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Report Highlights:

This report provides an overview of the biofuel use mandates in EU-27 member states, including temporary changes to alleviate inflationary pressure stemming from Russia's invasion in Ukraine. It supplements the EU Biofuels Annual Report for 2024.

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Abbreviations and Definitions Used in this Report

% Cal =	percent energy content
% Vol =	percent volume
% Biodiesel =	minimum percentage of biodiesel in total diesel use
% Bioethanol =	minimum percentage of bioethanol in total gasoline use
% Overall =	minimum percentage of biofuels in total fuel use
% GHG Emission Reduction =	Percentage of GHG reductions of total fuel use (fossil and renewable) compared to the hypothetical GHG emissions that would have occurred with the exclusive use of fossil fuels

All of the above refer to fuel use in the transport sector.

Biodiesel =	Fatty acid methyl ester produced from agricultural or waste feedstock (vegetable oils, animal fat, recycled cooking oils) used as transport fuel to substitute for petroleum diesel
Bioethanol =	Ethanol produced from agricultural feedstock used as transport fuel
Cat. 1 (2 and 3) =	Risk categories for animal-by-products as defined in EU Regulation (EC) 1069/2009, with cat. 1 having the highest and cat. 3 the lowest risk.
Double counting =	Certain biofuels are counted twice against the mandates. This was introduced to support the use of certain biofuels and/or feedstocks. As a result of double counting, less physical volumes of a certain biofuel are needed to fill a mandate, which makes the respective biofuel more attractive than a comparable single counting biofuel. Definition and eligible feedstocks vary by member state (MS).
EC =	European Community or European Commission - depending on the context
ETBE =	Ethyl tert-butyl ether, an oxygenate gasoline additive containing 47% vol ethanol
EU =	European Union
FQD =	EU Fuel Quality Directive 98/70/EC amended by directives 2009/30/EC and (EU) 2015/1513
GHG =	Greenhouse gas
GJ =	Gigajoule = 1,000,000,000 Joule or 1 million KJ
Ktoe =	1000 MT of oil equivalent = 41,868 GJ = 11.63 GWh
MJ =	Megajoule
MS =	Member State(s) of the EU
MWh =	Mega Watt hours = 1,000 Kilo Watt hours (KWh)
N/A =	Not applicable
POME =	Palm Oil Mill Effluent
RED =	EU Renewable Energy Directive 2009/28/EC
RED II =	EU Renewable Energy Directive 2018/2001/EC
RES =	Renewable energy sources
RES-T =	Renewable energy share in transport
SAF =	Sustainable aviation fuel
SBE =	Spent Bleached Earth
Tall oil =	A by-product of the wood manufacturing industry; qualifies as advanced biofuels feedstock
Tall-oil pitch =	The residue from the distillation of tall oil; qualifies as advanced biofuels feedstock

TME =	Tallow Methyl Ester, biodiesel made from animal fat
Toe =	Tons of oil equivalent = 41,868 MJ = 11.63 MWh
UCO =	Used cooking oil/ recycled vegetable oil
UCOME =	UCO based methyl ester biodiesel
UER =	Upstream emission reduction

Introduction:

The European Union (EU) adopted the second iteration of the Renewable Energy Directive (REDII) for the period 2021-2030 in 2018. Most of the provisions of this Directive 2018/2001 entered into force on January 1, 2021. The Directive was amended in October 2023 by Directive 2023/2413 to align the REDII with the EU's Green Deal ambitions of a reduction of greenhouse gas emissions of 55 percent by 2030 (compared to 1990) and carbon neutrality by 2050. The revised REDII entered into force on November 20, 2023, with an 18-month period to transpose most of the Directive's provisions into national law in the Member States.

Many member states have adopted minimum biofuel use mandates in order to achieve the goals of RED and RED II. This report provides an overview of the current and future mandates from the various member states. For information on mandates referring to years prior to 2022 please check our report from 2022[1]. Note that Cyprus, Luxemburg, and Malta are not included in this report. The tables represent the status quo as of May 2024. If changes are being discussed but have not yet been adopted, they are mentioned in the text below the tables.

EU Renewable Energy Targets

The revised REDII sets out a target for the overall renewable energy share of at least 42.5 percent binding at the EU level by 2030. For transport, Member States can choose between a target of reducing greenhouse gas (GHG) intensity by 14.5 percent up to 2030 or ensuring a share of at least 29 percent of renewables in final energy consumption by 2030. The Directive also sets out a binding target on non-crop based advanced biofuels of one percent in 2025 and 5.5 percent in 2030, of which a share of at least one percentage point is from renewable fuels of non-biological origin in 2030. The EU capped crop-based biofuels at the level consumed in each Member State in 2020, with an additional one percent allowed over present consumption up to an overall cap of seven percent. Member states can also set a lower limit for conventional biofuels than prescribed in the REDII. For advanced biofuels, the REDII introduces two different sets of targets for feedstocks listed in Part A of Annex IX and feedstock listed in Part B. Feedstocks listed in Part A must be supplied at a minimum one percent in 2025 and 5.5 percent in 2030, of which a share of at least one percent is from renewable fuels of non-biological origin in 2030. Biofuels produced from feedstock listed in Part B will be capped at 1.7 percent in 2030 except in Cyprus and Malta. Advanced biofuels can be double counted.

[1] Biofuel Mandates in the EU by Member State - 2022_Berlin_European Union_E42022-0044

Table 1. Advanced Biofuel Sources, Part A and Part B of Annex IX	
Part A	**Part B**
• Algae if cultivated on land in ponds or photobioreactors • Biomass fraction of mixed municipal waste • Biowaste from private households subject to separate collection • Biomass fraction of industrial waste not fit for use in the food or feed chain • Straw • Animal manure and sewage sludge • Palm oil mill effluent and empty palm fruit bunches • Crude glycerin • Bagasse • Grape marcs and wine lees • Nut shells • Husks • Cobs cleaned of kernels of corn • Biomass fraction of wastes and residues from forestry and forest-based industries • Other non-food cellulosic material • Other ligno-cellulosic material except saw logs and veneer logs • Fusel oils from alcoholic distillation • Raw methanol from kraft pulping stemming from the production of wood pulp • Intermediate crops, such as catch crops and cover crops that are grown in areas where due to a short vegetation period the production of food and feed crops is limited to one harvest and provided their use does not trigger demand for additional land, and provided the soil organic matter content is maintained, where used for the production of biofuel for the aviation sector • Crops grown on severely degraded land, except food and feed crops, where used for the production of biofuel for the aviation sector • Cyanobacteria	• Used cooking oil (UCO) • Some categories of animal fats • Damaged crops that are not fit for use in the food or feed chain, excluding substances that have been intentionally modified or contaminated in order to meet this definition • Municipal wastewater and derivatives other than sewage sludge • Crops grown on severely degraded land excluding food and feed crops and feedstocks listed in Part A of this Annex, where not used for the production of biofuel for the aviation sector • Intermediate crops, such as catch crops and cover crops, and excluding feedstocks listed in Part A of this Annex, that are grown in areas where due to a short vegetation period the production of food and feed crops is limited to one harvest and provided their use does not trigger demand for additional land and provided the soil organic matter content is maintained, where not used for the production of biofuel for the aviation sector

Table 2. Advanced Biofuel Sources, Part A and Part B of Annex IX, Mandates and Cap		
	Part A Mandates (% cal)	**Part B Cap** (% cal)
2022	**0.2**	
2025	1	
2030	3.5	1.7

In the revised REDII, advanced biofuels from the feedstock listed in Annex IX and renewable fuels of non-biological origin can still be double counted towards the targets.

