

Fact sheet

Game over, Frau HenTricks!

- 38th Regulation on the Implementation of the Federal Emissions Protection Act (Verordnung zur Durchführung des Bundes-Immissionsschutzgesetzes – BImSchV)
- Co-HVO
- Palm oil
- Greenhouse gas (GHG) quotas
- Advanced second generation biofuels

38th Regulation on the Implementation of the Federal Emissions Protection Act (Verordnung zur Durchführung des Bundes-Immissionsschutzgesetzes – BImSchV)

The 38th Regulation on the Implementation of the Federal Emissions Protection Act was enacted by the Federal Government at the end of 2017. The regulation takes effect from January 1, 2018 and is intended to implement the EU directives 2015/652 and 2015/1513 for conventional and alternative fuels, and directive 2009/28/EG to promote the use of energy from renewable sources in the transport sector. Existing regulations oblige companies bringing fuels into circulation to reduce the greenhouse gas emissions of these fuels by a specific legally-set percentage compared to the reference base value of a fossil fuel (referred to as the greenhouse gas or GHG quota).

The following is an overview of the most significant changes under this regulation:

- Increase in the base value of fossil fuels from 83.8 to 94.1 Kilogramme carbon dioxide equivalent/Gigajoule (kg CO₂eq/GJ)
- Increase in the accreditation given to a range of products to meet the GHG quota:
 - Additional alternative low-emission fuels accredited
In future, the GHG quota can be met by using various additional non-biogene fuels (including CNG, LPG and LNG, as well as hydrogen from natural gas with steam reforming) as well as further biogene fuels (e.g. biogene liquid gas, electricity based fuels). Bringing fuels into circulation can mean offering them for use as a pure fuel or as an additive. Additives are credited on a proportionate basis.
 - Specification of an upper limit for conventional biofuels
The use of conventional biofuels, i.e. biofuels manufactured from cultivated biomass, is to be limited to a maximum of 6.5 percent (energetic) to avoid indirect changes of land use. For the most part these include the first generation biofuels currently on the market manufactured using grain, other crop plants with a high level of starch content, and oil and sugar plants.
 - Introduction of a minimum quota for advanced fuels
A minimum quota for advanced second generation fuels is introduced, calculated in terms of energy efficiency. The minimum quota increases in stages from 0.05 percent in 2020 to 0.5 percent in 2025.

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Fact sheet

Advanced fuels are fuels such as biofuels – including biomethane – from certain waste and residual products, electricity-based fuels from non-biogene sources (e.g. synthetic methane and hydrogen) and fuels manufactured from CO₂ capture or from bacteria. Biofuels, including biomethane, can be credited for the minimum quota provided that they are manufactured from the list of waste and residual products included in Appendix 1 to the regulation (positive list).

- Electricity used to power transport will in future be accredited for GHG quota purposes
Electric power taken from the electricity grid to power electric trams can be credited for greenhouse gas purposes in future.
- Co-HVO accredited for GHG quota purposes
Vegetable oils refined into diesel and petrol by normal mineral oil processes may be accredited as improving the fossil fuel CO₂ quota.

Co-HVO

The initials Co-HVO stand for hydrated vegetable oils, with “Co” referring to the production method, co-processing. This process provides for the co-refinement of biogene oils in manufacturing fossil fuels such as petrol and diesel in mineral oil refineries. Palm oil is mostly used for this purpose given the particular chemical properties involved and due to the cheap prices.

Palm oil

In biological terms palm oil is the flesh of the palm fruit; economically it is the most widely cultivated vegetable oil in the world. Ecologically, it is a nightmare. To grow palm fruit a tropical climate and location is needed. Currently 17 million hectares are under cultivation worldwide, and to create more room, ever more rainforest is being destroyed using slash-and burn-techniques. This results in the destruction of a unique living environment for animals and humans and releases climate-damaging CO₂ – so much CO₂, in fact, that Indonesia, the world’s largest palm oil producer, has become the third largest CO₂ emitter in the world despite lacking significant industry. Palm oil is primarily attractive because of its price; the palm is, on a per-hectare basis, much more efficient than other oil plants. In addition, it grows in countries with low wage levels and where there is little legal protection for workers.

Facts:

- Worldwide production: 60 million tonnes, from 17 million hectares
- Global use:
 - 68 percent in foodstuffs
 - 27 percent in cosmetics, cleaning materials etc.
 - 5 percent for energy purposes
- Consumption in Germany: 1,795,705 tonnes (2.99 percent of global production)
- Use in Germany:
 - 41 percent for bioenergy (primarily for producing HVO)

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Fact sheet

- 40 percent in foodstuffs (including animal foods)
- 17 percent for industrial purposes
- Summary of WWF study: 50 percent of German palm oil requirements could be saved by avoiding the use of palm oil in biofuels and by more conscientious consumption. In Europe, domestic rape is a good alternative raw material for use in biofuel production.
The statistics concerning palm oil have been provided to us by the WWF and were published in the WWF study "Auf der Ölspur" issued in July 2016.

Greenhouse gas (GHG) reduction quotas

In Germany the greenhouse gas reduction quota has been in force since January 1, 2015. This is incorporated in § 37a of the Regulation on the Implementation of the Federal Emissions Protection Act (Bundesimmissionsschutzgesetzes – BImSchG).

This requires all fuel providers to achieve specific greenhouse gas savings in comparison to a pre-determined reference value from 2015 onwards:

1. of 3.5 percent from 2015;
2. of 4.0 percent from 2017;
3. of 6.0 percent from 2020.

The reference value used for greenhouse reduction purposes is calculated based on the CO₂ equivalent expressed in kilograms per gigajoule equivalent, which is also set out in the BImSchG and the 37th Regulation on the Implementation of the BImSchG. The greenhouse gas savings will primarily be achieved by using biofuels as a pure fuel or as additives. By achieving lower CO₂ emissions in an optimised biofuel production chain, less fuel is required to meet the legal quota. For this purpose all greenhouse gas emissions are taken into account – from cultivation of the raw materials through to the filling station. German biofuels currently achieve up to 70 percent greenhouse gas savings due to the use of leading technologies.

Advanced second generation biofuels

This includes all biofuels which are produced using waste products and products not used for human consumption. This includes biodiesel from used fat as well as other sources, for example biomethane from 100 percent straw – a biofuel for natural gas-powered vehicles which can demonstrate 90 percent CO₂ savings, fine-particle and nitrogen oxide savings, as well as the highest efficiencies/driven km and competitive production costs. Further, a natural gas vehicle powered by biomethane produced using straw is more environmentally friendly than an electric car powered using the current European electricity mix, which is based on nuclear energy and lignite coal. With VERBIO's innovative straw-biomethane technology, four large bales of straw (two tonnes) are sufficient to manufacture sufficient fuel to power a medium-sized passenger vehicle for a year. Biomethane from straw can also be used to power heavy goods vehicles. Until now, CNG and biomethane are currently the only available and practical environmentally friendly alternatives to diesel.

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