



Overview of biofuels policies and markets across the EU

January 2024

Note to the reader	1
Abbreviations	2
European Union	3
Member State overview	
Austria	12
Belgium	15
Bulgaria	18
Croatia	21
Cyprus	24
Czech Republic	27
Denmark	30
Estonia	33
Finland	36
France	39
Germany	42
Greece	45
Hungary	48
Ireland	51
Italy	54
Latvia	57
Lithuania	60
Luxembourg	63
Malta	66
Netherlands	68
Poland	71
Portugal	74
Romania	77
Slovakia	80
Slovenia	83
Spain	86
Sweden	89

Background and rationale for the report

The revised Renewable Energy Directive 2018/2001 (RED II rev) is the piece of legislation setting the framework for the use of renewable energy in the EU. It establishes an overall binding renewable energy target of 42.5% by 2030, complemented with an indicative 2.5% top-up that would increase it to a 45% share, and a specific target for the use of renewable energy in transport for each Member State (possibility to choose between a binding 14.5% reduction of GHG intensity in transport from the use of renewables or a binding 29% share of renewables in transport's final energy consumption). A binding combined sub-target for renewable fuels of non-biological origin (RFNBO) and advanced biofuels, i.e. biofuels made from raw materials included in RED II Annex IX Part A, and biogas is set of 5.5% by 2030 (after application of double counting). The Directive also sets the rules for the contribution of biofuels towards the targets, including imposing a limit on the use of crop-based biofuels (capped at Member States' share of transport energy in 2020, plus 1% flexibility within a maximum of 7%) and the freeze and progressive phase out of biofuels with high indirect land use change (ILUC) risk, unless they are certified low-ILUC-risk, from 2023 to 2030 at the latest.

At the same time, for the purpose of reaching the targets, RED II rev gives the possibility to count multiple times the real energy content of advanced biofuels (2 times), renewable electricity in road (4 times) and rail transport (1.5 times), and fuels used in the aviation and maritime sectors (1.2 times), excluding crop-based biofuels. Finally, to be considered for the ambition in transport, biofuels also need to respect reinforced sustainability and GHG emissions savings criteria. RED II rev is to be transposed by Member States in their national law by 21 May 2025. The previous RED II was to be transposed by Member States by 30 June 2021, but at the time of writing, most EU countries have only partially transposed the Directive.

This report tracks progress of the EU and its Member States in achieving the energy and climate targets so far and in transposing RED II provisions when it comes to the transport sector. The overview thus compiles details on relevant elements of the national transpositions of the Directive and provides information on Member States' fuels and vehicles markets.

Methodology and reference

- Most of the national legislative information included in the report was provided between July and September 2022 by ePURE members and/or officials or biofuels experts in the relevant capitals.
- Data and graphs have been compiled and designed by the ePURE team based on data from the European Commission, Member State reports, and European industry associations, in particular:
 - Renewable energy in transport figures were compiled from the [EC SHARES](#) reports. Shares by renewables were also calculated without the impact of multipliers to extract actual quantities. RES-T targets by Member States were extracted from the National Energy and Climate Plans ([NECPs](#)) and national legislation.
 - Fuels markets figures were extracted from [national reports under Article 8 of the Fuel Quality Directive](#).
 - Biofuels consumption and incorporation in the transport sector were extracted from the [Eurostat – Energy balance](#).
 - Vehicles markets data were extracted from the ACEA reports on [Vehicles in use in 2023](#) and [registration figures](#).
 - GHG intensity progress was extracted from the [EEA report Monitoring under the Fuel Quality Directive in 2023 \(2021 data\)](#).
 - Other figures and graphs were consolidated based on internal discussions.

Acknowledgements

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Legislation:

- **Annex IX-A & B:** Parts A and B of Annex IX of the Renewable Energy Directive
- **Crop-based biofuels:** Biofuels from sustainable agricultural feedstocks fit for use in the food/feed chain
- **EC:** European Commission
- **EU:** European Union
- **FQD:** Fuel Quality Directive, 2009/30/EC of 23 April 2009
- **GHG:** Greenhouse gases
- **ILUC:** Indirect Land-Use Change
- **MS:** Member State; **AT:** Austria; **BE:** Belgium; **BG:** Bulgaria; **CY:** Cyprus; **CZ:** Czech Republic;

DE: Germany; **DK:** Denmark; **EE:** Estonia; **EL:** Greece; **ES:** Spain; **FI:** Finland; **FR:** France; **HR:** Croatia; **HU:** Hungary; **IE:** Ireland; **IT:** Italy; **LV:** Latvia; **LT:** Lithuania; **LU:** Luxembourg; **MT:** Malta; **NL:** Netherlands; **PL:** Poland; **PT:** Portugal; **RO:** Romania; **SE:** Sweden; **SI:** Slovenia; **SK:** Slovakia

- **NECPs:** National Energy and Climate Plans
- **RED I:** Renewable Energy Directive, 2009/28/EC of 23 April 2009
- **RED II:** Renewable Energy Directive II, 2018/2001 of 11 December 2018
- **RES-T:** Renewable Energy Share in Transport

Fuels and Vehicles:

- **AFV:** Alternatively Fuelled Vehicle
- **BEV:** Battery Electric Vehicle
- **Biodiesel:** Liquid biofuels suitable for blending with or replacing diesel and gas oil from fossil origin such as FAME or HVO
- **B7:** Diesel blend containing up to 7% fatty acid methyl esters (FAME) in volume
- **B+:** Diesel blend containing more than 7% fatty acid methyl esters (FAME) in volume
- **Biogasoline:** Liquid biofuels suitable for blending with or replacing motor gasoline from fossil origin such as methanol, ethanol, butanol, ETBE or MTBE
- **ETBE:** Ethyl Tert-Butyl Ether
- **E0:** 'Ethanol-free' petrol blends
- **E5:** Petrol blend containing up to 5% of ethanol in volume
- **E10:** Petrol blend containing up to 10% of ethanol in volume
- **E85:** Fuel blend containing up to 85% renewable ethanol in volume to run flex-fuel

vehicles and petrol cars equipped with a simple conversion system

- **ED95:** Fuel grade containing up to 95% ethanol in volume that can be used in certain heavy-duty vehicles
- **E+:** Petrol or ethanol blends containing more than 10% of ethanol in volume
- **FAME:** Fatty Acid Methyl Ester
- **FCEV:** Fuel Cell Electric Vehicle
- **HVO:** Hydrotreated Vegetable Oil
- **LPG:** Liquefied Petroleum Gas
- **MTBE:** Methyl Tert-Butyl Ether
- **NG:** Natural Gas
- **HEV:** Hybrid Electric Vehicle
- **Other AFV:** Non-electric Alternative Fuelled Vehicles (e.g. LPG-fuelled, Natural gas vehicles, E85 vehicles)
- **PHEV:** Plug-in Hybrid Electric Vehicles
- **RCF:** Recycled Carbon Fuel
- **RFNBO:** Renewable Fuels of Non-Biological Origin
- **RON:** Research Octane Number

Other abbreviations:

- **ACEA:** European Automobile Manufacturers' Association
- **CZK:** Czech Koruna
- **e/e:** 'by energy content'
- **EEA:** European Environment Agency
- **Gcal:** Giga calorie
- **GJ:** Gigajoule
- **HRK:** Croatian Kuna
- **HUF:** Hungarian Forint
- **l:** Litres
- **kgCO_{2eq}:** Kilogramme of CO₂ equivalent

- **ktoe:** Thousand tonnes of oil equivalent
- **MJ:** Megajoule
- **Mtoe:** Million tonnes of oil equivalent
- **Øre:** Centesimal division of the Danish Krone
- **PFAD:** Palm Fatty Acid Distillates
- **PLN:** Polish złoty
- **RON:** Romanian Leu
- **tCO_{2eq}:** Tonne of CO₂ equivalent
- **toe:** Tonne of oil equivalent
- **v/v:** 'by volume content'

Overview of the national transposition of RED II provisions for transport

While only a handful of Member States have fully transposed RED II into national legislation, the majority have implemented the transport-related provisions. To the authors' best knowledge, Member States with an obsolete framework for renewables in transport are currently: Belgium, Bulgaria, Greece, Luxembourg, and Poland. Since the transposition of RED II into national law was due by 30 June 2021, the European Commission issued letters of formal notice to all 27 EU Member States and reasoned opinions to the majority of them between July 2021 and September 2022. In January 2023, Slovakia and Bulgaria were referred to Court. The infringement cases alerted the Member States on either an incomplete transposition of RED II provisions, or a failure to notify the Commission of their full transposition.

Countries marked in **green** have fully transposed, or are in the very last stage of transposing, RED II provisions for renewable energy in transport into their national legislation.



2024 national biofuels policies

	Type	Minimum overall biofuel target (%)	Advanced biofuel target ¹ (%)	Biofuel in petrol (%)	Biofuel in diesel (%)	Reduction of GHG intensity of fuels (%)
Austria	Energy	-	0.2	3.4	6.3	-7
Belgium	Energy	10.5	0.22 ²	5.7	5.7	-
Bulgaria	Volume	-	1 (in diesel)	9	6	-
	Energy	-	0.05	-	-	
Croatia	Energy	-	0.2	-	-	-6
Cyprus	Energy	-	0.2	-	-	-6
Czechia	Volume	-	0.22	-	-	-6
Denmark	Energy	-	-	-	-	-3.4
Estonia	Energy	7.5 ³	0.5	-	-	-
Finland	Energy	13.5 ⁴	2	-	-	-
France	Energy	-	1.3 (in petrol)	9.9	8.6	-10
			0.5 (in diesel)			
Germany	Energy	-	0.3	-	-	-8 ⁵
Greece	Energy	-	-	3.3	-	-
	Volume	-	0.2	-	7	
Hungary ⁶	Energy	8.4	0.2	6.1 (RON 95)	0.2	-
Ireland ⁷	Energy	16.985	0.3 (in energy)	-	-	-6
Italy ⁸	Energy	10.8	4.2	1	-	-6
Latvia	Volume	-	0.2	9.5 (RON 95)	6.5 ⁹	-
Lithuania	Energy	7.2	0.4	6.6	6.2	-
Luxembourg	Energy	7.7 ¹⁰	-	-	-	-6
Malta	Energy	-	0.2	-	-	-
Netherlands ¹¹	Energy	19.9	2.9	-	-	-6
Poland	Energy	9.1	0.1	5.3	5.2	-
Portugal	Volume	11	0.5	-	-	-
Romania	Volume	-	-	8	6.5	-
Slovakia	Energy	8.6	0.65 (double counted)	-	-	-6
	Volume	-	-	9	6.9	
Slovenia	Energy	10.3 ¹²	0.2	-	-	-6
Spain	Energy	11 ¹³	0.5	-	-	-6
Sweden		-	-	-	-	-6

Page | 4

- The Czech Republic suspended biofuels obligations as of July 2022 in connection with the surge of fuels prices. Latvia suspended biofuels blending obligations from 1 July 2022 to 31 December 2023.
- Some Member States excluded biofuels from high-ILUC feedstocks such as: Austria (palm), Denmark (palm and derivatives, soy), France (palm and derivatives, soy), Sweden (palm).

¹ After double counting.

² Double counting at 0.95%

³ Crop-based biofuels capped at 4.5%.

⁴ Crop-based biofuels capped at 2.6%.

⁵ Caps (in e/e): crop-based biofuels at 4.4%; high-ILUC Risk biofuels at 0%; Annex IX-B at 1.9%.

⁶ Annex IX-B biofuels capped at 4% after double-counting.

⁷ Crop-based biofuels capped at 2%.

⁸ Italy has a mandate of 300kt/year for HVO.

⁹ During the period from 1 April till 31 October.

¹⁰ 9.7% with multipliers. Can be lowered to 6%. Advanced biofuels must be at least 50% of the biofuels mix after double counting. Crop-based capped at 5%.

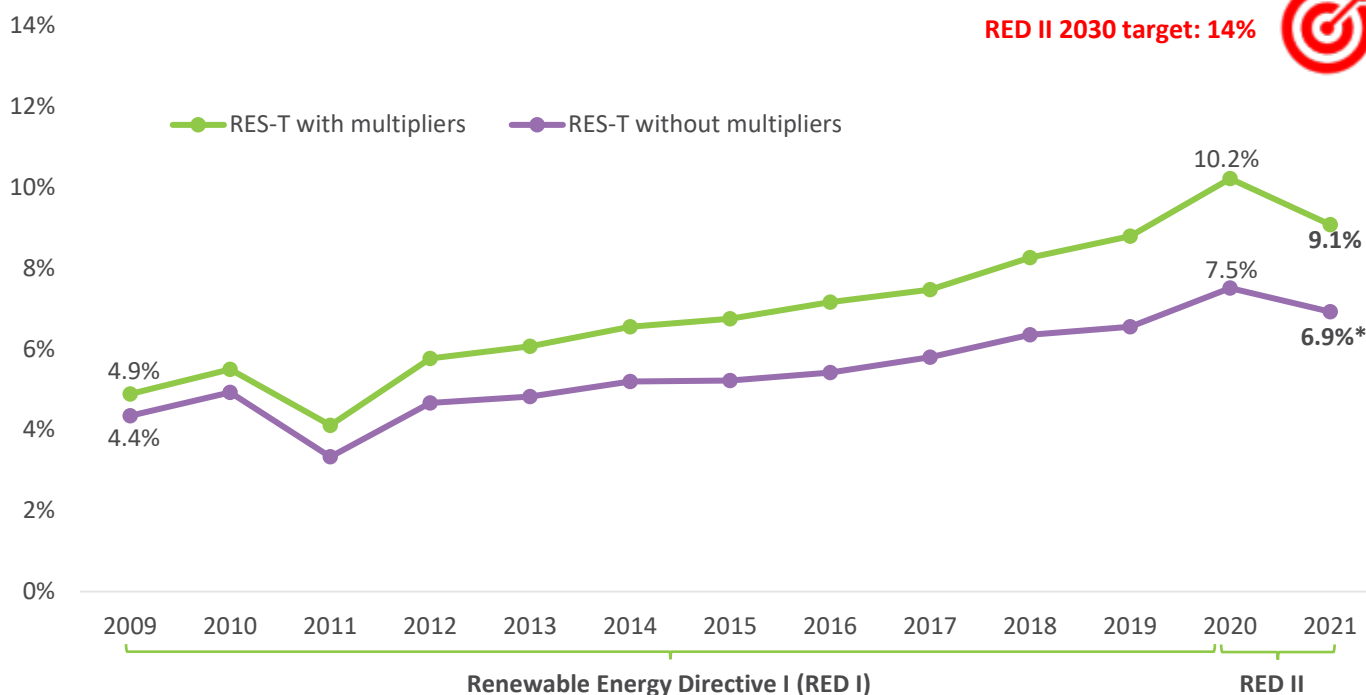
¹¹ Crop-based biofuels capped at 1.4%. UER cannot be counted towards the target 6% GHG intensity target.

¹² Obligation for renewable energy in transport, to be achieved through the use of biofuels, renewable electricity, RCF, RFNBs.

¹³ Crop-based capped at 7%. High ILUC-risk biofuels cap (incl. palm oil, oil palm fresh fruit bunches, PFAD, palm kernel oil and palm kernel shells oil) at 3.1%.