EU-wide Greenhouse Gas (GHG) Emission Reductions

The Renewable Energy Directive (RED) stipulated that biofuels can only be counted against EU and/or member state targets if they fulfill the following minimum greenhouse gas (GHG) reduction requirements:

	Table 3. RED Minimum % GHG Emission Reductions of Each Biofuel Compared to the Respective Fossil Fuel
2009-2017	35%
2018 and onwards	50% for biofuels produced in operations that started production on or before Oct 5, 2015. 60% for biofuels produced in operations that started production after Oct 5, 2015.

Source: Art. 7 b of EU Directive 98/70/EC as revised by Directive (EU) 2015/1513

The **Fuel Quality Directive** (**FQD)** (Directive 2009/30/EC) complemented the RED and mirrored some of the RED's content such as the sustainability criteria. A key requirement in article 7a of the FQD is that all **fuel suppliers must meet a six percent reduction in GHG emissions by 2020 across all fuel categories supplied to the market**. This is designed to be consistent with the 10 percent minimum use target for biofuels and shift demand towards biofuels with higher GHG savings. Additionally, the FQD limits ethanol blends to 10 percent or less when ethanol is used as an oxygenate, and places limits on palm oil and soy oil content of biodiesel. The Commission did not increase the GHG reduction target in the FQD for the time beyond 2020. Instead, the Commission addressed the issue of the decarbonization of transport fuels after 2020 in RED II.

RED II introduced new GHG emission criteria that biofuels used in transport must comply with to be counted towards the overall 14 percent target. The European Commission is allowed to revise and update the default values of GHG emissions when technological developments make it necessary. Economic operators have the option to either use default GHG intensity values provided in RED II or to calculate actual values for their pathway.

Table 4. Greenhouse gas savings thresholds in RED II			
Plants started/start operations	Transport biofuels	Transport renewable fuels of non-biological origin	Electricity, heating, and cooling
Before October 2015	50%	-	-
After October 2015	60%	-	-
After January 2021	65%	70%	70%
After January 2026	65%	70%	80%

Member States Action in Response to Inflation

Russia's invasion in Ukraine in February 2022 resulted in a steep increase in energy and agricultural commodity prices, which in turn increased inflation. As a response and to alleviate inflationary pressure for their consumers and compliance pressure on industry some countries decided to temporarily reduce biofuel mandates or the penalties for not fulfilling the mandates for their territory:

- **Croatia** removed some of the penalties for not achieving the blending thresholds for fuel distributors. This measure was valid from March through December 31, 2022. From January through June 2023, the penalties were reinstated but at a very low level.
- **Czechia** made blending mandates voluntary as of July 1, 2022. This measure was part of a legislative package adopted by the Czech government in May 2022. However, the obligation for suppliers to reduce the GHG emissions remains in place.
- **Finland** temporarily reduced its 2022 and 2023 mandates to alleviate high fuel prices for consumers.
- **Ireland**, having temporarily lowered fuel excise duties on both gasoline and diesel in 2022, the Government is undertaking a phased restoration of these in 2024.
- **Latvia** suspended mandatory blending of biofuels for the period of July 1, 2022, through December 31, 2023. During this period, biofuel blending in gasoline and diesel was voluntary. As of January 1, 2024, previous regulations apply (for details see member state contribution below).
- **Sweden** froze annual increases to the GHG emissions reduction targets in 2023.
- **Greece** applied the 'Fuel Pass' subsidy for transport fuel temporarily in 2022. Blending mandates remained flat.

Mandates by Member State:

To provide context, current, expired, and future mandates are listed below, by member state in alphabetical order. Mandates based on energy content are expressed in % cal, volume-based mandates in % vol, and GHG saving mandates in % GHG emission reduction (compared to the hypothetical GHG emissions that would have occurred with the exclusive use of fossil fuels). **For easy reference, mandates applicable in 2024 are in bold.**

Austria

	Overall Percentage (energy content, % cal)	**Biodiesel** (% cal)	**Bioethanol** (% cal)	**Advanced Biofuels** (% cal)	**GHG Emission Reduction** (%) [1)]	**Cap on crop-based biofuels** (% cal)	**Multiple Counting**
2022	5.75	**6.3**	**3.4**	0.5[2)]	6	**7[3)]**	**No**
2023	**None**			0.2	6		
2024				**0.2**	**7**		
2025				1	7.5		
2026				1	8		
2027				1	9		
2028				1	10		
2029				1	11		
2030				3.5	13		

Source: FAS Vienna based on Austrian Fuels Order 2012, (with its 2014, 2017, 2018, 2020, 2022, and 2024 amendments)

1) To reach the GHG reduction target the following may be taken into account:
   - Emission credits from upstream emission reduction (UER) projects (in 2023 only and up to a maximum of one percent).
   - electric power from renewable energy sources used for electrically powered motor vehicles may also be taken into account (multiple counting x4 for renewable electricity in road transport).
2) The substitution target can be reduced upon request if advanced biofuels are not available in sufficient amounts.
3) Palm oil-based biofuels are excluded since July 1, 2021.

Penalties

Failing to meet the mandates is sanctioned with the following penalties:

Mandate	**Penalty**
Energetic	43 Euro per GJ under supplied
GHG reduction 2023	600 Euro per MT CO_2 eq for the first five percent and 15 Euro per MT CO_2 eq for the last percent of unmet GHG reduction target
GHG reduction 2024 and onwards	600 Euro per MT CO_2 eq of unmet GHG reduction target

Tax incentive

In addition to penalties, there is a tax incentive for biofuels. For gasoline with a minimum content of biogenic substances of 46 liters per 1,000 liters, the reduced mineral oil tax is EUR 482 per 1,000 liters (regular tax rate = EUR 515). For diesel with a minimum content of biogenic substances of 66 liters per 1,000 liters, the reduced mineral oil tax is EUR 397 per 1,000 liters (regular tax rate = EUR 425). Pure biofuels in transportation are fully exempt from the mineral oil tax.

