

Appendix A

Directives Summary

This appendix provides a very brief summary of the Renewable Energy Directives and Fuel Quality Directive as applicable specifically to the transport sector:

Summary of the Renewable Energy Directive 2009/28/EC

The Renewable Energy Directive 2009/28/EC is a European Union directive which mandates levels of renewable energy use within the European Union. The directive was published on 23 April 2009 and amends and repeals the 2001 Directive on Electricity Production from Renewable Energy Sources 2001/77/EC. The directive requires that 20% of the energy consumed within the European Union is renewable. This target is pooled among the member states.

EU leaders had already reached agreement in March 2007 that, in principle, 20% of the bloc's final energy consumption should be produced from renewable energy sources by 2020 as part of its drive to cut carbon dioxide emissions. This policy later became part of the EU 2020 Energy Strategy dated 10 November 2010. The key objectives of the strategy are to reduce carbon dioxide emissions by 20%, to increase the share of renewable energy to 20%, and to achieve energy savings of 20% or more. The targets are mutually dependent.

Summary of the Renewable Energy Directive II 2018/2001/EU

In RED II, the overall EU target for Renewable Energy Sources (RES) consumption by 2030 has been raised from the originally proposed 27% to 32%. The Commission's original proposal did not include a sub-target for RES in the transport sector, however this has been reintroduced in the final agreement:

Member states must require fuel suppliers to supply a minimum of 14% of the energy consumed in road and rail transport by 2030 as renewable energy. The exact trajectory to achieve these targets will be defined for each member states in the Integrated National Energy and Climate Plans. These plans will be designed by each member state following the guidelines set out in the Energy Union Governance Regulation.

Within the 14% transport target, there is a sub-target for advanced biofuels produced from feedstocks in Part A of Annex IX. These fuels must be supplied at a minimum of 0.2% of transport energy in 2022, 1% in 2025 and increasing to at least 3.5% by 2030.

Advanced biofuels will be double-counted towards both the 3.5% target and towards the 14% target. Biofuels produced from feedstocks in Part B of Annex IX will be capped at 1.7% in 2030 and will also be double counted towards the 14% target.

Feedstocks included in Annex IX are as follows:

Part A (i.e. advanced biofuels):

- Algae, if cultivated on land in ponds or photobioreactors;
- Biomass fraction of MSW from unsorted household waste;
- Bio-wastes separately collected from households;
- Biomass fraction of agro-industrial waste not fit for food or feed;
- Straw;
- Animal manure;
- Sewage sludge;
- Palm oil mill effluent and empty palm fruit bunches;
- Tall oil pitch;
- Crude glycerine;
- Bagasse;
- Grape marcs and wine lees;
- Nut shells;
- Husks;
- Cobs cleared of kernels of corn;
- Waste and residues from forestry and forest industries:
 - bark,
 - branches,
 - pre-commercial thinnings,
 - leaves,
 - needles,
 - tree tops,
 - saw dust,
 - cutter shavings,
 - black liquor,
 - brown liquor,
 - fibre sludge,
 - lignin, and
 - tall oil;

- Other non-food cellulosic material, including for instance perennial grasses, but also non-starchy cover crops before and after main crops as well as ley crops. This category also includes industrial residues after the extraction of vegetable oils, sugars, starches and proteins.
- Other ligno-cellulosic materials, including for instance woody short rotation crops, pulp logs and other forest-based biomass, but excluding veneer logs and saw logs.

Part B:

- Used cooking oil
- Animal fats with high risk for human health (Category 1) and animal fats suitable for soil enhancement and chemical industry (Category 2)

Summary of the Fuel Quality Directive 2009/30/EC

Fuels used for road transport in the EU have to meet strict quality requirements to protect human health and the environment. Common fuel quality rules help reduce greenhouse gas and air pollutant emissions and establish a single fuel market to ensure that vehicles can operate everywhere in the EU on the basis of compatible fuels.

The Fuel Quality Directive applies to

- petrol, diesel and biofuels used in road transport
- gasoil used in non-road-mobile machinery.

The Fuel Quality Directive requires a reduction of the greenhouse gas intensity of transport fuels by a minimum of 6% by 2020. Together with the Renewable Energy Directive, it also regulates the sustainability of biofuels. Emissions reporting covers the full life-cycle whereby the greenhouse gas intensity of fuels is calculated on a life-cycle basis covering emissions from extraction, processing and distribution. Emissions reductions are calculated against a baseline set in 2010.

The 6% reduction target is likely to be achieved primarily through:

- the use of biofuels, electricity, less carbon intense fossil fuels, and renewable fuels of non-biological origin (such as e-fuels)
- a reduction of upstream emissions (such as flaring and venting) at the extraction stage of fossil feedstocks.

Biofuel sustainability

For biofuels to count towards the greenhouse gas emission reduction targets, they must meet certain sustainability criteria to minimise negative impacts in their production phase.

Until 31 December 2020, the Fuel Quality Directive and the Renewable Energy Directive set out the following requirements:

- Greenhouse gas emissions from biofuels must be lower than from the fossil fuel they replace – at least 50% (for installations in operation before 5 October 2015) and 60% for installations starting operation after that date.
- The feedstocks for biofuels cannot be sourced from land with high biodiversity or high carbon stock.

Rising demand for biofuels can displace the production of food and feed crops, and induce the conversion of land, such as forests and wetlands, into agricultural land, thus indirectly leading to increased greenhouse gas emissions.

These emissions from indirect land use change (ILUC) can significantly reduce or even wipe out the greenhouse gas savings from biofuels. To account for this, the amount of biofuels produced from cereal and other starch-rich crops, sugars and oil crops and from energy crops grown on agricultural land that can be counted as a sustainable source of renewable energy is limited to 7% of the energy in transport in the Member States in 2020. The legislation also governs other elements of fuel quality, primarily linked to air pollutant emissions.