Renewable energy share in transport in the EU – Source: Eurostat, SHARES 2023

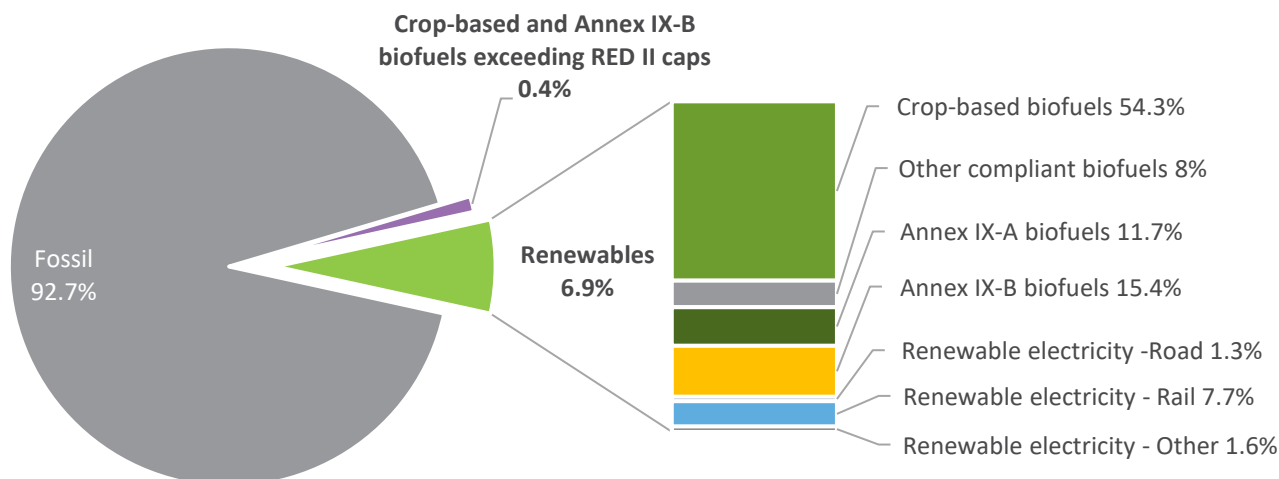
- In 2021, the RES-T at EU-27 level was 9.1% with multipliers under RED II, a 1.2% decrease from 2020 that can be attributed to the impact of caps for biofuels applicable since 2021, but also to the recovery from the COVID-19 crisis which saw a strong increase in total transport energy consumption paired with a mild increase in renewable energy consumption. A significant amount of the reported renewable energy consumption is still artificially inflated using multipliers: ePURE found* that the real RES-T for EU-27 is only at 6.9% in 2021.



Page | 5

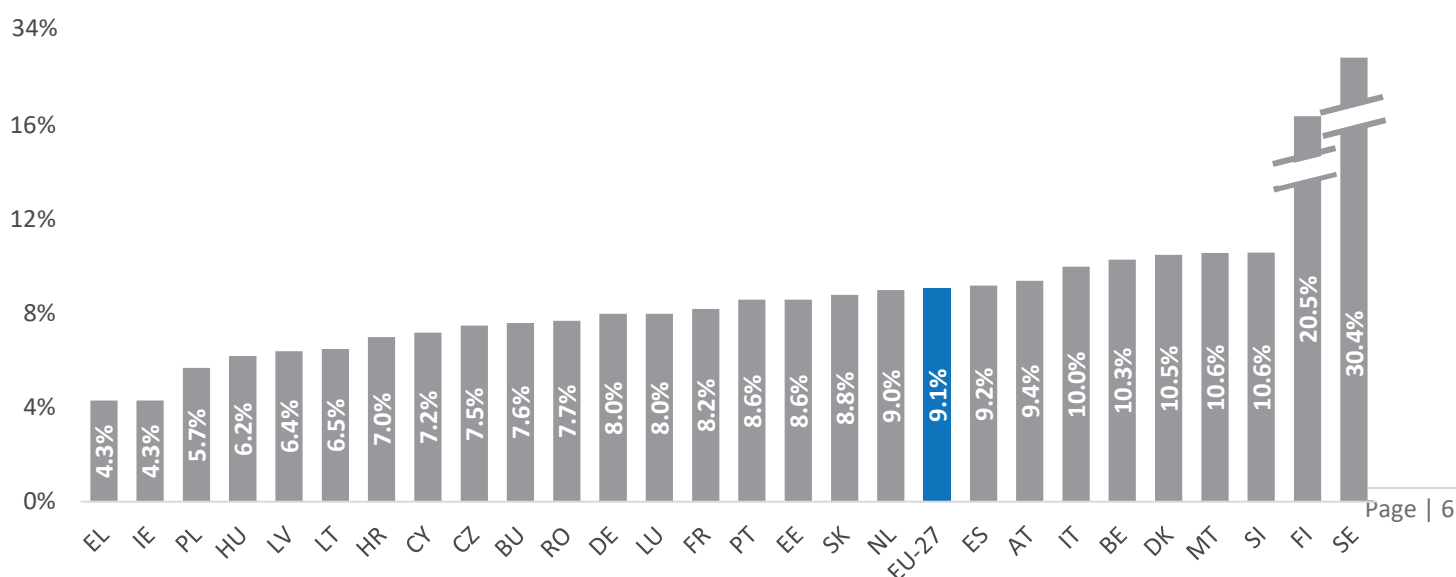
Transport energy mix in the EU in 2021 – Source: Eurostat, SHARES 2023

- All biofuels together account for over 89% of renewables in transport in the EU. Crop-based biofuels represent the main contributor for renewables in transport at 54.3%. Biofuels produced from RED Annex IX-A feedstocks, so-called advanced biofuels, make up 11.7% of the mix whereas biofuels made from Annex IX-B feedstocks are the second most important renewable source in transport at 15.4%. Renewable electricity accounted for 10.6% of the RES-T, including 7.7% in rail but only 1.3% in road transport. Following RED II methodology, certain volumes of crop-based biofuels exceeding the crop cap at a MS level, or Annex IX-B biofuels exceeding 1.7% share could not be counted towards the RED II objectives. Thus, about 0.4% of the EU transport energy mix in 2021; or about 1.1 Mtoe, were unaccounted sustainable biofuels.



2021 RES-T per MS with multipliers – Source: Eurostat, SHARES 2023

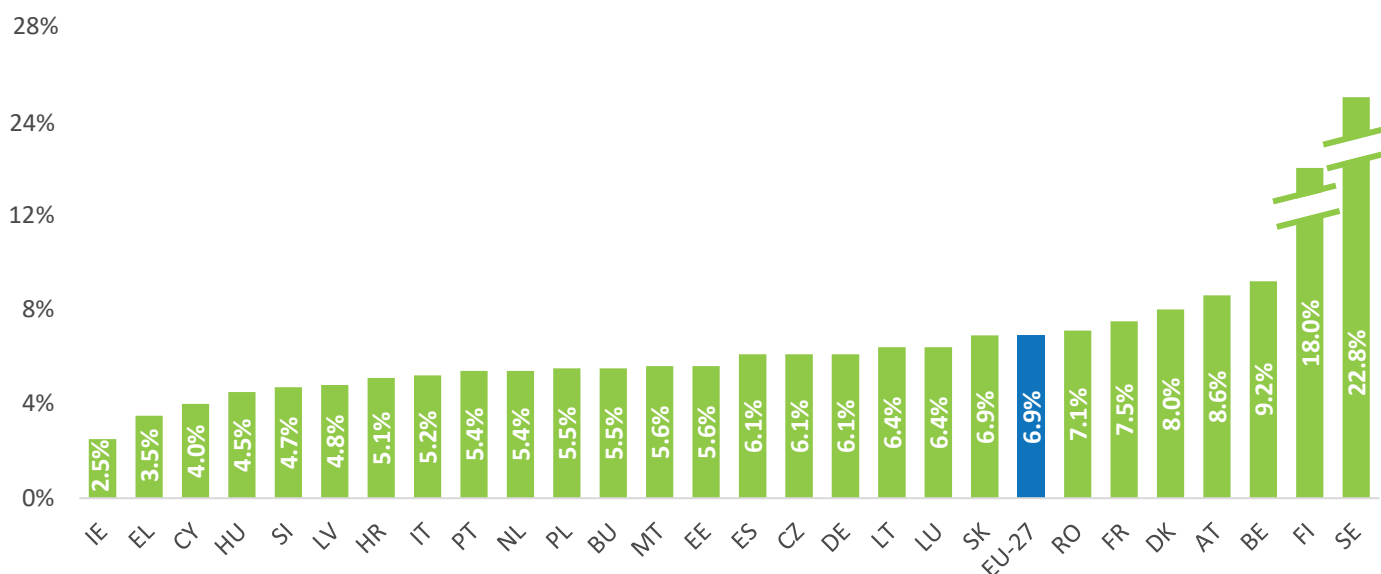
- Under the new RED II methodology in 2021, only 7 MS (BE, DK, FI, IT, MT, SL & SE) are above 10% RES-T, which was the target for 2020 under RED I. While Finland and Sweden have already largely incorporated renewables in their transport energy mix, already surpassing the 14% RED II target for 2030, other MS have barely made any progress in this regard and still rely massively on fossil fuels. The target of 13% GHG emissions reduction from transport energy consumption as proposed by the Commission in its revised RED II is equivalent to about 28% RES-T according to the RED II methodology. Consequently, according to Fit for 55 plans, the share of renewables in transport must be tripled between 2021 and 2030.



Page | 6

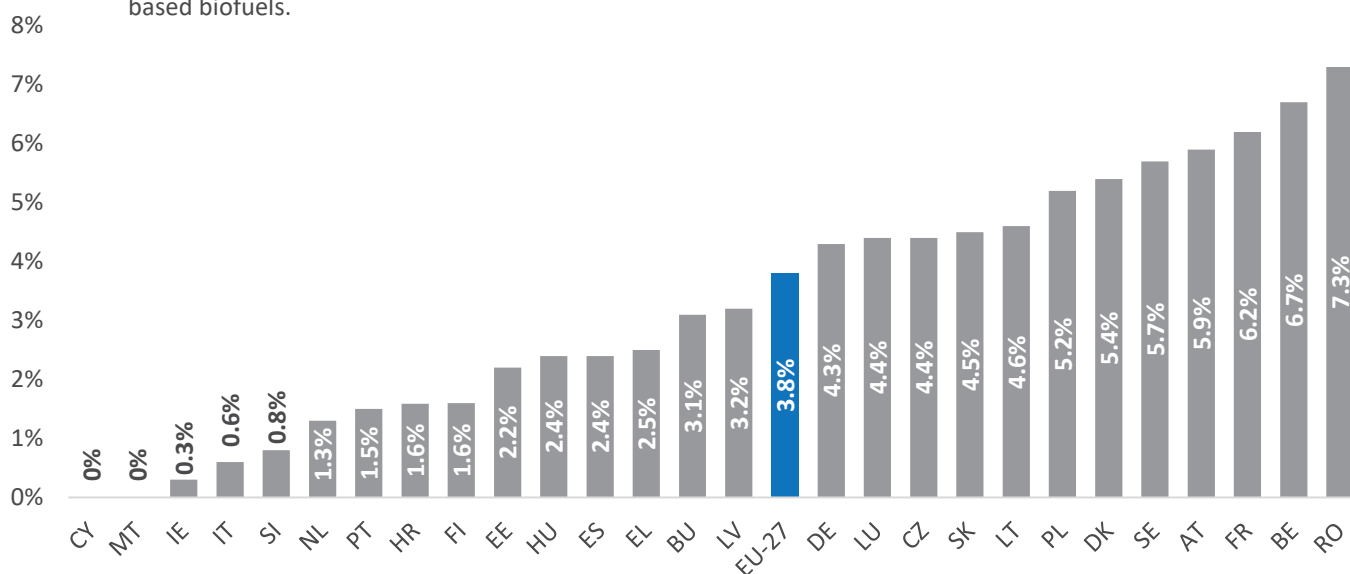
2021 RES-T per MS without multipliers – Source: Eurostat, ePURE calculations

- In 2021, without multipliers, only Sweden and Finland achieved a 10% RES-T. Most other Member States are in fact still below 8% in terms of real quantities of renewables in transport and show an important reliance on often imported fossil fuels for transport.



Share of crop-based biofuels in transport per MS in 2021 – Source: Eurostat, SHARES 2023

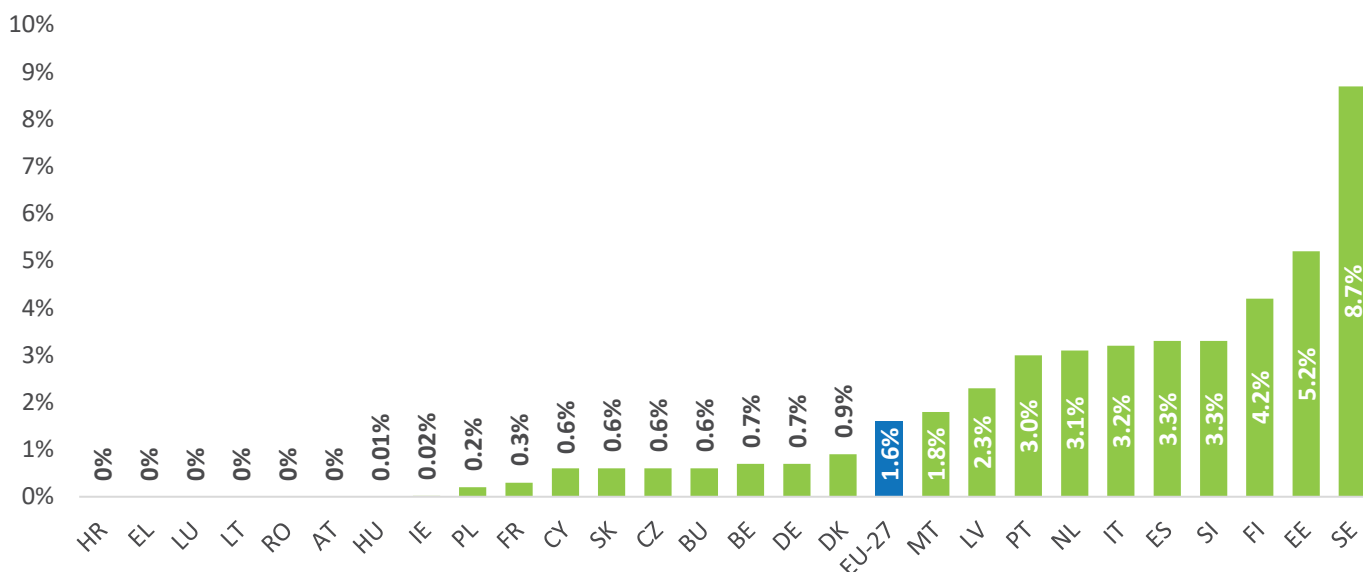
- In 2021, the average share of crop-based biofuels in the EU-27 transport energy mix was 3.8%. However, based on RED II methodology the share of crop-based biofuels that can be accounted towards the objective is only 3.7%. This is due to Ireland and Germany exceeding their respective caps on the consumption of high-ILUC biofuels, and Romania going over the 7% limit. This represents about 493 ktoe of unaccounted crop-based biofuels.



