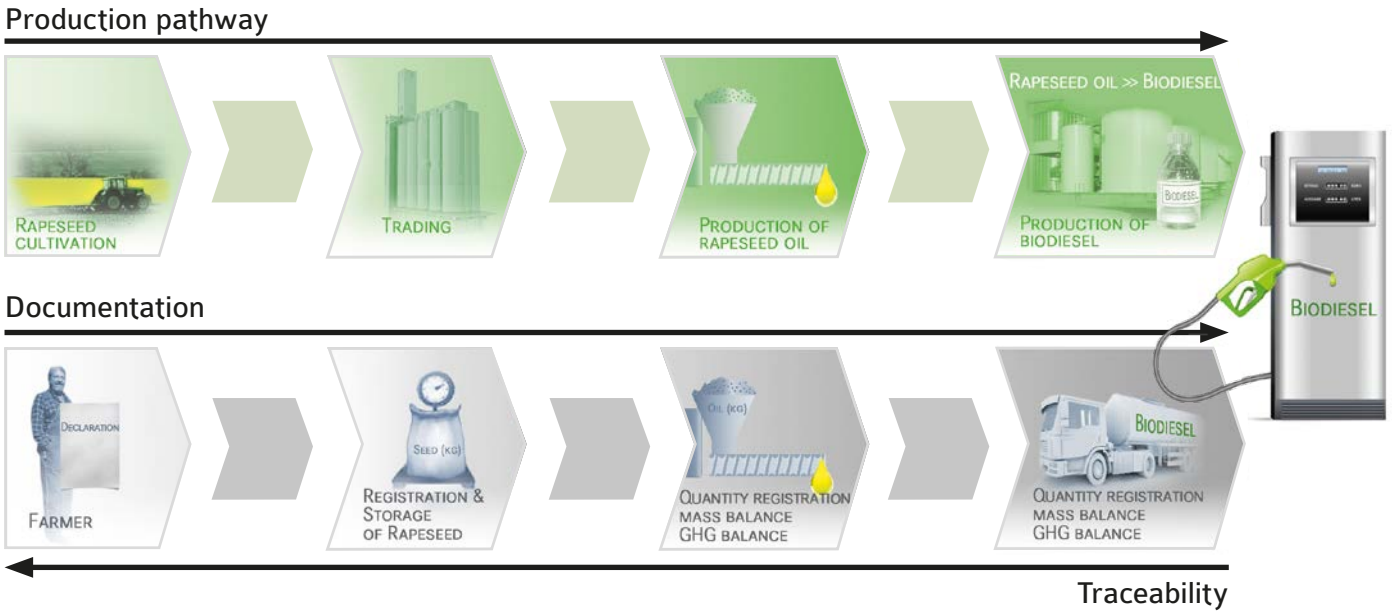
 | Sources: Oil World, UFOP, DLG Futterwerttabelle, BMEL, Eurostat

Biofuels: a global market with global rules

(indirect) land use change – a question of monitoring!

- EU rapeseed farming areas in the last ten years roughly constant: 6.5 million ha
- EU biodiesel sales from rapeseed since 2008: about 6 million tonnes per year, which corresponds to approximately 4.3 million hectares cultivated per year
- Biodiesel sales ensures the profitability of rapeseed cultivation and thus the production of protein feeds
- EU biofuel policies – no scientific proof possible of cause-effect relationship for iLUC
- iLUC factors punish European oilseed producers!
- **Rain forest protection is the immediate task of the government and cannot be solved by iLUC factors – therefore: Consider banning the use of palm oil**

Certification and documentation of biodiesel



Vegetable oil production growing more strongly than demand

- Global vegetable oil production is growing steadily, despite stagnant demand measured in purchasing power
- Soya meal (protein) demand is driving acreage development 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
- Abundant sources for for food or material use