Belgium

	Overall Percentage (% cal)	**Biodiesel** (% cal)	**Bioethanol** (% cal)	**Double Counting**
2022	10.2	6.5	6.5	Max 0.95 %
Since January 1, 2023	**10.5**	**5.7**	**5.7**	**Max 0.95%**

Source: FAS USEU based on Law of July 7, 2013; Law of July 21, 2017; *Law of May 4, 2018*; *Law of December 27, 2021*

Since the increase of the bioethanol mandate at the beginning of 2017, the majority of Belgian gasoline is E10, with the exception of a remnant market for bioethanol-free gasoline for older cars and small engines like lawnmowers.

Penalties

Failing to meet the mandates is sanctioned with the following penalties:

Mandate	**Penalty**
Energy	€1400 per 34 GJ undersupplied.

Source: ePure

Bulgaria

Biodiesel (% vol)		**Bioethanol** (% vol)		**Advanced Biofuels** (min. % energy content)	**Cap on crop-based biofuels** (% vol)	**Multiple Counting**
April 1, 2019 – August 31, 2024	**6[1)] Incl.1% advanced biodiesel**	**March 1, 2019 - February 28, 2025**	**9**	April 2019 - December 2021 0.05% **2022 - 2024 0.2%**	**7**	**No**
From September 1, 2024 onwards	**6[2)] Incl. 2% advanced biodiesel**	From March 1, 2025 onwards	9[3)] Incl. 1% advanced bioethanol	2025 - 2029 1.0% As of 2030 3.5%		

Source: FAS Sofia

1) For the period April 1, 2019 to January 1, 2022, the mandate was kept at six percent biodiesel.with at least one percent of the volume of the biodiesel composed of advanced biodiesel (Art.47/3). Advanced biofuels are those produced from feedstock of type A. This translated into 0.05 percent of advanced biofuels as a share in energy consumption in transportation. This mandate is in place for 2023 through August 31, 2024.
2) From September 1, 2024, the mandate is kept at six percent biodiesel, with at least two percent of the volume of the biodiesel composed of advanced biodiesel (Art.47/6).
3) From March 1, 2025, the mandate for bioethanol is raised to nine percent, with at least one percent of the volume of the bioethanol composed of advanced bioethanol (Art.47/7)

Note: In the period between December 31, 2023, to December 31, 2030, the share of biofuels produced from feedstocks with high risk of indirect land use for which there is a considerable expansion of the production region in area with high carbon stocks, is reduced to zero. Calculation of energy consumption of biofuels in transport produced from feedstocks of type B, is limited to 1.7% of the energy content of fuels in transportation.

In 2018, Bulgaria's Parliament amended the nation's *Renewable Energy Law* to transpose Directive 2015/1513/EU into national law. The legislation introduced sustainability criteria (traceability) for advanced biofuels. Adopted changes are in Article 47 of the *Bulgarian Renewable Energy Law* that entered into force on April 1, 2019. The institution supervising the quality of fuel, biofuel mandates, and advanced biofuels on the market is the Agency for Metrological and Technical Surveillance under the Ministry of Economy. Per the current legislation, the maximum blend with conventional fuel cannot exceed seven percent for biodiesel, and ten percent for bioethanol, to be in line with the EU's fuel quality regulation FQD. The crop-based biofuels cap is at seven percent, excluding biofuels made from raw materials which are compliant with sustainability criteria and are grown on degraded or fallow land. Biofuels should make up a nine percent share in petrol and a six percent share in diesel, in volume.

Transposition of RED II into the national law was scheduled for 2021, however, due to the political stalemate in the period 2021-2023, the transposition was delayed and completed in October 2023. In 2021, the country achieved a 16 percent overall share of renewables in its gross final consumption of energy, and Art.12 in the amended legislation calls for keeping a minimum 16 percent share of renewables in its gross final consumption of energy after 2021. The goal is to achieve a 34.1 percent overall share of renewables in gross final consumption of energy and 15.2 percent renewable energy share in transport (RES-T) by 2030. (Note: Bulgaria's RES-T in 2022 was 6.5 percent without multipliers and 7.7 percent with multipliers).

The minimum targets for advanced biofuels in transport (Annex IX-A in REDII) are described in Art. 13 and are set at 0.2 percent in 2022 (and in 2023 and 2024); 1.0 percent in 2025 and 3.5 percent in 2030. For the period 2019 – 2021, the target was at 0.05 percent, which was carried out mainly by advanced biodiesel due to lack of local production of advanced bioethanol. These targets must be achieved by mandates for the market players described in Art. 47 of the current Renewable Energy Law (table). From September 2024, two percent of the volume of biodiesel should be advanced biodiesel and as of March 2025, one percent of the volume of bioethanol should be advanced bioethanol.

Penalties

Fuel suppliers failing to comply with blending obligations are fined BGN 200,000 (€102,000). Fuel distributors selling fuels in violation of the blending obligations may be sanctioned by a financial penalty of BGN 50,000 (€25,500) or a pecuniary sanction of BGN 100,000 (€51,000) in the first month of the infraction.

Croatia

	Overall Percentage (% cal)	**Biodiesel** (% cal)	**Bioethanol** (% cal)	**Double Counting**
2020-2029[1),2)]	**8.81**	**7.49**	**1.00**	**Advanced and waste-based biofuels**
2030[3),4)]	14 [5)]			

Source: FAS Zagreb based on

1) *National Action Plan for Renewable Energy Sources* to 2020, https://mzoe.gov.hr/UserDocsImages/UPRAVA%20ZA%20ENERGETIKU/Strategije,%20planovi%20i%20programi/National_Action_Plan%20for%20Renewable%20Energy%20Sources%20to%202020.pdf
2) *Act on Biofuels for Transport* (Official Gazette 65/09, 145/10, 26/11, 144/12, 14/14, 94/18, 52/21), https://www.zakon.hr/z/189/Zakon-o-biogorivima-za-prijevoz
3) *The Integrated National Energy and Climate Plan* (NECP) for the Republic of Croatia (2021-2030), https://energy.ec.europa.eu/documents_en?f%5B0%5D=document_title%3ACroatia
4) European Commission, Assessment of the final national energy and climate plan of Croatia 2021, Documents (europa.eu)
5) The 13.2 percent according to the NECP (2021-2030) was amended to 14 percent.