Page | 7

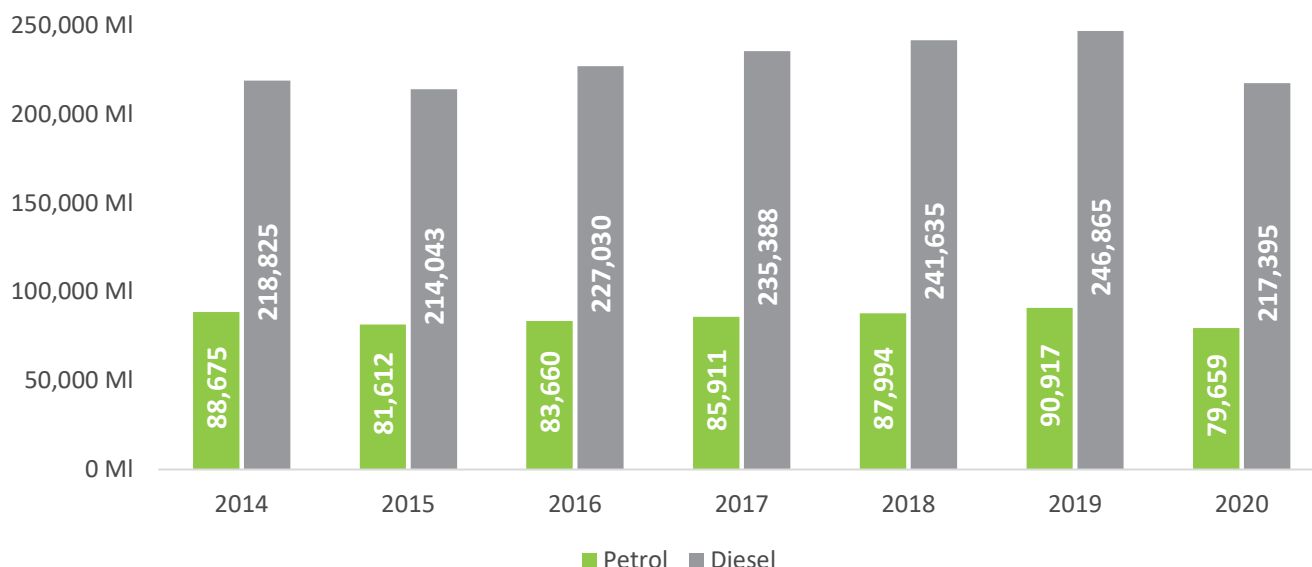
Share of advanced biofuels in transport per MS in 2021 – Source: Eurostat, SHARES 2023

- In 2021, the average share of advanced biofuels across the EU-27 was 0.8% or 1.6% with double counting as per the RED II methodology. RED II provides that MS must reach sub-targets for the share of advanced biofuels of 0.2% in 2022, 1% in 2025, and 3.5% in 2030, after double counting. Most EU MS have already achieved the 2022 target, apart from AT, EL, HR, HU, IE, LU, LT & RO. The 2025 target has already been achieved by ES, IT, LV, MT, NL, PT & SL, while EE, FI & SE have already met their 2030 goals.



EU-27 petrol and diesel road fuel sales – Source: EEA, 2021

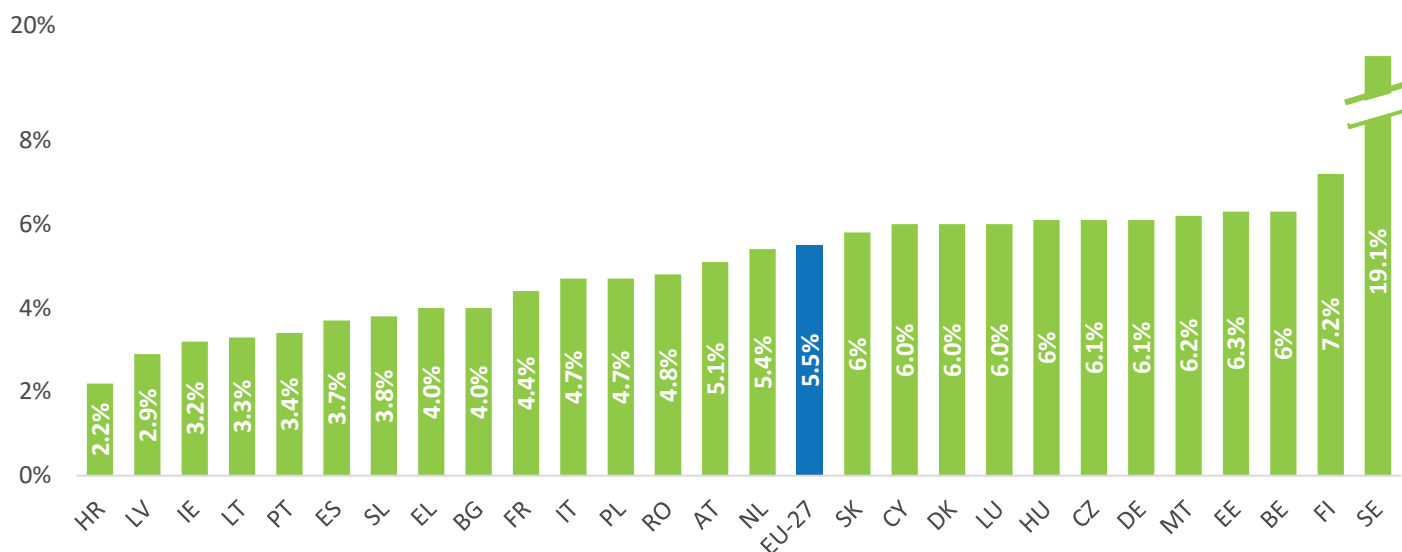
- Sales of petrol and diesel for road in the EU-27 decreased by 12.4% and 11.9% respectively between 2019 and 2020. The economic and transport activity decrease during the COVID-19 crisis halted an otherwise upward trend of petrol and diesel consumption in the recent years. Thanks to the renewable energy mandates in place in Member States, the consumption levels for biofuels remained relatively stable in 2020.



Page | 8

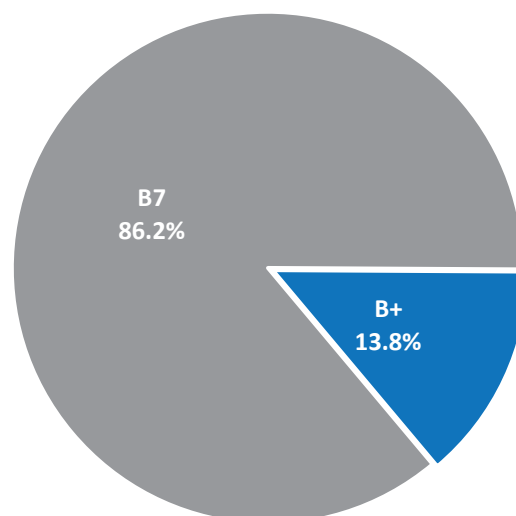
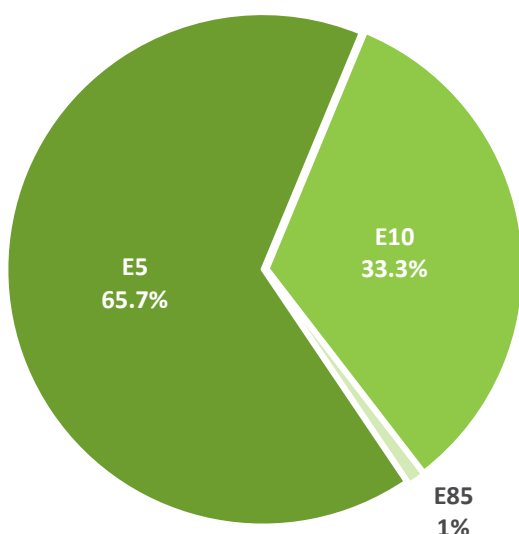
2010-2020 GHG intensity reduction of road fuels per MS– Source: EEA, 2022

- Between 2010 and 2020, the average GHG intensity of road fuels in the EU-27 decreased by only 5.5%. The EU did not collectively reach the 6% reduction target set by Article 7a of the Fuel Quality Directive between 2010 and 2020. 11 MS have met the target in 2020 (BE, CY, CZ, DE, DK, EE, FI, HU, LU, MT & SE) while Slovakia fell short by only 0.2%. The remaining MS are still lagging, including some of the larger MS (ES, FR, IT)



Petrol and diesel fuel blends sold in the EU in 2020 – Source: EEA, 2021

- While E5 still represented the bulk of the EU-27 petrol market in 2020, the market share of E10 has been steadily increasing in recent years. According to the European Environment Agency (EEA), E10 now represents a third of the EU-27 petrol market, owing to more and more Member States introducing E10 on their market, Sweden being the latest. E0 however is almost completely phased out from the EU-27 petrol market with a market share of only 0.3% in 2020.
- While most of the EU-27 diesel market is made of B7, some Member States have allowed the share of biodiesel to be above 7%. While France has had B10 available on its market for several years, most recently Belgium and Spain introduced higher-than-7% diesel grade on their respective markets.



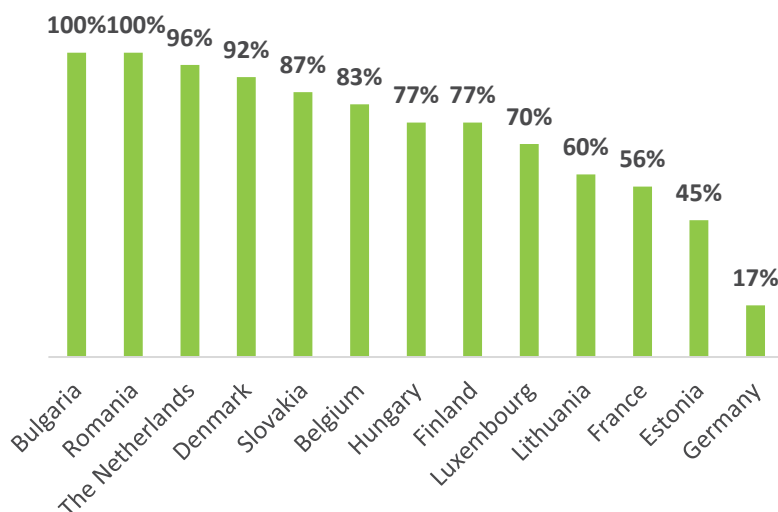
Page | 9

E10 availability in Europe

- E10 is currently available in 18 EU Member States, as well as the UK: Austria, Belgium, Bulgaria, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Latvia, Lithuania, Luxembourg, the Netherlands, Romania, Slovakia, and Sweden.

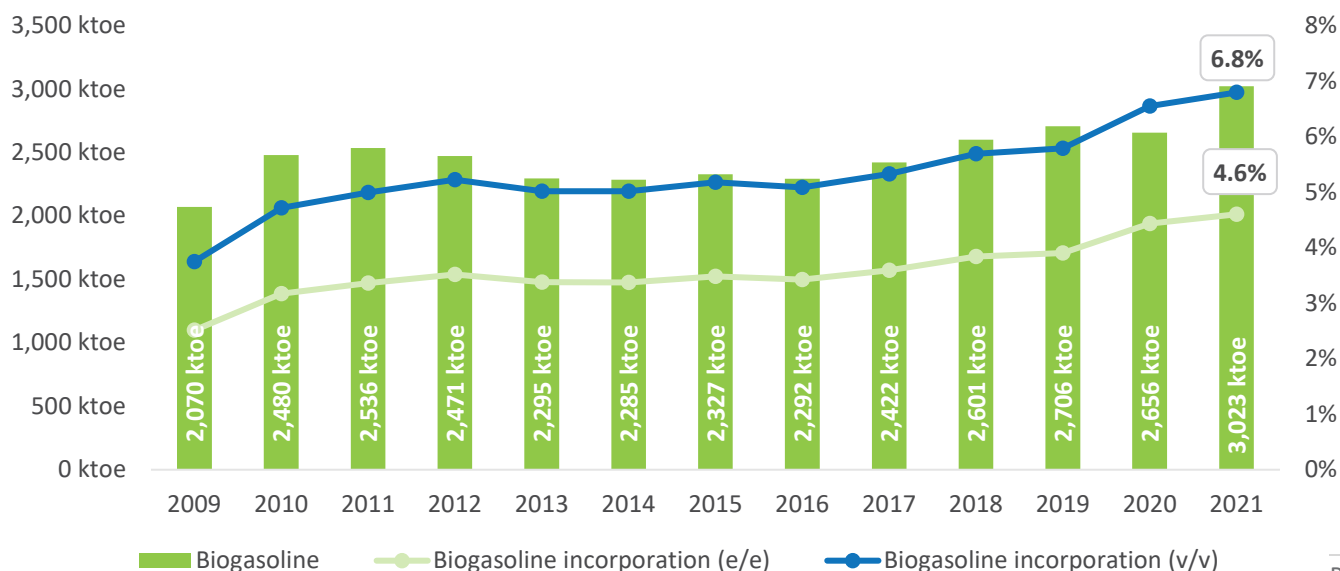


E10 market shares in selected MS



EU-27 biogasoline consumption and incorporation rates – Source: Eurostat, 2023

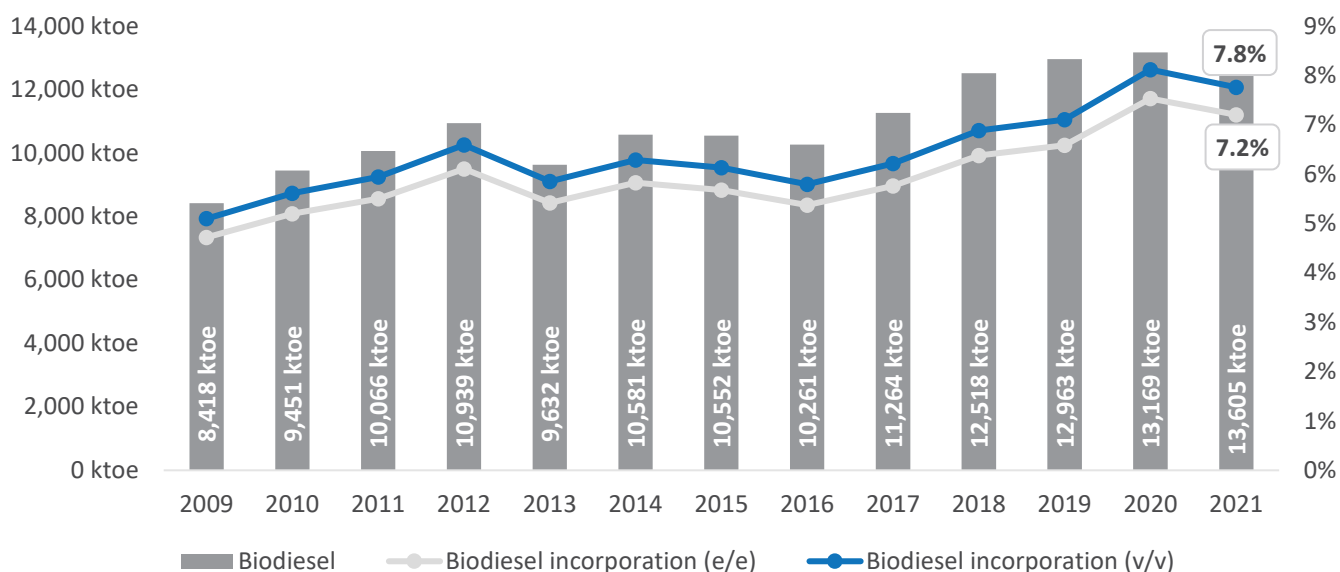
- In 2021, the biogasoline incorporation rate across the EU-27 was 4.6% in energy terms, and 6.8% in volume. The corresponding quantity of biogasoline, including renewable methanol, ethanol, ETBE, or MTBE, was 3,023 ktoe. Biogasoline consumption in the EU reached historic highs after a decrease in 2020 during the COVID-19 crisis.