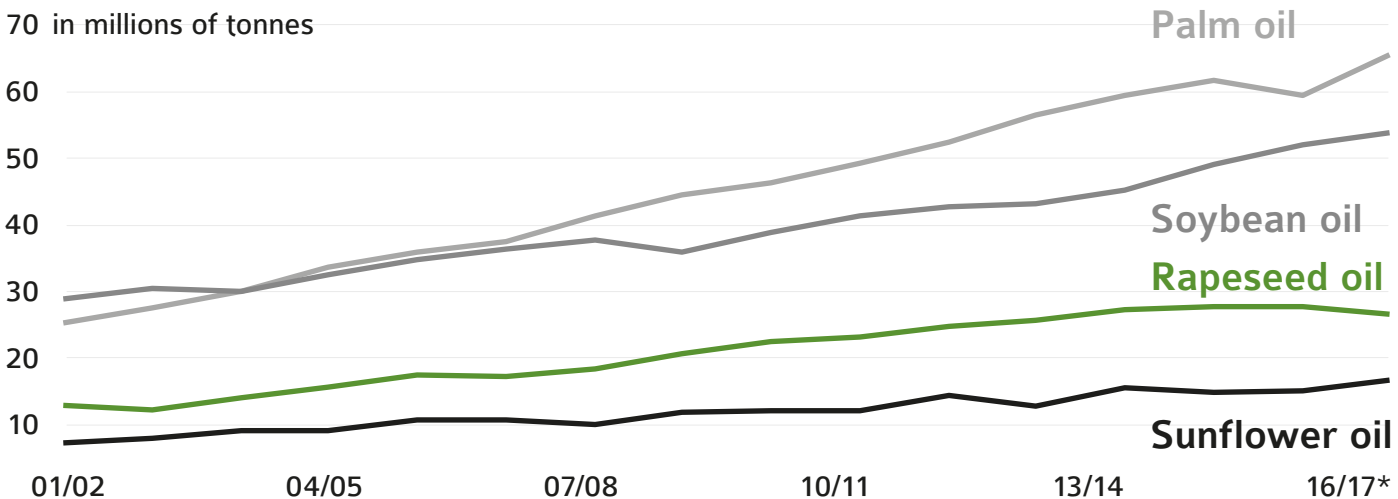
- **Path to for third countries: increasing commitment targets for blending biodiesel into diesel fuels**

Biofuel mandates*

Biofuel mandates %	2015	2016
Indonesia	15	20***
Malaysia	10 (7)	10 (7)
Argentina	10	10
Brazil	7	7 20/30**
Thailand	7	7
USA RFS Program	5.8 million tonnes	6.3 million tonnes ****

* higher outside EU
** Truck fleet test for market introduction
*** 20 % ⟶ CHP units (Industry) | **** 2017: 6.7 million tonnes

Global vegetable oil production



© Sources: USDA, AMI | * Estimation

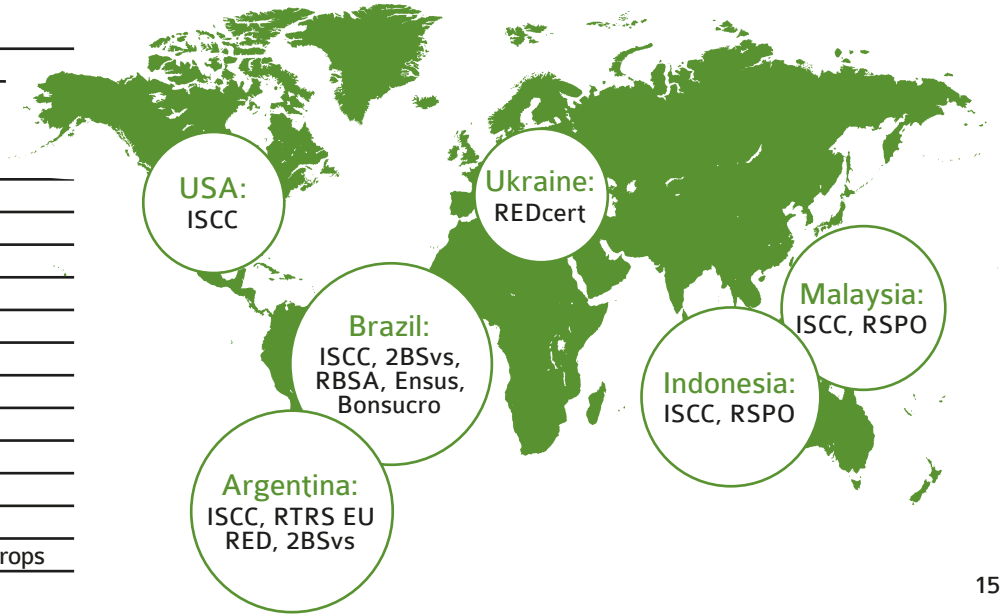
EU biofuel legislation: paving the way for sustainability certification with monitoring