The new *Law on Amendments to the Act on Biofuels for Transport* entered into force on May 22, 2021. According to the *Integrated National Energy and Climate Plan for the Republic of Croatia* (2021-2030) (NECP), Croatia aims to have a share of renewable energy sources (RES) in gross final energy consumption at 36.4 percent and the share of RES in final energy consumption in transport at 13.2 percent (later amended to 14 percent) by 2030. Due to high inflation caused by COVID-19 and Russia's invasion of Ukraine, the Croatian Government removed some of the penalties for not achieving the blending thresholds for fuel distributors in March 2022. This measure was valid through 2022.

From January 1, 2023, penalties are defined by the *Amendment to the Government Decree on Penalties for the Environment for not Placing Biofuels on the Market and for not Reducing Greenhouse Gas Emissions*.[2] The Decree from 2023 that was valid for one year was repeated in 2024 and will be valid until June 30, 2024.

Penalties (January 1 – June 30, 2024)
Failing to meet the mandates is sanctioned with the following penalties:

Mandate	**Penalty**
Energy % from Biofuels (0%-3%,3.01%-5%, >5%)	0.001327 EUR/MJ under supplied
GHG reduction (0%-2%, 2.01%-6%)	0.001327 EUR/kgCO_2 under allocated

[2] https://narodne-novine.nn.hr/clanci/sluzbeni/2023_12_158_2507.html

Czechia

RED II obligations for 2021 - 2030 were transposed into national law with the *Act on Supported Energy Sources* and *Amendments to Certain Other Acts no. 382 Coll.*, that entered into force on September 15, 2021. The *Act on Air Protection no. 201/2012*, as later amended (by 284/2021, 282/2021, 261/2021) sets the following renewable energy mandates in transport:

	Renewable energy in transport[1)] (% cal)	**Advanced biofuels from annex IX-A feedstock[2)]** (% cal)	**Minimum GHG emission reduction[2)]** (%)	**Cap on Biofuels from food and feed crops [2)]** (% cal)	**Cap on Annex IX-B feedstock-based biofuels[2)]** (% cal)	**Double counting [2)]**
2022 - 2024	**-**	**0.22**	**6 of which 1 UER**	**7**	**1.7**	**2** x for Biofuels, bioLPG, bioCNG, bioLNG from raw materials IX.A; IX.B RED II
2025		1.07	6 of which 1.6 UER			
2030	9.5					

Source: FAS Prague based on

1) *Act No. 165/2012 Coll*., on Supported Energy Sources and on Amendments to Certain Acts (as amended)
2) *Act No. 201/2012 Coll*., on Air Protection (as amended)

The individual blending mandates of six percent for biodiesel and 4.1 percent for bioethanol (both in volume) were suspended as of July 2022. This legislation was part of a legislation package that was adopted by the Czech government in May 2022 to address the soaring prices of motor fuels. The obligation to reduce GHG emissions remains in place.

Table 2: Current national mandates and obligations of gas suppliers and charging station operators and sanction measures for the use of RES in transport in the Czech Republic

Obligation	**Obliged entity**	**Multiplicator**	**from 1. 1. 2023**	**from 1. 1. 2025**	**from 1. 1. 2030**
Minimum proportion of advanced biomethane	Gas supplier (except LPG, LNG, bioLNG)	2x	0.5%	2%	40%
Minimum share of electricity produced from RES	Rechargeable operator station	-	9%	11%	15%

Source: FAS Prague based on *Act No. 165/2012 Coll*., on Supported Energy Sources and on Amendments to Certain Acts (as amended)

Penalties

Failing to meet the mandates is sanctioned with the following penalties:

Mandate	Year	Penalty
GHG reduction	Since 2009	10 CZK per kg CO_2 eq reduction not achieved
Advanced biofuel	Since 2022	2 CZK per MJ that was not supplied
Renewable energy	2030 and onwards	1 CZK per MJ that was not supplied
Advanced biomethane	2023 and onwards	3 CZK per kWh of undelivered advanced biomethane
Electricity produced from RES	2023 and onwards	18 CZK per unsupplied kWh of electricity produced from RES

Denmark

	Overall Percentage (% cal)	**GHG emission reduction** (%)	**Cap on crop-based biofuels (% vol)**	**Advanced Biofuels[2)] (Annex IX-A)** (% cal)	**Multiple Counting**
2022-2024		**3.4**	**Biofuels based on palm oil and soy phased out by 2022[1)]**	**0.2**	**x 2 for advanced biofuels; x 4 for renewable electricity in road, x 1.5 in train; x 1.2 for aviation and maritime fuels**
2025-2027		5.2	All High-ILUC-risk biofuels phased out by 2025	1	
2028-2029		6		1	
2030		7		3.5	

Source: FAS The Hague based on ePure

1) Unless certified low-ILUC-risk.
2) The use of biofuels produced from Annex IX-B feedstock is capped at 1.7 percent.

Denmark established a blending obligation requiring a minimum of 7.6 percent biofuels in 2010. Recently it was changed to a requirement to reduce emissions rising to seven percent by 2030. The mandate also covers clean electricity used in transport (Source: Policy Briefing Nordic Council of Ministers).

Crop-based biofuels:
All high-ILUC-risk biofuels should be phased out no later than 2025. Biofuels based on palm oil (and its by-products, incl. PFAD) and soy are excluded from 2022, unless certified low-ILUC-risk.

Annex IX biofuels:
With the introduction of the CO_2 reduction requirement from 2022, there is no longer an obligation on fuel suppliers to ensure a minimum share of Annex IX-A biofuels. Denmark must still meet the minimum RED II mandates for Annex IX-A biofuels.

Penalties
Fuel suppliers failing to fulfil the GHG reduction quotas may be fined and imposed criminal liability.

Estonia

	Overall Percentage (% cal)	**Advanced Biofuels** (% cal)	**Cap on crop-based biofuels** (% cal)	**Double Counting**
2022	**7.5**	0.5	4.5	**Yes**
2023		0.5	2.5	
2024 - 2027		**0.5**	**0.5**	
2028	8.5			

Source: FAS Warsaw based on the Estonian *Liquid Fuel Act* passed on January 29, 2003, last amended on June 20, 202

Penalties
Failure to comply with the obligation concerning the share of biofuel released for consumption can be fined with:

Committed by	**Penalty**
Natural person	Up to 300 fine units
Legal entity	Up to 10,000,000 Euros

Source: § 33 of Liquid Fuel Act of 2003 as amended in June 2023

Finland

	Overall Percentage (% cal)	**Advanced biofuel**	**Cap on crop-based biofuel[1)]** (% cal)	**Multiple Counting**
2022	12	2	**2.6 High ILUC: 0**	**No**
2023	12	2		
2024	**13.5**	**4**		
2025	16.5	4		
2026	19.5	6		
2027	22.5	6		
2028	-	8		
2029	-	9		
from 2030	-	10		

Source: FAS The Hague based on ePure

1) Applicable since July 1, 2021. Biofuels produced from Annex IX- B feedstock are not capped.