Page | 10

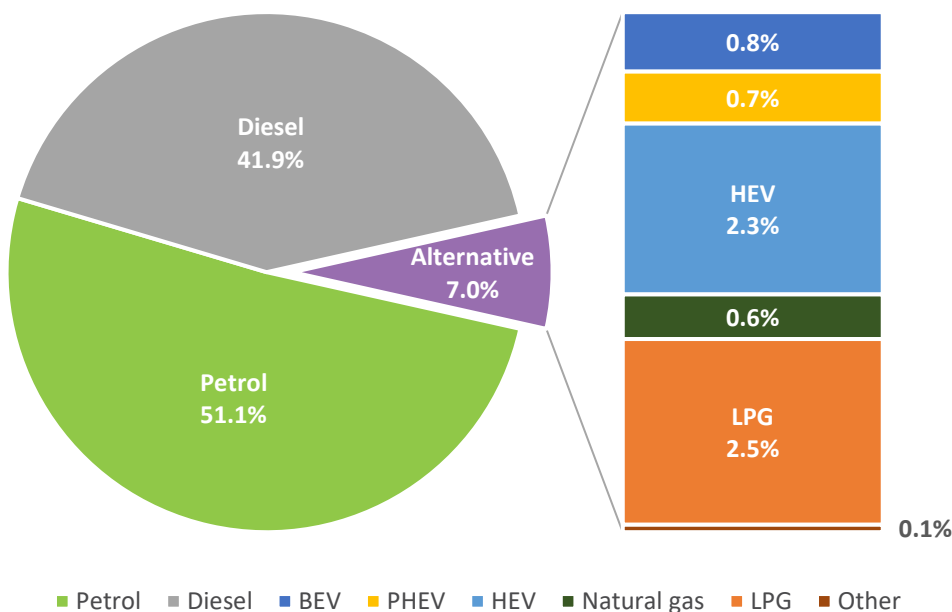
EU-27 biodiesel consumption and incorporation rates – Source: Eurostat, 2023

- In 2021, the biodiesel incorporation rate across the EU-27 was 7.2% in energy terms, and 7.8% in volumes. Biodiesel consumption, including renewable diesel or HVO, increased by 3.3% compared to 2020 to reach a historic high of 13,605 ktoe.



Passenger car in use by fuel type in 2021 – Source: ACEA, 2023

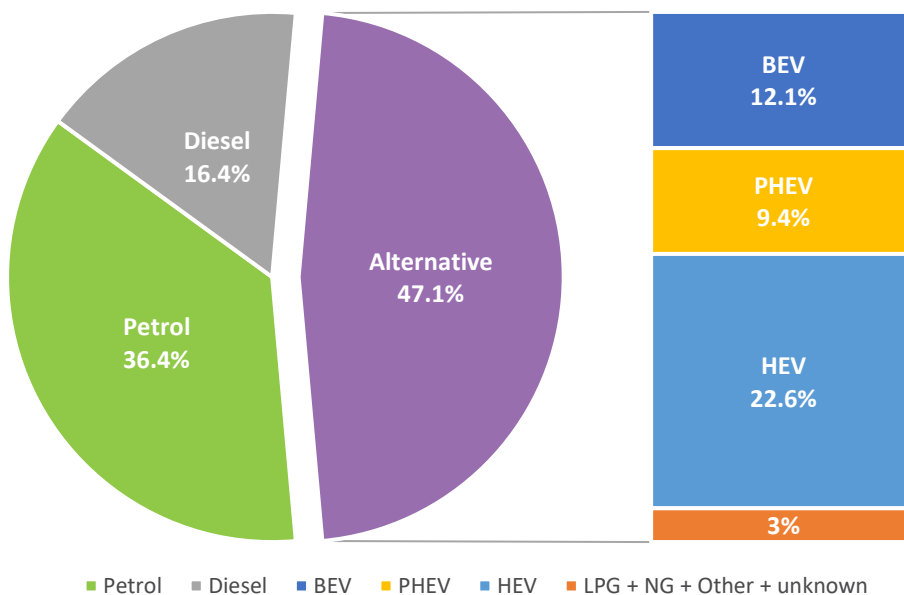
- In 2021, 51.1% of all EU passenger cars ran exclusively on petrol whereas diesel accounted for 41.9%. The share of alternative-fuelled vehicles (AFV) reached 7% in 2021. LPG-powered cars representing 2.5% of the EU fleet are still the most common type of AFV. Mild hybrid electric vehicles (HEV) and plug-in hybrid electric vehicles (PHEV) represented 2.3% and 0.7% of the car fleet in 2020 respectively, whereas battery-electric vehicles reached 0.8%. Altogether, more than 96% of the total EU-27 car fleet was still running at least partially on petrol or diesel fuel.



Page | 11

Passenger car registrations by fuel type in 2022 – Source: ACEA, 2023

- In 2022, more alternatively fuelled cars were sold in the EU than conventional petrol or diesel cars. 36.4% of all new passenger cars sold in the EU 27 ran on petrol and 16.4% on diesel. The share of AFV reached 47.1%, of which hybrid electric vehicles (HEV) accounted for 22.6%, battery electric vehicles (BEV) and plug-in electric vehicles (PHEV) accounted for 12.1% and 9.4% respectively.



Member State Overview

At the time of writing, Austria's transposition of RED II into national law is almost finished regarding the transport sector. On 23 July 2021, the country received a letter of formal notice from the Commission for failure to notify complete transposition measures for the Directive, and the [infringement case](#) is still active.

Austria aims to achieve at least a 34% overall share of renewables in its gross final consumption of energy and a 13% GHG intensity reduction target in transport by 2030. Austria's RES-T in 2021 was 8.6% without multipliers and 9.4% with multipliers.

Legal basis

[Fuel Ordinance 2012, Version of 2 January 2023](#) – transposing all RED II provisions.

Biofuels policy and decarbonisation targets

- **Crop-based biofuels:**
 - Crop cap at 7%.
 - Palm oil biofuels are excluded since 1 July 2021.
- **Annex IX biofuels:**
 - Target for RED II Annex IX-A biofuels set at 0.2% from 1 January 2023, 1% from 1 January 2025 and 3,5% from 1 January 2030.¹⁴
- **Multiple counting:** x4 for renewable electricity in road.
- **Sustainability criteria:** as in RED II Art. 29 re. no-go areas for agricultural biomass and GHG savings for biofuels.

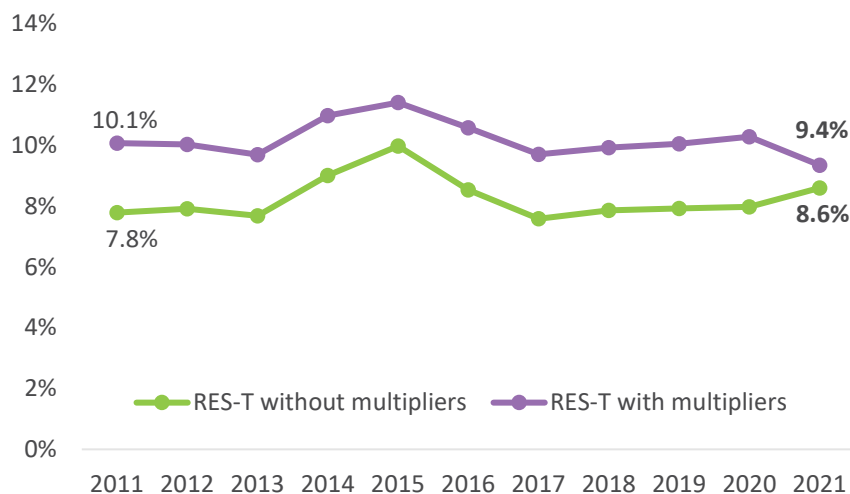
Page | 12

Measures to ensure compliance

- **Blending obligations:** 3.4% in petrol and 6.3% in diesel, but no more overall target.
- **GHG intensity reduction for transport fuels:** starting with 6% in 2023, 7% in 2024, 7.5% in 2025, 8% in 2026, 9% in 2027, 10% in 2028, 11% in 2029 to finally 13% in 2030, compared to the fossil reference of 94 gCO_{2eq}/MJ.
- **Upstream Emission Reductions (UER)** are limited to max. 1% in 2023 (contribution to target 2023) and from 2024 onwards UER are no more countable.
- **Penalties:** A penalty of 43€/GJ (about 1,400€/toe) of gasoline and diesel (about 1,600€/toe) should be paid by fuel suppliers failing to meet their blending obligations (§§ 5 & 6). A penalty of 600€/tCO_{2eq} should be paid by fuel suppliers failing to meet their fuel GHG intensity reduction target (§7) for the first 5% and 15€/tCO_{2eq} for the last percent in 2023, from 2024 onwards 600€/tCO_{2eq}.
- **Tax incentives for biofuels:** Taxation is set at 482€/1,000l for petrol with a biogenic content of at least 4.6% in volume and at 515€/1,000l for petrol with for a lower biogenic content. Additionally in 2023 there is a carbon tax of 32.5€/t carbon dioxide, that means additionally 8.9 ct/l petrol.

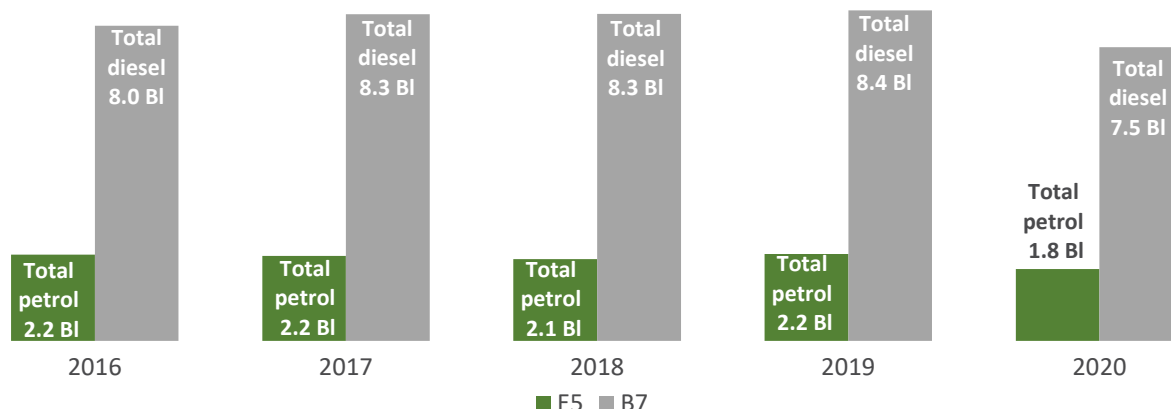
¹⁴ The obligation can be reduced by the responsible Federal Minister for a period of one calendar year at the request of the fuel supplier in case of: limited potential for sustainable production; limited availability at cost-effective price in the market; or specific technical or climatic conditions of the national market for fuels.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



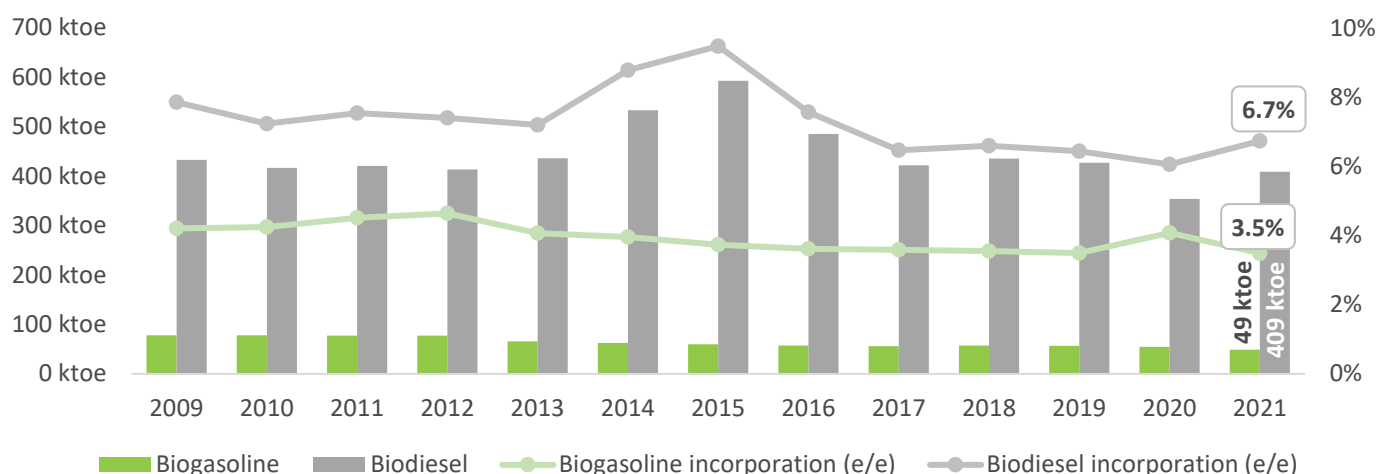
Energy source	Quantity
Fossil	7,087 ktoe – 91.4%
Renewables	668 ktoe – 8.6%
Crop-based biofuels	459 ktoe – 5.9%
Annex IX-A biofuels	0 ktoe – 0%
Annex IX-B biofuels	0.5 ktoe – 0.01%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	0.9 ktoe – 0.01%
Ren. electricity - Rail	120.9 ktoe – 1.6%
Ren. electricity - Other	86.1 ktoe – 1.1%
Total	7,755 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

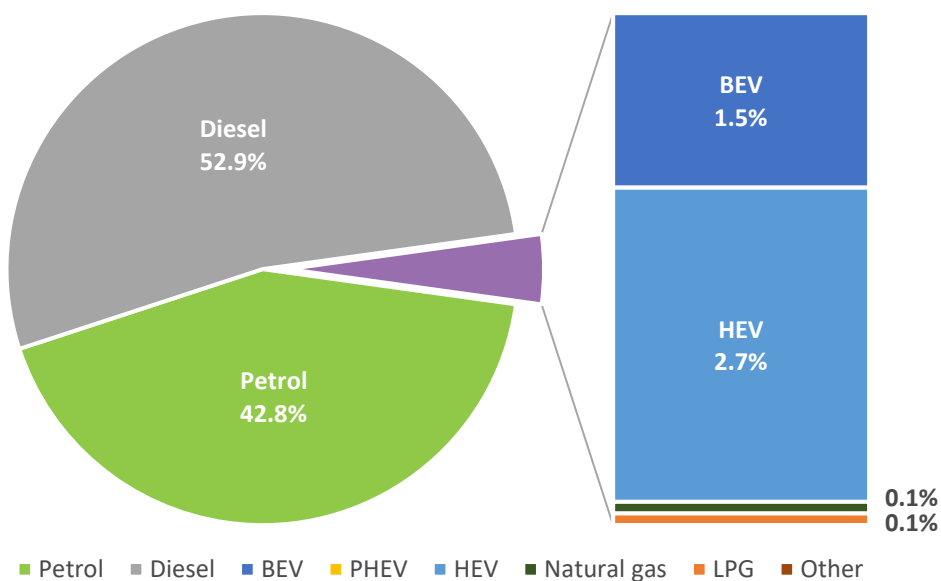


Page | 13

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

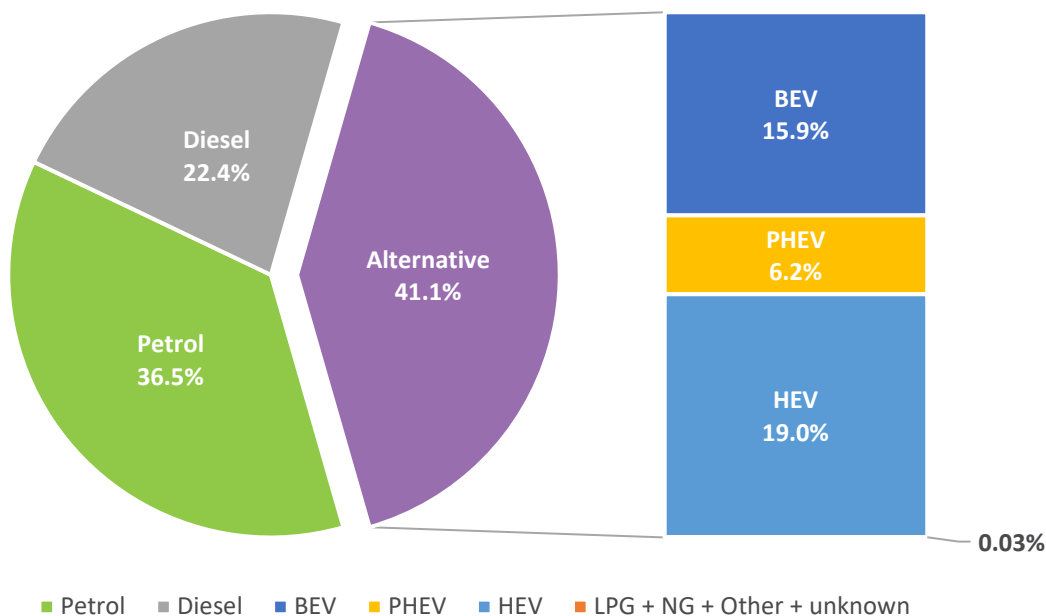


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 14



Member State Overview

Belgium's transposition of RED II into national law is ongoing. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021. The [infringement case](#) is still active. The country's RES-T in 2020 was 9.4% without multipliers and 11% with multipliers.