Renewable energy directive:

- Statutory (!) minimum requirements for sustainability criteria apply only to the 'intended use' of raw materials or biofuels for use/calculation in the EU
- Targeting certain social standards and ILO criteria; verification of greenhouse gas mitigation: from 2018, at least 50 % compared to fossil fuels, new installations 60 % as of immediately
- Dated proof of origin of acreage – January 2008!
- In the EU, Biofuels and their raw materials are certified against sustainability by 100 %
- EU Commission allows certification systems and checks re-registration every five years
- **Results: Implementation of sustainability requirements prescribed by EU legislation in third countries is required as a condition of market access into the EU!**

Certification schemes for biofuels and country focus areas (selection)

- ISCC
- Bonsucro EU
- RTRS EU RED
- RSB EU RED
- 2BSvs
- RBSA
- Greenergy
- Ensus
- Red Tractor
- SQC
- REDcert
- NTA 8080
- RSPO RED
- HVO Renewable Diesel Scheme
- Gafta Trade Assurance Scheme
- KZR INIG System
- Trade Assurance Scheme for Combinable Crops
- Universal Feed Assurance Scheme



Germany: Requirements to minimise greenhouse gases, driver for efficiency in minimisation of raw biomass consumption, greenhouse gas minimisation and costs

Greenhouse gas mitigation drives GHG competition – climate protection potential not exploited

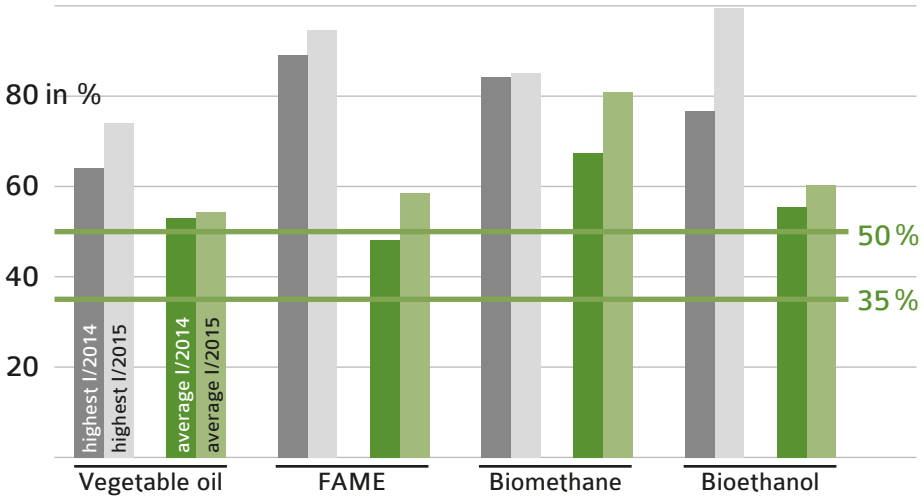
- BLE, Germany's Federal Office for Agriculture and Food, confirms vastly improved greenhouse gas efficiency
- GHG mitigation must be geared towards the blending proportions stipulated by standards for biofuels (E10, B7, B30)
- Stabilised, gradual increase of GHG mitigation duties is appropriate, the obligated parties 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-based machines (agriculture, construction and forestry) with high power requirements in the diesel market
- The GHG reduction potential can be enhanced **immediately** in existing vehicle fleets
- **Implementation of greenhouse gas mitigation in Germany is showing the way for an EU-wide introduction starting in 2020**