In response to high fuel prices, Finland temporarily reduced its 2022 and 2023 biofuel blending obligations by 7.5 percentage points to 12 percent. This was announced by the Finnish Finance Ministry in a statement on April 7, 2022.

Under the blending obligation in Finland, the share of biofuels was required to rise from 18 percent to 30 percent by 2030. Due to policy changes, the rates have been reduced to 13.5 percent in 2024, 16.5 percent in 2025, 19.5 percent in 2026 and 22.5 percent in 2027 (Source: Policy Briefing Nordic Council of Ministers).

Biofuels produced from Annex IX- B feedstock are not capped.

Penalties

Failing to meet the mandates is sanctioned with the following penalties:

Mandate	**Penalty**
Biofuel	€0.04 per MJ (≈€1,675/toe) of missing biofuel
Advanced biofuels	€0.03/MJ (≈1,260/toe) of missing advanced biofuel

Source: ePure

France

	Bioethanol (% cal)		**Biodiesel** (% cal)		**Double Counting**
		Advanced (% cal)		**Advanced** (% cal)	
2022	**8.6**	-	**8**	-	**Yes[1)]**
2023-2027		**1.2**		**0.4**	
2028 and onwards		3.8		2.8	

Source: FAS Paris

1) Double counting for cellulosic biofuels and waste biofuels produced from the feedstocks listed in Annex IX of Directive 2009/28/EC except tall oil and tall oil pitch.

Cap on certain feedstocks

Since 2019 the share of energy that can be taken into account is limited to a maximum of:

- Seven percent for conventional biofuels including biofuels produced from palm oil fatty acid distillates
- 0.9 percent for used cooking oil and animal fats
- 0.6 percent for tall oil and tall oil pitch
- 0.2 percent for sugar plant residues and starch residues extracted from starch-rich plants (0.4 percent from 2020)
- Palm oil is excluded since January 1, 2020
- Soybean oil is excluded since January 1, 2022

Some eligible products, obtained from raw materials derived from biomass not intended for human consumption, can be taken into account with twice their energy value for the determination of the renewable energy share in a scheme called “double counting”. Double counting promotes the emergence of advanced biofuels, whose incorporation mandates will increase from 2023 onward.

Article 43 of the *Energy Transition Law for Green Growth* states that priority should be given to the development of advanced biofuels while preserving investments made in conventional biofuel production.

Penalties

Article 32 of the *2005 Finance Act* introduced a tax (renamed *Taxe Incitative relative à l'Incorporation de Biocarburants*, biofuel incorporation incentive tax, in the 2019 Finance Act) penalizing operators who release a proportion of biofuels below the incorporation targets. The operator is taxed on the difference between the national target percentage of renewable energy incorporation and the proportion of renewable energy contained in the products.

Germany

Germany transposed the RED II directive into national law with the *Law for the Further Development of the Greenhouse Gas Reduction Mandate* of September 24, 2021. This law amends the existing mandates and feedstock caps; introduces additional mandates for advanced biofuels and sustainable aviation fuel; and allows for additional compliance options.

	GHG Emission Reduction[1)] (%)	**Advanced Biofuels**[2)] (% cal)	**Cap on crop-based biofuel** [2)] (% cal)	**Cap on UCO- and animal fat-based biofuels**[2)] (% cal)	**Cap on feedstocks with high ILUC risk**[2), 5)] (% cal)	**Multiple counting**	**Sustainable Aviation Fuel**[1), 6)] (% cal)
2022	7	0.2[3)]	**4.4**	**1.9**	0.9	**See table below**	-
2023	8	0.3[4)]			**0**		
2024	**9.25**	**0.4**[4)]					
2025	10.5	0.7					
2026	12	1					0.5
2027	14.5	1					0.5
2028	17.5	1.7					1
2029	21	1.7					1
2030	25	2.6					2

Sources: FAS Berlin based on Federal Act on Protection against Air Pollution , 38th Implementation Ordinance on the Federal Act on Protection against Air Pollution and Upstream Emission Reduction Ordinance (all in German language)

1) *Federal Act on Protection against Air Pollution*
   Through the end of mandate year 2024 (under certain conditions until September 1, 2025), emission credits from upstream emission reduction (UER) projects may be taken into account to comply with the GHG reduction mandate.
2) *38th Implementation Ordinance on the Federal Act on Protection against Air Pollution*
3) Companies that put on the market 10 PJ or less of biofuels in the previous year are exempted
4) Companies that put on the market 2 PJ or less of biofuels in the previous year are exempted
5) Effectively, this means that since 2023, biofuels based on palm oil feedstock no longer count against the mandates, unless certified low ILUC-risk.
6) Only non-biomass-derived sustainable aviation fuel (SAF) is eligible for counting against this mandate

Multiple counting

Compliance Option	**Conditions**	**Factor**
Advanced biofuels[1)] - Except when produced from POME or empty palm fruit bunches	Volumes that exceed the mandate	2
Hydrogen and PtX fuels[2)]	If not derived from biomass	2
Electricity	For road e-vehicles	3

Sources: FAS Berlin based on

1) *38th Implementation Ordinance on the Federal Act on Protection against Air Pollution*
2) *Federal Act on Protection against Air Pollution*

Penalties

Failing to meet the mandates is sanctioned with the following penalties:

Mandate	Year	Penalty
GHG reduction	Since 2022	0.60 Euro per kg CO_2 eq under allocated reduction
SAF	Since 2022	70 Euro per GJ under allocated

Source: FAS Berlin based on *Federal Act on Protection against Air Pollution*

Greece

	Overall Percentage (% cal)	Biodiesel (% cal)	Bioethanol (% cal)	Multiple Counting
Since 2020	**10.0**	**7.0**	**3.3**	No

Source: FAS Rome

In 2012, *Decision 4062 (FEK 70/A/30.3.2012*) harmonized the Greek legislation with European Commission *Directive 2009/28/EC*. As a result, the increased mandate of 10 percent in 2020 can be met either by domestic production or imports. Note: The previous lower mandate was only allowed to be filled through domestic production.

Law 3054/2002 and its amendments mandates that producers and distributors of petrol and diesel must blend their fuels with a certain amount ("quota") of biofuels. The quota is specified in the “distribution scheme,” reviewed every year, and set at seven percent for 2022 and 2023. This translates into 140 million liters for both 2022 and 2023.