Legal basis

- [Royal Decree of 16 July 2014 updated on 13 February 2018](#) – providing the list of feedstocks that can be double-counted.
- [Royal Decree of 4 May 2018 updated on 31 December 2021 and 27 December 2022](#) – setting blending obligations to 10.2%.
- [Royal Decree of 17 December 2021](#) – transposing RED II.
- Royal Decree of 27 December 2022 – Increasing the blending obligation to 10.2%
- [Law of 16 December 2022](#) – Prohibiting palm and soy and derivatives.
- [Law of 31 July 2023](#) – New blending obligations from 2023

Biofuels policy and decarbonisation targets

- **Crop-based biofuels:**
 - **Crop cap:**
 - Petrol: 1-Jan-23: max 6.5% / 1-Jan-27: max 5.5% / 1-Jan-30: max 4.5%.
 - Diesel: 1-Jan-23: max 6% / 1-Jan-27: max 5% / 1-Jan-30: max 2.5%.
 - Palm and its derivatives are forbidden as of 1 January 2023 ; soy oil and its derivative as of 1 July 2023. An exception is made for those products that can be certified as having a low ILUC-risk (EC delegated Act 2019/807).
- **Current Annex IX-A¹⁵ biofuels:** target is set at a minimum of 0.11% of the total biofuels sold on the market.
- **Recycled carbon fuels** are allowed in RES-T.
- **Current multiple counting:** x2 for Annex IX-A biofuels up to 0.95% of the real energy content of advanced biofuels sold on the market and for RFNBOs.
- **Current sustainability criteria:** as in RED II Art.29 re. no-go areas for agricultural biomass and GHG savings for biofuels.

Page | 15

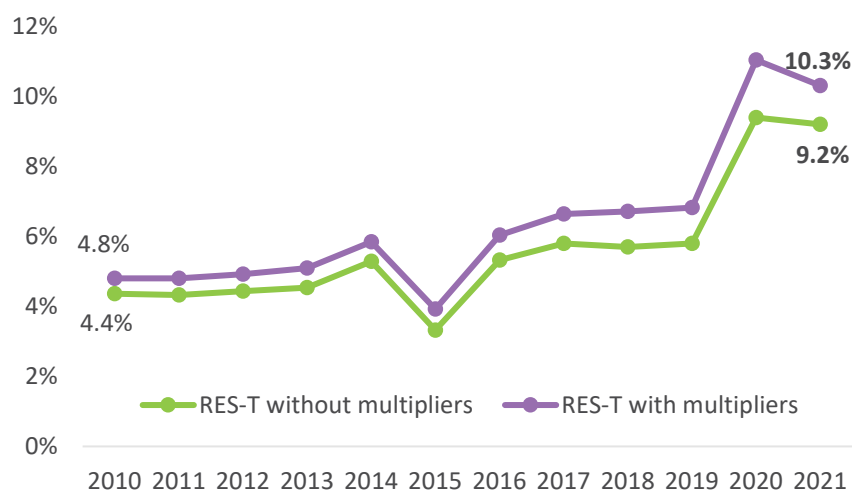
Measures to ensure compliance

- **General obligation for renewables in transport in 2023 (in energy content):** 10.2%, of which advanced 0.22% (after double-counting). Biofuel obligation in petrol: 6.5%. Biofuel obligation in diesel: 6.5%.
- **From 1 January 2024:** general obligation for renewables in transport (in energy content): 10.5% of which advanced 0.22% after multiplication. Biofuel obligation in petrol and diesel at 5.7%. 1G maximum at 6.5% for petrol and 6% for diesel.
- **From 1 January 2025:** general obligation for renewables in transport (in energy content): 12.2% of which advanced 1.1% after multiplication. 1G maximum in diesel 5%.
- **From 1 January 2027:** general obligation for renewables in transport (in energy content): 13.15%. Biofuel obligation in petrol at 4%, and in diesel at 2.5%. 1G maximum at 5.5% for petrol.

¹⁵ Includes RED I Annex IX-A feedstocks and residual starch not intended for human or animal food use.

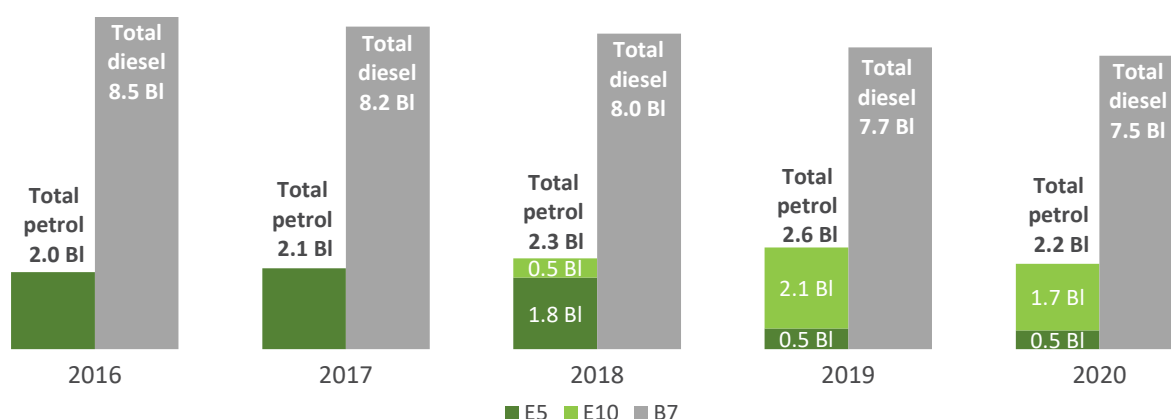
- **From 1 January 2030:** general obligation for renewables in transport (in energy content): 13.9% of which advanced 4.2% after multiplication. 1G maximum at 4.5% in petrol and 2.5% in diesel.
- **Penalties:** Fuels suppliers failing to meet their blending obligations must pay €1400 per 34 GJ missing.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023

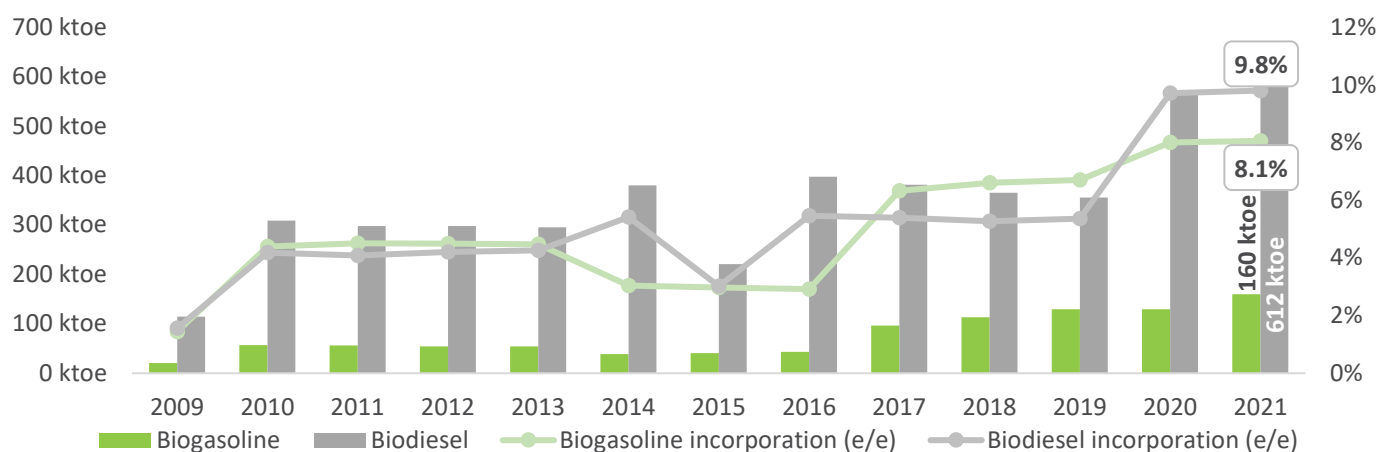


Energy source	Quantity
Fossil	7,464 ktoe – 90.8%
Renewables	758 ktoe – 9.2%
Crop-based biofuels	553.2 ktoe – 6.7%
Annex IX-A biofuels	27.6 ktoe – 0.3%
Annex IX-B biofuels	39.8 ktoe – 0.5%
Other compliant biofuels	104.9 ktoe – 1.3%
Ren. electricity - Road	4.6 ktoe – 0.06%
Ren. electricity - Rail	27.6 ktoe – 0.3%
Ren. electricity - Other	0.7 ktoe – 0.008%
Total	8,222 ktoe

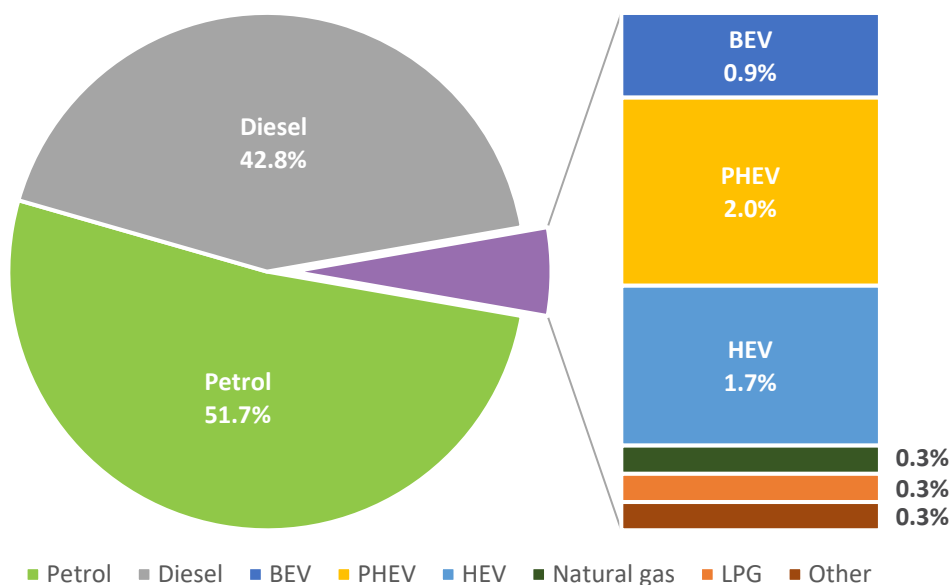
Fuels market – Source: EEA, FQD Article 8 reporting



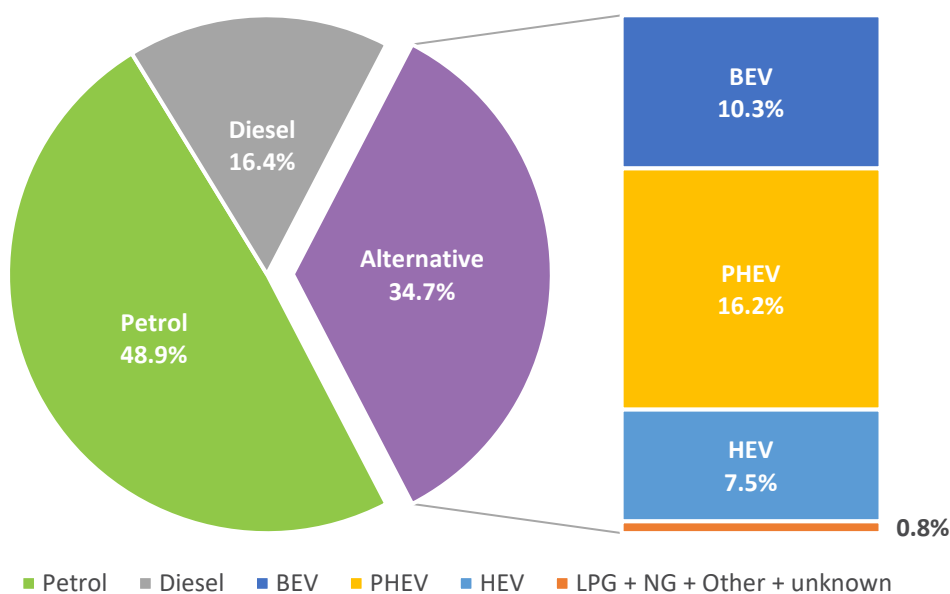
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023



Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023



Member State Overview

Bulgaria has not fully transposed RED II into national law. The country received a letter of formal notice for failure to notify complete transposition of the Directive on 23 July 2021 and reasoned opinion in December 2021 as well as a referral to Court in January 2023. The [infringement case](#) is still active. The country aims to achieve a 16% overall share of renewables in its gross final consumption of energy and 10% RES-T by 2030. Bulgaria's RES-T in 2021 was 5.5% without multipliers and 7.6% with multipliers.

Legal basis

[Renewable Energy Law \(in force from 6 July 2022\)](#) – implementing the advanced biofuels target.

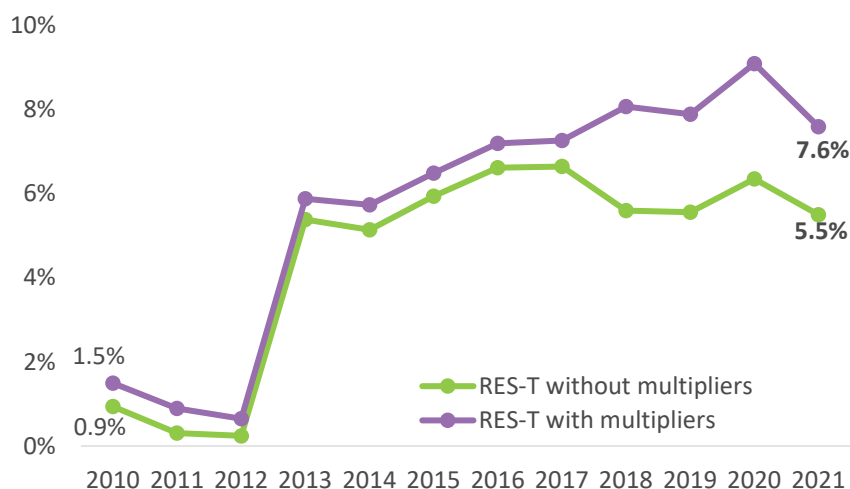
Biofuels policy and decarbonisation targets

- **Crop-based biofuels:** Crop cap at 7%, excluding biofuels made from raw materials which are compliant with sustainability criteria and are grown on degraded or fallow land.
- **Annex IX biofuels:** set at 0.05% in e/e. A separate target of 1% v/v is set for advanced biofuels in diesel.
- **Multiple counting:** Not implemented.
- **Sustainability criteria:** As in RED I Art.17.