GHG reduction rate*

	Current legislation	Proposal: UFOP, VDB, OVID, MVaK**
2015	3.5	3.5
2016	3.5	4.0
2017	4.0	4.5
2018	4.0	5.0
2019	4.0	5.5
2020	6.0	6.0

* of total diesel and petrol amounts (in %)
** German waste based Biofuels Producers Association

GHG savings for biofuels***



Source: © BLE | *** from sustainability proofs in the state database Nabisy (saving compared to the default value for fossil fuel (83.8 g CO_2eq/MJ) and without regard to their use (type, member state))

Survey confirms: Consumers have positive image of biofuels*

Misjudgement regarding the image of biofuels inhibits politicians

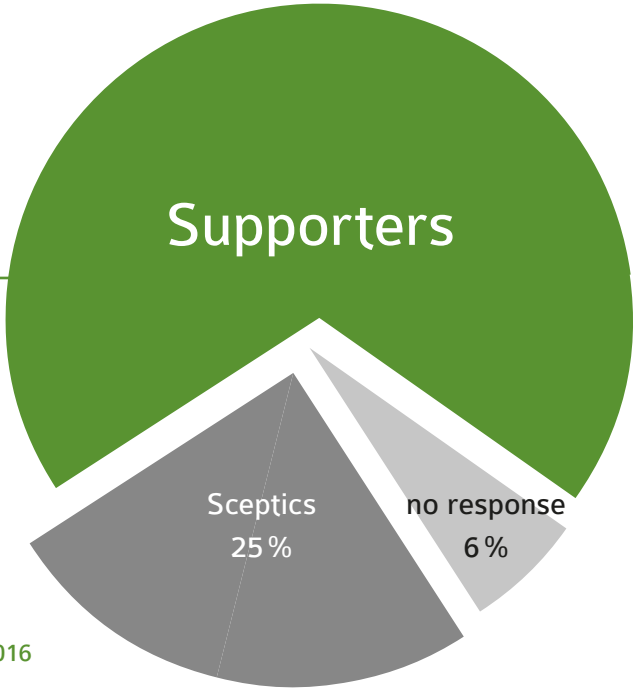
- 69 per cent of Germans have positive image of biofuels
- Criticism of the sustainability of biofuels is perceived
- According to a survey by TNS Infratest (2016), sceptics change their mind after receiving factual information
- The survey shows the basic need for information on the use of biomass, independent of whether a case of energy or material usage
- **Required: more public relations work and factual information**

* Consumer survey biofuels, release of UFOP, OVID, VDB; (2016)

What does Germany think about biofuels?

69 %

of the population views biofuels as generally a good thing



© Survey commissioned by UFOP, OVID, VDB; first quarter of 2016

Road transport: Decarbonisation only possible together

Challenge: Road traffic fuel consumption in Germany in 2015: approximately 37 million tonnes of diesel and about 18 million tonnes of petrol

Understanding and 'driving' decarbonisation of traffic as an evolutionary process:

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

Challenge:
Use biofuels to reduce greenhouse gases now!