Hungary

	Biodiesel (% cal)	**Bioethanol** (% cal)	**Advanced Biofuels** (% cal)	**Double counting**
2022 - 2023	8.4	Min. 6.1	0.2	Biofuels derived from feedstock listed in Annex 2 of the Government Decree No. 821/2021 (in Hungarian)
2024	**8.4**	**Min. 6.1**	**0.5**	

Source: FAS Budapest

Hungary has set the target of a minimum 14 percent share of renewable energy in transport by 2030. This obligation entered into force with CXVII/2010 Act (in Hungarian) on promoting the use of renewable energy and the reduction of GHG emissions of energy used in transport. To meet this requirement, the share of advanced biofuels produced from waste and biogas should grow to 3.5 percent of energy consumption in transport according to the National Energy and Climate Plan. Additionally, a significant share of the target is planned to be achieved through an increase of electricity use in transport. This is because GHG emissions should be reduced by at least 40 percent by 2030, compared to 1990. This means that gross GHG emissions may not exceed 56.19 million MT CO_2 equivalent at the end of the decade.

Penalties

Penalties imposed on fuel distributors for failing to meet the six percent GHG emissions reduction mandate stipulated in CXVII/2010 Act (in Hungarian).

Year	**Penalty/MT CO_2 equivalent under allocated reduction**	
Since 2020	If GHG reduction in energy units is 0-4%	If GHG reduction in energy units is 4-6%
	HUF 100,000	HUF 10,000

Ireland

	Overall Percentage (% vol)	**Annex IX biofuels** (% cal**)**	**Multiple Counting**
2022	15		**x2 for Annex IX biofuels; x4 for renewable electricity in road, x1.5 in train; x1.2 for aviation and maritime fuels**
2023	17	0.3	
2024	**21**	**0.3**	
2025	25	1	
2026	29	1	
2027	34	1	
2028	39	1	
2029	44	1	
2030	49	3.5	

Source: FAS London and ePure

Bioethanol

Ireland's *Climate Action Plan* sets out an ambition to reach a blend of E10 by 2025. Ireland began its E10 roll-out in April 2023 as one of several measures introduced to achieve a government target of 51 percent reduction in transport emissions by 2030.

Ireland's Consultation Draft Renewable Transport Fuel Policy of March 2023 includes a discussion on the future use of a minimum percentage of ethanol in gasoline as a policy instrument to assist it in reaching climate targets.

Advanced Biofuels

To meet EU targets, Ireland is proposing to increase the advanced biofuel obligation to one percent in 2024, and 1.5 percent in 2025, subject to consultation on draft regulations.

Penalties

Failing to meet the mandates is sanctioned with the following penalties:

Mandate	**Penalty**
Energetic	Overall Biofuel mandate: Buy-out price 0.05 Euro/MJ Advanced Biofuel mandate: Buy-out price 0.08 Euro/MJ

Source: ePure

Tax incentives

The Mineral Oil Tax (MOT) applies to fuels and is composed of the fuel excise and a carbon tax (the MOTCC). The latter do not apply to biofuels.

Italy

Year	Overall Percentage, incl. Advanced Biofuels (% cal)	Advanced Biofuels (% cal)	
		% of advanced biomethane	% of other advanced biofuels
2022	**10**	**2.5**	**0.6**

Source: FAS Rome

Year	Overall Obligation (%)	Traditional Obligation (%)	Advanced Biofuels Obligation (%)	Bioethanol Obligation (%)	Advanced Biomethane Quota (%)	Advanced Biofuels Other Than Biomethane Quota (%)
2023	10	6.6	3.4	0.5	2.3	0.05
2024	**10.8**	**6.6**	**4.2**	**1**	**2.9**	**0.05**
2025	11.7	6.8	4.9	3	3.5	0.05
2026	12.6	7.1	5.5	3.4	3.9	0.05
2027	13.4	7.3	6.1	3.8	4.3	0.05
2028	14.3	7.6	6.7	4.2	4.8	0.05
2029	15.2	7.8	7.4	4.6	5.2	0.05
2030	16	8	8	5	5.7	0.00

Source: FAS Rome, based on a decree dated March 16, 2023, amended by a decree dated October 20, 2023, issued by Italy's Ministry of Environment and Energy Security

Penalties

As of 2020, fuel suppliers not complying with at least 95 percent of the renewable mandates have to pay a penalty of €750 per missing certificate. A certificate is equivalent to 10 Gcal ≈ 1 toe or 5 Gcal ≈ 0.5 toe for advanced biofuels. The penalty for advanced biofuels can be reduced if insufficient market availability is demonstrated.

Latvia

In accordance with *Cabinet Regulation No. 332* of 2000 on the conformity assessment of petrol and diesel fuel, last amended in 2023, in Latvia a fuel supplier may only sell diesel with a biodiesel content of 6.5 percent by volume of the total amount of end product and petrol with a five percent (for 98-octane gasoline) or 9.5 percent (95-octane gasoline) of bioethanol content by volume of the total amount of petrol.

The requirement on the mandatory admixture of 6.5 percent of biodiesel does not apply to Class 0, 1, 2, 3, and 4 diesel for use in arctic or severe winter conditions during the time period from November 1 to April 1.

With the *Regulation of the Cabinet of Ministers No. 350* of June 14, 2022, Latvia suspended mandatory blending of biofuels for the period of July 1, 2022, through December 31, 2023, in an effort to control rising fuel prices. During this period, adding biofuels to gasoline and diesel was voluntary. On January 1, 2024, bioethanol blending was restored, and on April 1, 2024, biodiesel blending was restored.

A new *Transport Energy Law* is being drafted by the Government of Latvia. The aim of the draft law is to promote the "greening" of the transport sector – the use of energy that is safe for the environment and people in transport, the improvement of air quality and the reduction of GHG emissions from transport. With this draft law, it is planned to improve the quality of fuel used in Latvia. It is expected that fuel suppliers will have to increase the share of renewable energy in their portfolio, for example, using biofuels, biogas (biomethane), and electricity. A significant role is also provided for the gradual change of the fleet to a more environmentally friendly one – especially in densely populated areas.

Tax incentives

Until 2021, the Latvian tax law supported the blending of biofuels by reducing the rate of excise duties. In 2021, changes were introduced that raised the reduced rates (i.e., reducing the reduction) of excise duty on biofuels.