Measures to ensure compliance

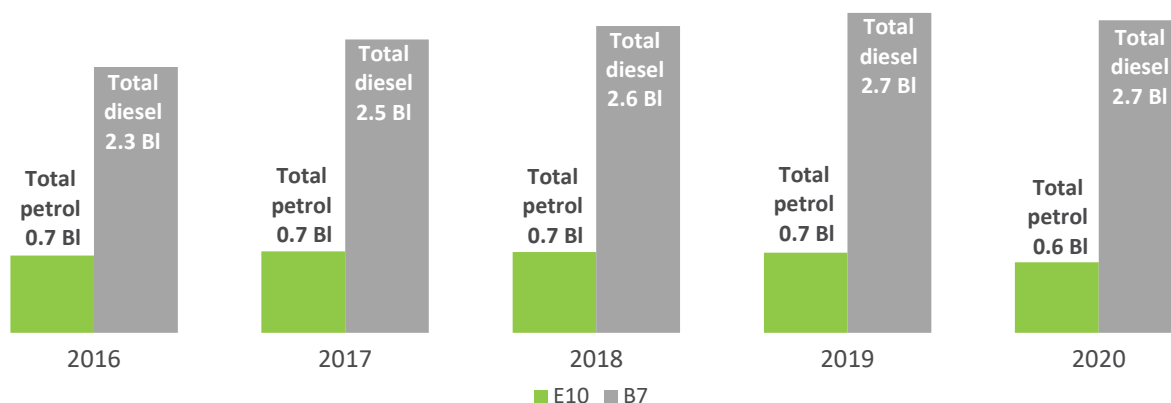
- **Blending obligations:** biofuels should make up a 9% share in petrol and a 6% share in diesel, in volume.
- **Penalties:** fuel suppliers failing to comply with blending obligations are fined BGN 200,000 (≈€102,000). Fuel distributors selling fuels in violation of the blending obligations may be 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.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



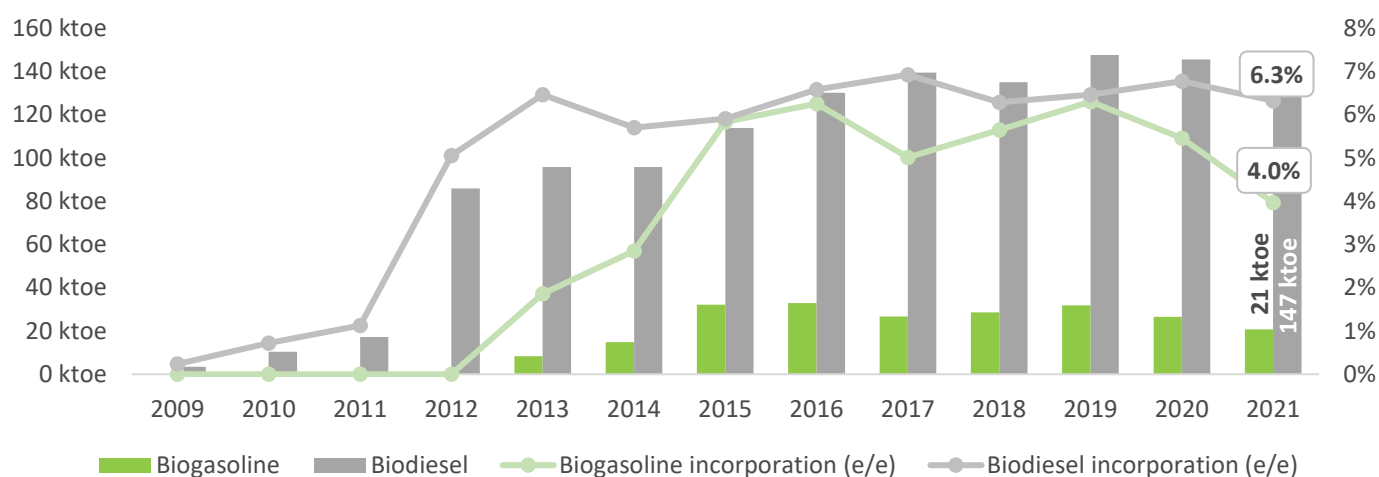
Energy source	Quantity
Fossil	2,821 ktoe – 94.1%
Renewables	176 ktoe – 5.9%
Crop-based biofuels	95.4 ktoe – 3.2%
Annex IX-A biofuels	9.1 ktoe – 0.3%
Annex IX-B biofuels	62.3 ktoe – 2.1%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	0.8 ktoe – 0.03%
Ren. electricity - Rail	8.3 ktoe – 0.3%
Ren. electricity - Other	0.2 ktoe – 0.01%
Total	2,997 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting



Page | 19

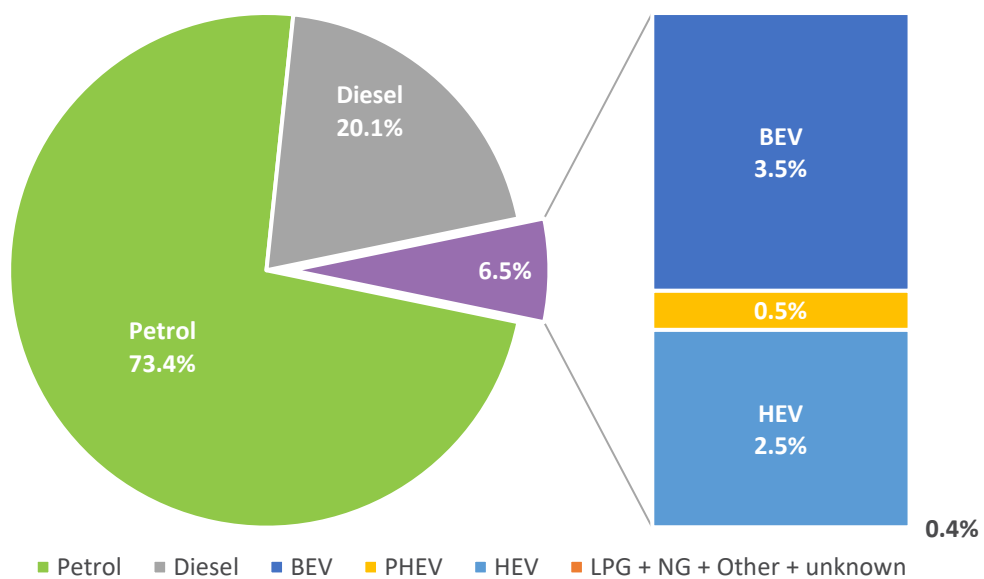
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023



Passenger car fleet in 2020 – Source: ACEA 2022

No data

Passenger car registrations in 2022 – Source: ACEA 2023



Member State Overview

Croatia has started but not completed the transposition of RED II into national law. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion in May 2022. It was referred to the Court of Justice on 15 February 2023. The [infringement case](#) is still active. Croatia is projected to achieve a 36.6% overall share of renewables in its gross final consumption of energy and a 14% RES-T by 2030. The country's RES-T in 2021 was 5.1% without multipliers and 7% with multipliers. In the context of the energy crisis and surge of the fuel prices, the Croatian government relaxed the measures to ensure compliance with the biofuels blending targets until 30 June 2023.

Legal basis

- [Act on biofuels for transport \(in force on 22 May 2021\)](#) – transposing RED II Art. 25, 26, 27, and 29.
- [Regulation on the special fee for the environment for not placing biofuels on the market \(adopted on 5 November 2010\)](#) – implementing penalties for failing to meet the blending mandate.

Biofuels policy and decarbonisation targets

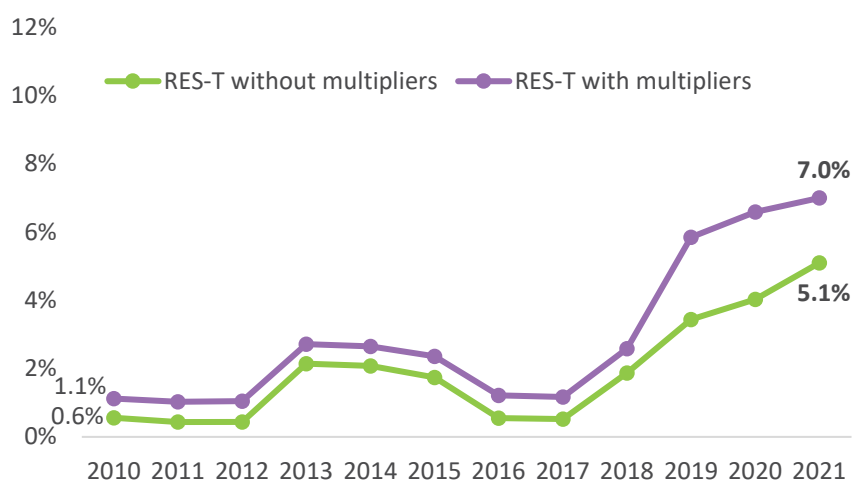
- **Crop-based biofuels:**
 - Crop cap at 2020 consumption levels in road and rail transport, +1% flexibility within a 7% limit, as in RED II Art. 26.
 - High-ILUC-risk biofuels capped at 2019 levels, except if certified as low-ILUC-risk biofuels, with a linear decrease trajectory to zero by 31 December 2030, as in RED II Art. 26.
- **Annex IX biofuels:**
 - Targets for Annex IX-A biofuels set at 0.2% in 2022, 0.3% in 2023, 0.6% in 2024, 1% in 2025, 1.3% in 2026, 1.7% in 2027, 2.1% in 2028, 2.7% in 2029 and 3.5% by 2030, as in RED II Art. 25.
 - The use of Annex IX-B biofuels and biogas in transport is capped at 1.7% by 2030, as in RED II.
- **Recycled carbon fuels** are allowed in RES-T.
- **Multiple counting:** x2 for Annex IX biofuels; x4 for renewable electricity in road, x1.5 in train; x1.2 for aviation and maritime fuels.
- **Sustainability criteria:** as in RED II Art. 29 re. no-go areas for agricultural biomass.

Page | 21

Measures to ensure compliance

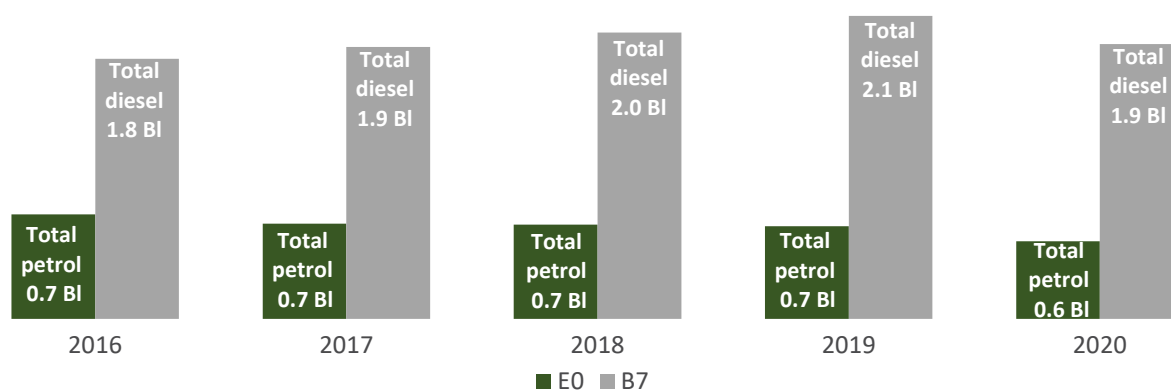
- **GHG intensity reduction for transport fuels:** 6% target, compared to the fossil reference of 94.1 gCO_{2eq}/MJ.
- **Penalties:** fuel suppliers failing to fulfil their blending obligations or failing to reduce emissions in range 0-2% and 2,01 to 6% are liable to pay a penalty calculated based on the quantity missing.
- **Tax incentive:** biofuels for transport purposes are exempted from excise duty.
- **Attempts to relax biofuel blending obligations:** in March 2022, the government decided to decrease the penalty for non-compliance with both the blending and the GHG savings mandates down to 0.01 HRK/MJ and 0.01 HRK/kgCO₂ respectively until 30 June 2023, in the context of the energy crisis.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



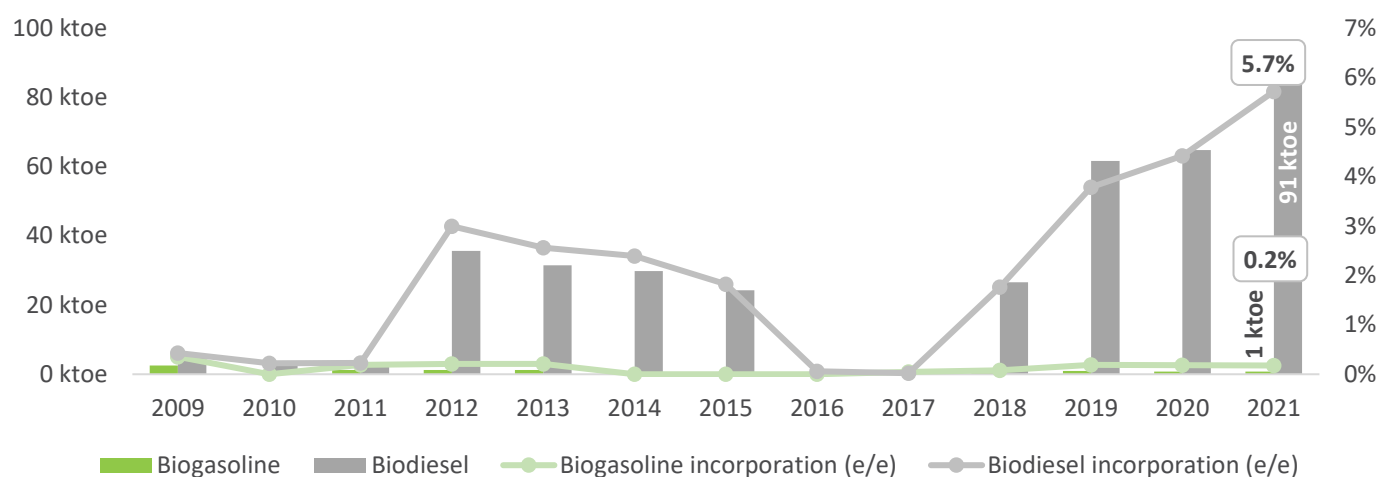
Energy source	Quantity
Fossil	1,917 ktoe – 94.9%
Renewables	103.4 ktoe – 5.1%
Crop-based biofuels	55.7 ktoe – 2.8%
Annex IX-A biofuels	0 ktoe – 0%
Annex IX-B biofuels	35.5 ktoe – 1.8%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	0.3 ktoe – 0.01%
Ren. electricity - Rail	10.2 ktoe – 0.5%
Ren. electricity - Other	1.6 ktoe – 0.08%
Total	2,021 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

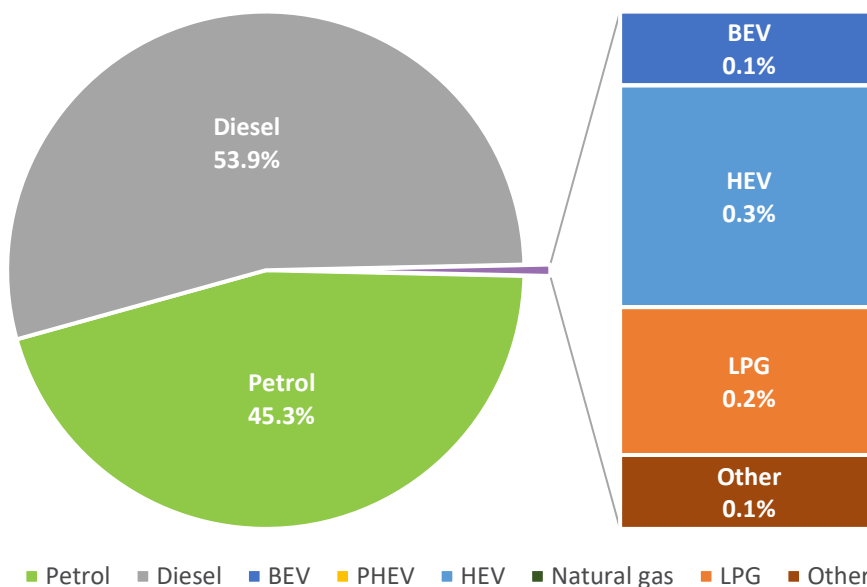


Page | 22

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

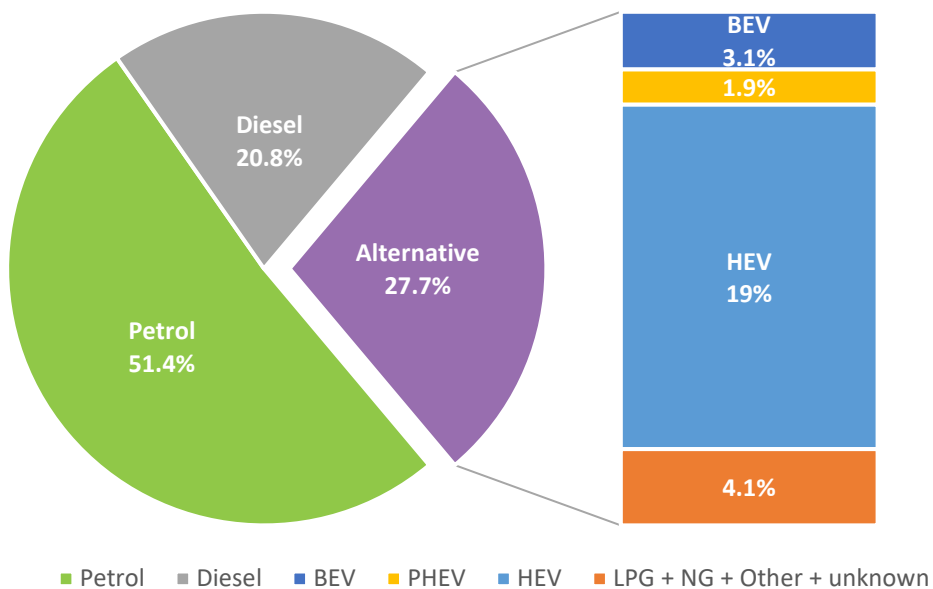


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 23



Member State Overview

Cyprus's transposition of RED II into national law is ongoing. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion in May 2022. The [infringement case](#) is still active. Cyprus aims to achieve a 32% overall share of renewables in its gross final consumption of energy with a minimum of 13% from 1 January 2021. Additionally, it sets at least a 14% RES-T by 2030. Cyprus's RES-T in 2021 was 4% without multipliers and 7.2% with multipliers.