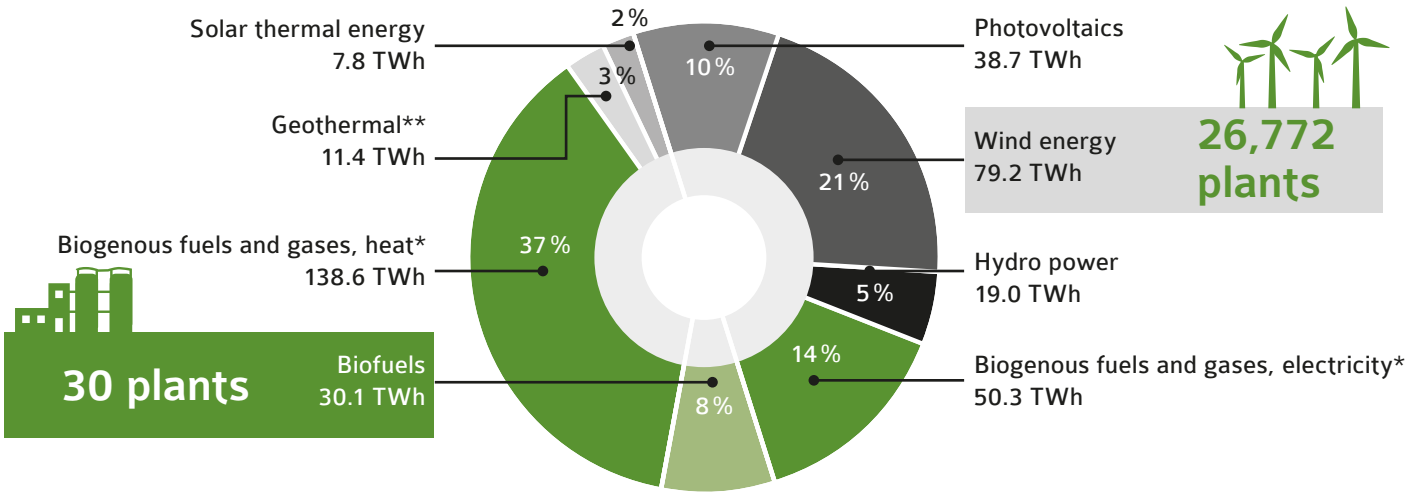
- Use sustainably certified and greenhouse-gas optimised biofuels in existing vehicle fleets
- Biofuels as a blend component in plug-in hybrid vehicles
- Key problem of heavy traffic: advantage of high energy density in biofuels

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

- Situation: Biofuels are the only significant alternative with 6.2 % market share
- About 30 biofuel plants provide as much energy as around 9,250 wind turbines
- GHG efficiency and innovation determine market access: competition open to biomass raw materials and technology.

Energy supply from renewable energy sources (2015)

Total energy supply: 375.3 terawatt-hours (TWh)



© BMWi on the basis of AGEE statistics, time series of the development of renewable energy in Germany, information current as of August 2016 with biogenic fraction of waste | ** Electricity production from geothermal power 0.1 TWh (not separately shown)

That's what we want! – Increase the greenhouse gas-reduction potential of the agricultural sector as an energy supplier and user – create perspectives and acceptance.

Design of funding law frameworks for a sustainable and balanced biofuels 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'
- Land use changes must be tackled and supervised as soon as possible, through intergovernmental agreements and compensation offers
- The 'iLUC position' of the European Commission cannot be the basis for the political decision – scientific proof of a cause-effect relationship is not possible – 'Models' are no basis for decision-making
- Introduction of requirements to mitigate greenhouse gas in the EU

- Gradual increase of greenhouse gas mitigation requirements
- Alternative fuels and drives must be affordable as a prerequisite for a possible timely market penetration without subsidies
- With competition, funding which is open in regards to technologies and raw materials is a driver of a preferably also cost-efficient use of certified sustainable biomass resources (including residues such as straw)
- Evolutionary development of alternatives in order to reduce supply risks
- The hybridisation of power-trains is the introductory phase, sustainably certified biofuels bridge the transition to pure electromotive drives and not biogenic fuels
- Forward projection of full tax relief for biofuels in agriculture and forestry sector
- Creation of the legal framework for agriculture, including in the energy tax, to be able to bring quantities of biofuels into greenhouse gas quota trading

Notes

Legal notice

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