As of February 1, 2021:

- the reduced rate of excise duties on biodiesel used as fuel was abolished and a minimum duty rate applied - EUR 330 per 1000 liters of biodiesel entirely derived from biomass and paraffinized diesel from biomass
- the reduced tax rate is increased from EUR 152.7 to EUR 360 per 1000 liters for unleaded petrol with a high bioethanol content (from 70-85 percent by volume) (fuel E85)

As of July 1, 2021:

- the reduced excise duty rate on biodiesel used for heating is abolished and a minimum duty rate applies - EUR 21 per 1000 liters of biodiesel entirely derived from biomass and paraffinized diesel fuel derived from biomass, provided that those products are labelled (marked)
- a single tax rate EUR 60 per 1000 liters is set for petroleum products used for heating, irrespective of the blending of biofuels, if those petroleum products are labelled (marked)

However, the excise duty rates still favor biofuels, as the Latvian excise duty rates on leaded petrol is EUR 594 per 1000 liters, on unleaded petrol is EUR 509 per 1000 liters, and on diesel EUR 414 per 1000 liters.

Lithuania

	Overall Percentage (% cal)	**Advanced Biofuels** (% cal)	**Cap on crop-based biofuel** (% cal)	**Cap on UCO- and cat I and II animal fat-based biofuels** (% cal)	**Double counting**
2022	6.8	0.2	**No more than 1.0% higher than the total share in 2020**	**1.7**	**Yes**
2023	7.2	0.4			
2024	**7.8**	**0.7**			
2025	8.6	1.0			
2026	9.8	1.4			
2027	11.3	1.8			
2028	12.9	2.2			
2029	14.7	2.7			
2030	16.8	3.5			

Source: FAS Warsaw based on the Lithuanian *Law on Alternative Fuels* of 2021

Mandatory blending of biofuels into fossil fuels.

Fuel sales points must sell the following fuels meeting the Lithuanian or European standards:

- petrol containing a minimum of 10 percent by volume of bioethanol (blending into 98-octane petrol is optional)
- diesel containing at least seven percent by volume of biofuel

On March 23, 2021, the Lithuanian parliament approved the *Law on Alternative Fuels* (LAF). Under the law, the transport sector will be encouraged to shift to electricity, biomethane, and hydrogen, increasing the requirements for blending biofuels. The LAF establishes clear directions for the development of alternative fuel vehicles and the infrastructure required for them.

The LAF introduces progressively increasing obligations for fuel suppliers regarding the use of biofuels, which will be possible to implement more flexibly over the years. In order to encourage the use of biomethane and other advanced biofuels and hydrogen, their blending will be offset by twice the energy value. In order to comply with the obligation provided for in LAF, fuel suppliers must ensure that each liter of petrol supplied to the internal market contains at least 6.6 percent of biofuels and that each liter of diesel supplied to the Lithuanian market contains at least 6.2 percent of biofuels, calculated on the basis of the total energy value of the mixture of fuels and biofuels.

Excise duty concession for biofuels

Biofuel and fuel blends complying with the requirements laid down in the *Law on Excise Duty* and the standards *EN 14214* and *CEN/TS 15293* adopted by the European Committee for Standardization are subject to an excise duty rate reduced in proportion to the percentage of impurities of biological origin in the biofuel and fuel blend.

The Netherlands

	Overall Percentage (% cal)	**Of which advanced Annex IX-A biofuels** (% cal)	**Cap on conventional crop-based biofuel** (% cal)	**Multiple counting**
2022	17.9	1.8	**1.4** **0 for Biofuels made from palm and soy, except for certified low-ILUC-risk feedstock**	**Annex IX A and B: x 1.6 Electricity: x 4 Gaseous fuels: x 2 Maritime: x 0.8 Aviation: x 1.2**
2023	18.9	2.4		
2024	**28.4**	**2.9**		
2025	28.4	3.6		
2026	28.4	4.2		
2027	228.4	4.9		
2028	28.4	5.6		
2029	28.4	6.3		
2030	29	7		

Source: FAS The Hague based on ePure

The Dutch government increased the share of renewable energy in the transport sector to 28.4% cal. for 2024 from the original plan of 19.9 percent. The 2023 target was 18.9 percent. The adjustment is expected to fast-track the transport sector's target of reaching Brussel's reformed Renewable Energy Directive (RED) target, with a provisional agreement setting a binding obligation on member states to reach 29 percent by 2030 (Source: Vantage 12/20/23).

Annex IX-B biofuels

A cap is fixed at 10 percent on the use of biofuels from used oils and fats (double counted).

Penalties

A fuel supplier failing to fulfil the quota obligation can be brought to court.

Poland

	Overall Percentage (% cal)	**Biodiesel** (% cal)	**Bioethanol** (% cal)	**Double counting**
2022	8.8	5.2	3.2	**Yes**
2023	8.9	5.2	3.2	
2024	**9.1**	**5.2**	**3.2**	
2025	9.2	5.2	4.59	

Source: FAS Warsaw based on the Polish *Act on Bio-components and Liquid Biofuels* as amended by the Polish Parliament in January 2024.

Effective January 1, 2024, an amendment to the *Law on Biocomponents and Liquid Biofuels* introduced a requirement that 95-octane motor gasoline shall be sold in Poland in the format of E10, while 98-octane gasolines will remain in the E5 format. For this, mandatory blending for 95-octane motor gasoline at 5.3 percent (and detailing that 4.59 percent should be realized with bioethanol) was set, while for 98-octane gasoline, the level of mandatory blending remained unchanged at 3.2 percent.

Portugal

	Overall Percentage (% cal)	**Biodiesel** (% cal)	**Bioethanol/ ETBE** (% cal)	**Advanced Biofuels** (% cal)	**Cap on conventional crop-based biofuel** (% cal)	**Double counting**
2022	11	-	-	0.2	**7[1)]**	**Yes**
2023	11.5			0.7		
2024	**11.5**			**0.7**		
2025-2026	13			2		
2027-2028	14			4		
2029-2030	16			7		

Sources: FAS Madrid based on

Consumption mandates: Decree-Law 117/2010, Decree-Law 69/2016, Law 42/2016, *Budget Law* for 2018 and 2019 and Decree-Law 8/2021 as amended by Rectification Declaration 9-A/2021, Decree-Law 84/2022, and Decree-Law 23/2023.
Double counting: Decree-Law 117/2010 and Annex III in Implementing Order 8/2012

1) Food-based biofuels are capped at 2020 levels up to one percent higher, but with a maximum cap of seven percent for each MS.

Penalties
Failing to meet the mandates is sanctioned with the following penalties:

Year	Penalty
2011 and onwards	2,000 Euros per TdB (Biofuel Entitlement, equals a Ktoe) that the obliged party fails to meet.

Source: FAS Madrid based on Implementing Regulation 301/2011

For additional information about Portugal's biofuel sector, see GAIN Report: *Portugal Biofuels Policy and Market* available through the FAS report database at https://gain.fas.usda.gov/#/search.