Legal basis

- [Law 106/2022 The Fuel Emissions Standards, Sustainability Criteria and Reduction Act of 2022](#) – transposing most RED II provisions.
- [Law 107/2022 on The Promotion and Encouragement of the Use of Renewable Energy Sources Law of 2022](#) – establishing the overall ambition for use of renewables by 2030.

Biofuels policy and decarbonisation targets

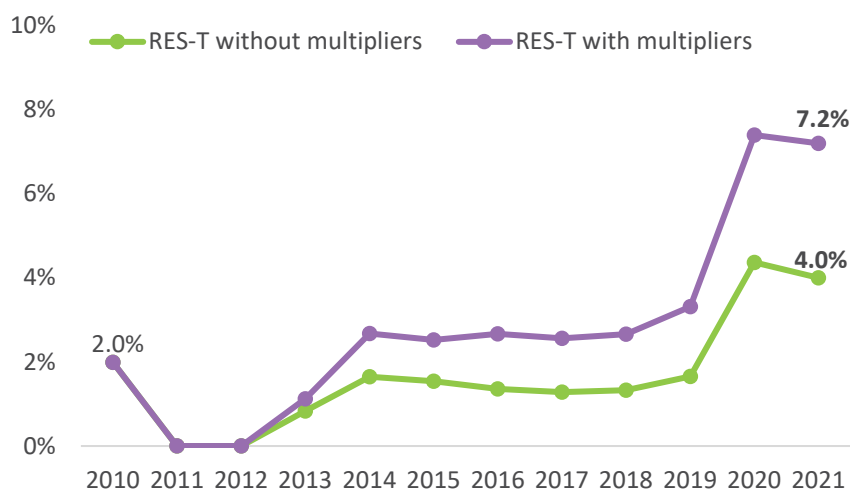
- **Crop-based biofuels:**
 - Crop cap set at the 2020 levels in road and rail +1% flexibility, with a maximum of 7% as in RED II Art. 26.
 - High ILUC-risk biofuels capped at 2019 levels, except if certified as low ILUC-risk biofuels, with a linear decrease trajectory to zero by 31 December 2030, as in RED II Art. 26.
- **Annex IX biofuels:**
 - Targets for Annex IX-A biofuels set at 0.2% in 2022, 1% in 2025, and 3.5% by 2030, as in RED II Art. 25.
 - The limit of 1.7% for Annex IX-B biofuels does not apply to Cyprus.
- **Recycled carbon fuels** are allowed in RES-T.
- **Multiple counting:** x2 for Annex IX-A biofuels.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

Page | 24

Measures to ensure compliance

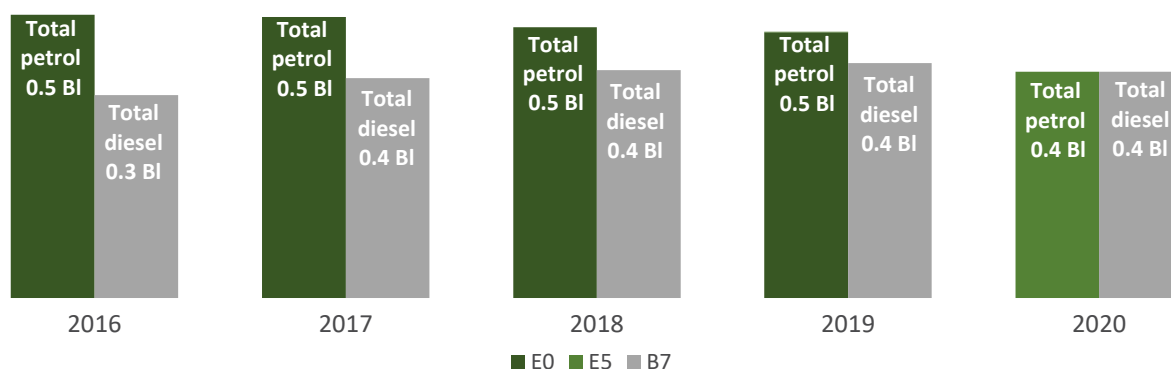
- **Renewable energy share target:** 14% by 2030, in energy.
- **GHG intensity reduction for transport fuels:** 6% target, compared to the fossil reference of 94.1 gCO_{2eq}/MJ.
- **Penalties:** Administrative fines are applied for
 - Failure to meet the RES-T: €60/GJ of renewable energy not made available on the market.
 - Not achieving the GHG intensity reduction target:
 - €100/ tCO_{2eq} for emissions intensity reduction up to 3%; and
 - €50/ tCO_{2eq} for emissions intensity reduction between 3% and less than 6%.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



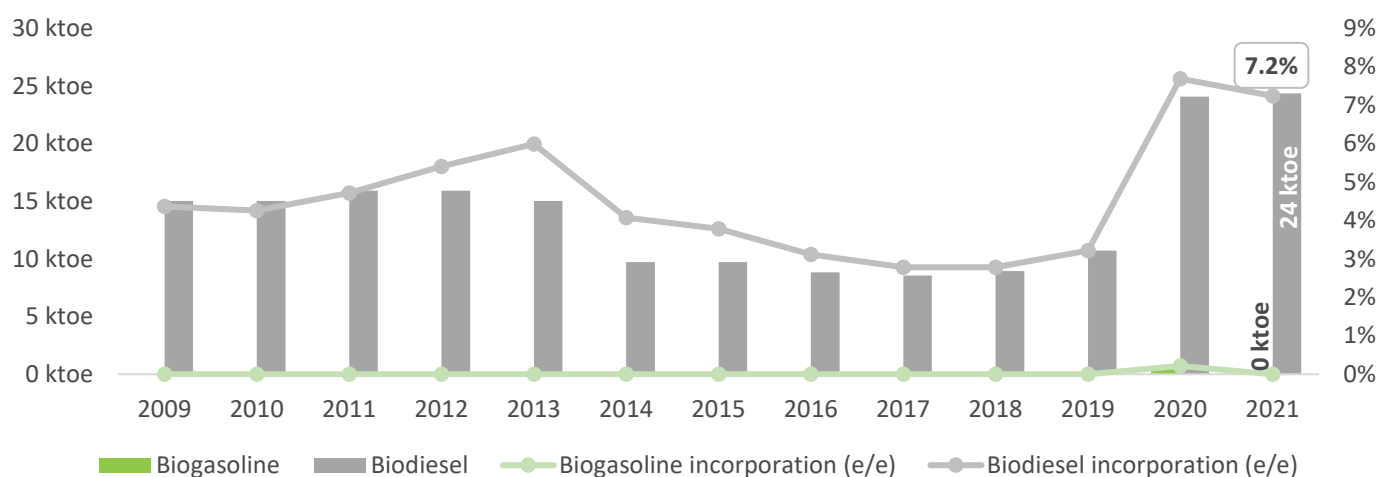
Energy source	Quantity
Fossil	625.8 ktoe – 96%
Renewables	26.2 ktoe – 4%
Crop-based biofuels	0.11 ktoe – 0.01%
Annex IX-A biofuels	2.1 ktoe – 0.3%
Annex IX-B biofuels	20.1 ktoe – 3%
Other compliant biofuels	3.9 ktoe – 0.6%
Ren. electricity - Road	0 ktoe – 0%
Ren. electricity - Rail	0 ktoe – 0%
Ren. electricity - Other	0 ktoe – 0%
Total	652 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

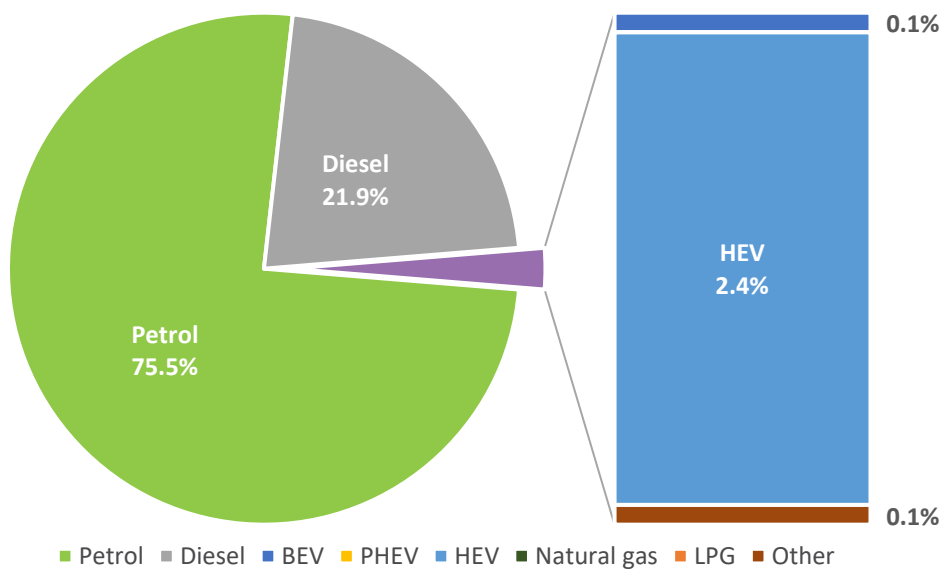


Page | 25

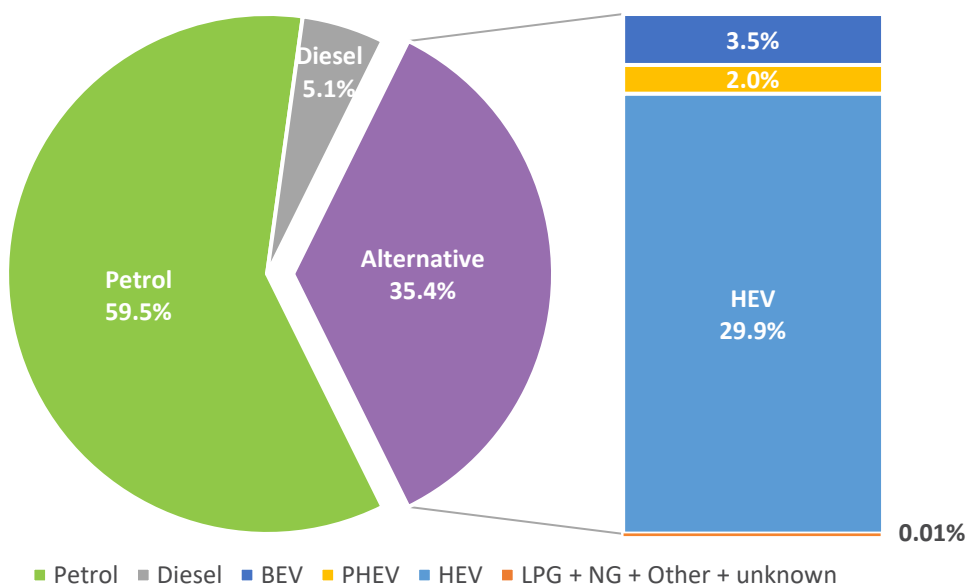
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023



Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023



Member State Overview

The Czech Republic's transposition of RED II is ongoing. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021. The [infringement case](#) is still active. Its RES-T in 2021 was 6.1% without multipliers and 7.5% with multipliers.

Legal basis

- [Government Regulation No. 189/2018](#) – establishing sustainability criteria for biofuels and reduction of greenhouse gas emissions from fuels.
- [Act No. 201/2012](#) (version 2022-2023) – implementing the renewable mandate in transport.