Romania

	Overall Percentage (% vol)	Biodiesel (% vol)	Bioethanol (% vol)	Double counting
2021 and onwards	**10**	**6.5**	**8.0**	**Yes**

Sources: FAS Bucharest based on *Government Decisions 1121/2013* and *931/2017*

Romania transposed RED II into Romanian national legislation through the *Emergency Ordinance 163/2022*. In 2023, *Law 237/2023* regarding the integration of the hydrogen obtained from renewable sources and with low carbon emissions in the sectors of industry and transportation was approved. The law sets up rules for the fuel retailers regarding the introduction of hydrogen in the transport sector and reporting on the energy content of all fuels starting with 2025. Fuel suppliers must ensure that the energy value from the volume of fuels from renewable sources of non-biological origin placed on the Romanian market and used in transport sector must equal at least five percent of the energy content of all fuels until 2030. The percentage is to grow gradually from 2025 (0.5 percent) to 2030 (five percent).

Penalties
Those failing to meet the mandates are sanctioned with the following penalties:

Year	Penalty
2019 and onwards	RON 70,000-100,000 (approx. USD 15,000-22,000)

Source: FAS Bucharest based on provisions of *Emergency Ordinance 80/2018*

Slovakia

	Overall Percentage (% cal)	**Bioethanol** (% vol)	**Biodiesel** (% vol)	**Advanced Biofuels** (% cal)	**Double Counting**
2021	8.0	**Minimum E9[1)]**	**Minimum B6.9[1)]**	0.3	**Yes**
2022	8.2				
2023	8.6			0.5	
2024	**8.8**			**0.65**	
2025	9.2			1.05	
2026	9.5				
2027	10.0			1.4	
2028	10.4				
2029	10.8			1.75	
2030	11.4			2.1	

Source: FAS Prague based on

- *Act on the Support of Renewable Energy Sources* and Highly Efficient Cogeneration, and on *Amendments to Certain Acts No. 309/2009 Coll*. and
- *Act No. 362/2019 Coll.* amending *Act No. 609/2007 Coll*., on excise duty on electricity, coal and natural gas, and amending *Act No. 98/2004 Coll*., on excise duty on mineral oil

1) *Act No. 362/2019 Coll*. stipulates that motor gasoline sold on the Slovak market must contain at least nine percent of a bioethanol component (ETBE/bioethanol) in one liter, and diesel must contain at least 6.9 percent of a biodiesel component, as of January 1, 2020.

An extensive amendment (no. 363/2022) to the *Act on Support of Renewable Energy Sources and Highly Efficient Cogeneration*, and on *Amendments to Certain Acts No. 309/2009 Coll*. that transposes the RED II to Slovakian national legislation entered into force on January 1, 2023. It updated the overall mandates for bioethanol and biodiesel and for the advanced biofuels. The amendment also introduced mandates for Compressed Natural Gas (CNG) and Liquid Natural Gas (LNG).

Slovenia

	Overall Percentage (% cal)	**Biodiesel/ Bioethanol**	**Advanced Biofuels** (% cal)	**GHG Emission Reduction** (%)	**Cap on crop-based biofuels** (% cal)	**Multiple Counting**
2023	10.3	**No specific target**	**0.2**	**6**	**7**	Yes (wastes, residues, non-food cellulosic material, lingo-cellulosic material – Annex IX-A biofuels
2024	**10.6**					**Annex IX-A biofuels (x2), Renewable electricity in road (x4)**
2025	11.2					
2026	13.8					
2027	15.8					

Source: FAS Vienna based on ePure and the *Regulation on Renewable Energy Sources in Transport 2021* (Uredba o obnovljivih virih energije v prometu) and its amendments in 2022 lays down Slovenian requirements for biofuels in the transport sector.

Penalties

Fuel retailers not reaching the target will be allowed to offset the shortfall with any surpluses in the preceding or following three years.

Tax incentives

The excise duty rate is set at 0% for ethanol, bio-ETBE, biodiesel, biogas, bio-dimethyl ether, and bio-methanol.

Spain

	Overall Percentage (% cal)	**Advanced Biofuels** (% cal)	**Cap on crop-based biofuels** (% cal)	**Double counting**
2022	10	0.2	7	**Yes**
2023	10.5	0.3	3.5	
2024	**11**	**0.5**	**3.1**	
2025	11.5	1	2.6	
2026	12	1.25	2.6	
2030	14	3.5	2.6	

Source: FAS Madrid based on Royal Decree-Law 4/2013 , Royal Decree 1085/2015, Royal Decree 376/2022, and Ministerial Order TED 1342/2022. Note: Resolution of 29 of September 2021 established a 3.1 percent cap on high ILUC-risk biofuels as of 2022.

Penalties

Those failing to meet the mandates are sanctioned with the following penalties:

Year	**Penalty**
Since 2022	1,623 Euros per missing certificate (each certificate equals one Ktoe.)

Source: FAS Madrid based on Resolution of 17 of December of 2021 by the Ministry for Ecological Transition and Demographic Challenge.

Royal Legislative Decree 6/2022 established the obligation to reduce by six percent GHG emissions by fossil fuels in 2023.

For additional information about Spain's biofuels sector, see GAIN Report *Spain Biofuels Policy and Market* available through the FAS report database at https://gain.fas.usda.gov/#/search .

Sweden

	GHG Reduction Target	
	Gasoline (%)	**Diesel (%)**
2022	7.8	30.5
2023	7.8	30.5
2024 - 2026	**Frozen at 6**	**Frozen at 6**
2027 onwards	-	-

Source: FAS The Hague based on ePure and Policy Briefing Nordic Council of Ministers

A change in government led to the cutting of mandate obligation rates significantly. The Swedish Parliament approved a government proposal for a sharp reduction in the greenhouse quota in road transport from January 1, 2024, and an abolishment of the quota from 2027.

Crop-based biofuels

- No explicit targets or active measures to limit crop-based biofuels.
- High-ILUC-risk biofuels cannot be counted towards the GHG-reduction quota except if certified as low-ILUC-risk, but they may be used in high-blend biofuels not included in the reduction quota for petrol and diesel.

Annex IX
No specific targets.

Penalties

Mandate	**Fuel**	**Penalty**
GHG reduction	Petrol	SEK 5 (€0.48) per kg CO_2 eq under allocated reduction
	Diesel	SEK 4 (€0.39) per kg CO_2 eq under allocated reduction

Source: ePure

Tax incentives

High blends, such as E85, ED95, HVO100, and FAME100, do not count towards the achievement of the obligations and are incentivized through a tax reduction.

Related reports: Please check the FAS report database for related reports at https://gain.fas.usda.gov/#/search .

Attachments:

No Attachments.