Biofuels policy and decarbonisation targets

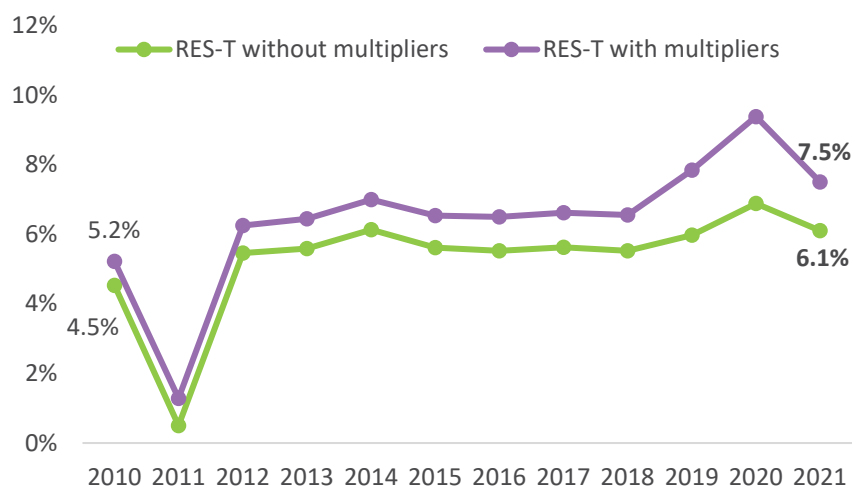
- **Crop-based biofuels:**
 - Crop cap at 2020 consumption levels in road and rail transport, +1% flexibility within a 7% limit, as in RED II Art. 26.
 - High-ILUC-risk biofuels cannot be counted for the fulfilment of the obligations.
- **Annex IX biofuels:**
 - Advanced biofuels targets: 0.22% from 2022 and 1.07% from 2025, in energy.
 - The use of biofuels produced from Annex IX- B feedstock is capped at 1.7%.
- **Recycled carbon fuels** are allowed in RES-T under certain conditions.
- **Multiple counting:** x2 for Annex IX biofuels and biomethane.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

Page | 27

Measures to ensure compliance

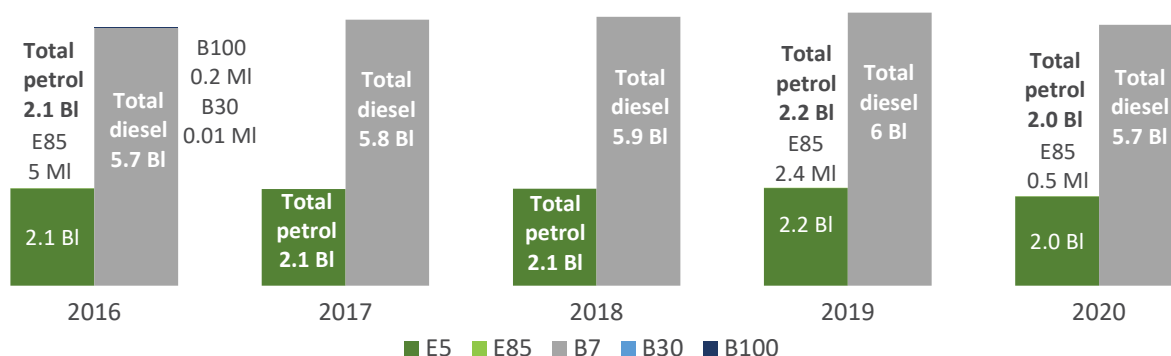
- **Renewable mandate in transport:** 9.5%, in energy, by 2030.
- **GHG intensity reduction for transport fuels:** 6% target, compared to the fossil reference of 94.1 gCO_{2eq}/MJ.
- **Penalties:** A fuels supplier who fails to fulfil the renewable obligation is required to pay a fine of CZK 1/MJ of undelivered renewable energy. A fuels supplier who fails to fulfil the advanced biofuels obligation is required to pay a fine of CZK 2/MJ of undelivered advanced biofuels. A fuels supplier who fails to fulfil the GHG intensity reduction target is required to pay a fine of CZK 10/kgCO_{2eq} of undelivered GHG emissions reduction.
- **Attempts to relax biofuel blending obligations:** The Czech government suspended the biofuels blending obligations (previously 4.1% in petrol and 6% in diesel, in energy) in March 2022 (in force from July 2022) in connection with the surge of fuels prices. However, as the obligation to reduce GHG emissions intensity of fuels is still in place, fuel suppliers continued to use biofuels as an the most affordable options to reach the target.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



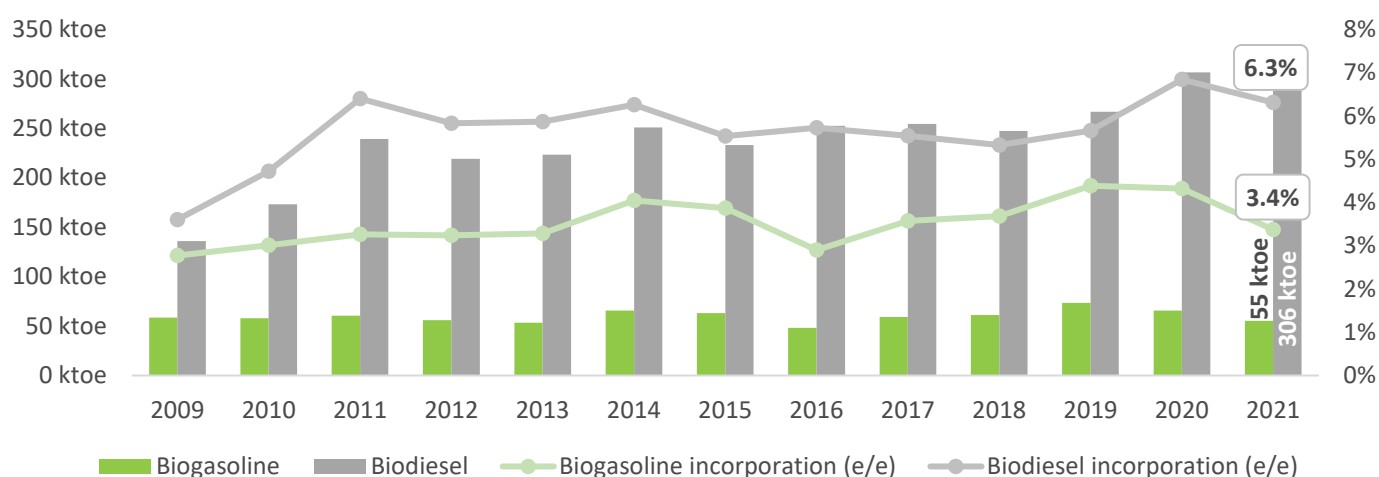
Energy source	Quantity
Fossil	6,178 ktoe – 93.9%
Renewables	401 ktoe – 6.1%
Crop-based biofuels	293 ktoe – 4.4%
Annex IX-A biofuels	19.2 ktoe – 0.3%
Annex IX-B biofuels	67.9 ktoe – 1%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	0.9 ktoe – 0.01%
Ren. electricity - Rail	19 ktoe – 0.3%
Ren. electricity - Other	0.9 ktoe – 0.01%
Total	6,579 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

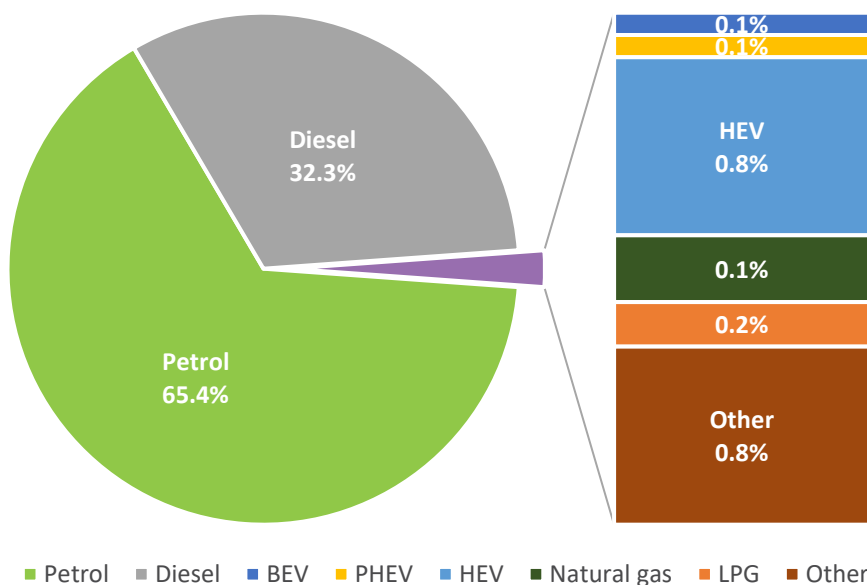


Page | 28

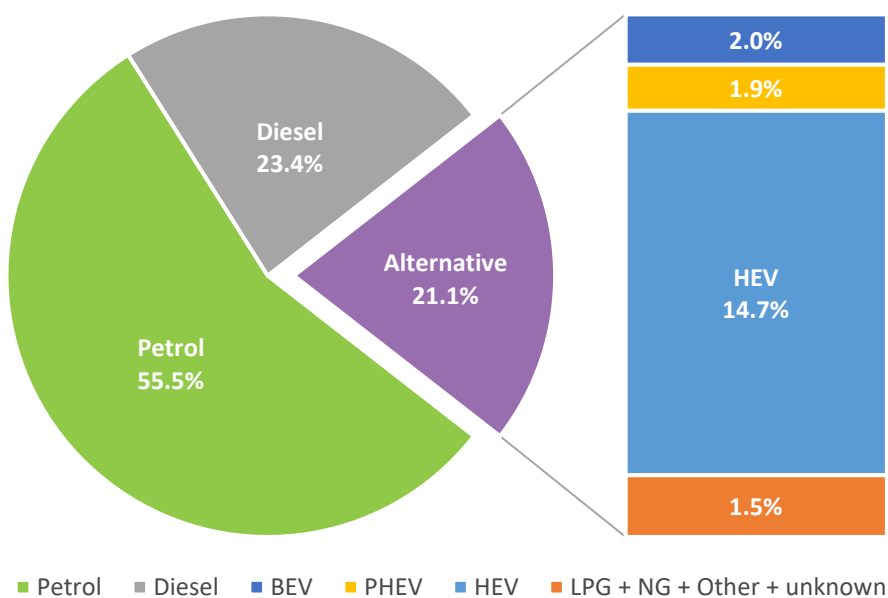
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023



Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023



Member State Overview

Denmark has transposed almost all RED II provisions related to transport. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion for partial transposition in September 2022. The [infringement case](#) is still active.

The country aims to achieve a 55% overall share of renewables in its gross final consumption of energy and 19% RES-T by 2030. In transport, Denmark chose to have a GHG emissions reduction target for fuels instead of blending mandates. Its RES-T in 2021 was 8% without multipliers and 10.5% with multipliers.

Legal basis

- [Danish Energy Agreement 2018](#) – establishing the overall share of renewables in its gross final consumption of energy by 2030.
- [Decree on CO₂ e-displacement requirements and sustainability, etc.](#) (14 December 2021) – setting the GHG emissions reduction target and additional RED II elements.
- [Promulgation of the Act on Sustainable Biofuels and on the Reduction of Greenhouse Gases \(Biofuels Act\)](#) (29 November 2021) – transposing some RED II elements.
- [Law on the implementation of RED II \(L148\)](#) (proposal) – transposing the multipliers in RED II.

Biofuels policy and decarbonisation targets

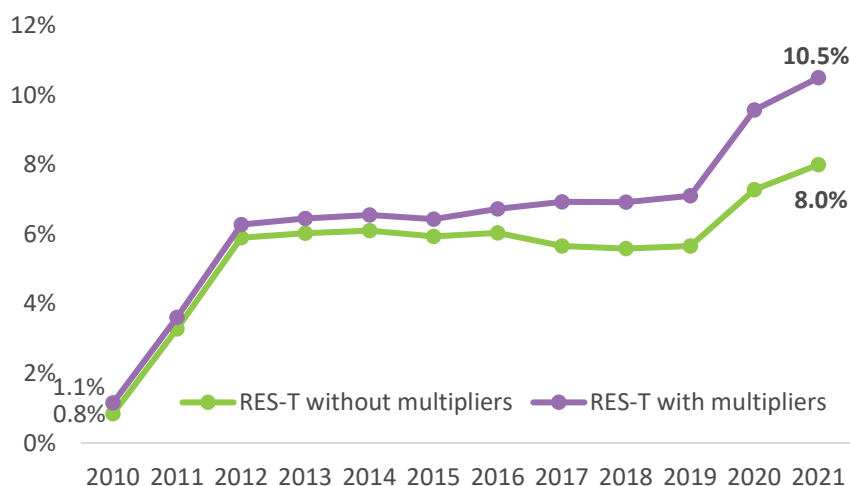
- **Crop-based biofuels:** All high-ILUC-risk biofuels should be phased out no later than 2025. Biofuels based on palm oil (and its by-products, incl. PFAD) and soy are excluded from 2022, unless certified low-ILUC-risk.
- **Annex IX biofuels:**
 - With the introduction of the CO₂ reduction requirement 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.
 - The use of biofuels produced from Annex IX-B feedstock is capped at 1.7%.
- **Multiple counting:** x2 for advanced biofuels; x4 for renewable electricity in road, x1.5 in train; x 1.2 for aviation and maritime fuels; for reporting purposes only.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

Page | 30

Measures to ensure compliance

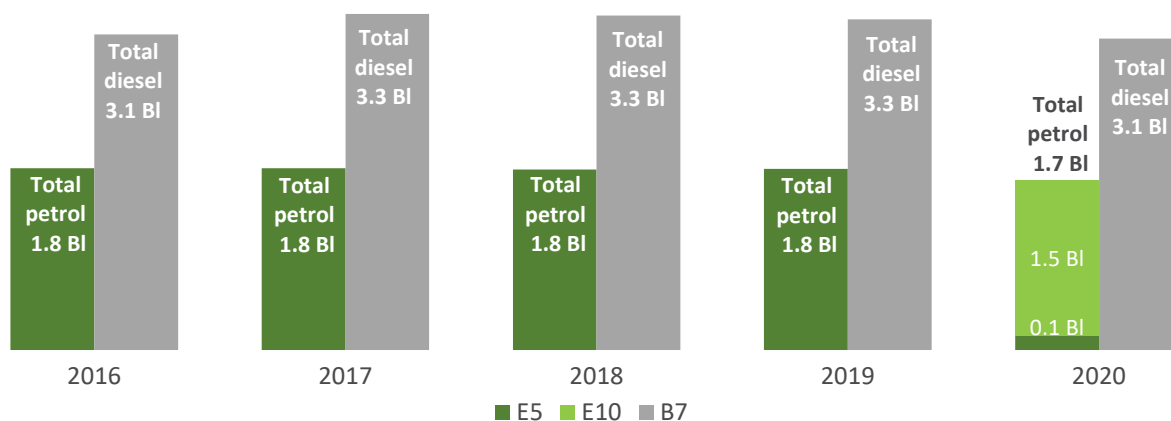
- **GHG intensity reduction target for fuels:** 3.4% in 2022-2024; 5.2% in 2025-2027; 6% in 2028-2029; 7% in 2030.
- **Penalties:** Fuel suppliers failing to fulfil the GHG reduction quotas may be fined and imposed criminal liability.
- **Tax incentives:** The CO₂ tax is lower for fuels containing biofuels:
 - For petrol with a biofuel content above 4.8%: 41.5 øre/l (€cts 3.6/l)
 - For petrol with a biofuel content above 9.8%: 39.3 øre/l (€cts 3.5/l)
 - For diesel with a biofuel content above 6.8%: 44.9 øre/l (€cts 3.9/l)

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



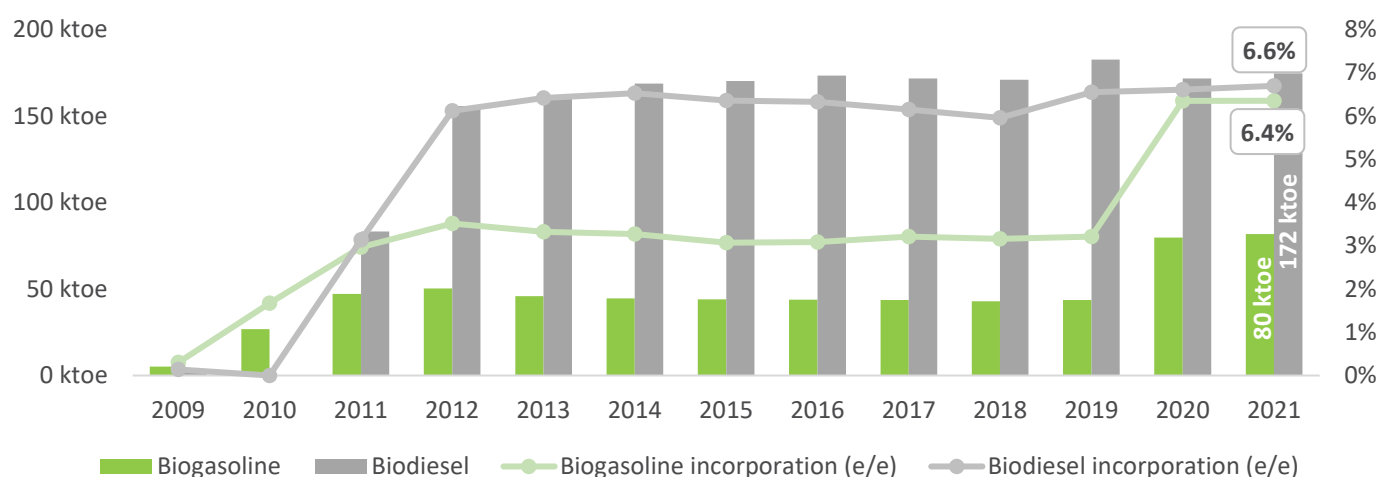
Energy source	Quantity
Fossil	3,537 ktoe – 92%
Renewables	309 ktoe – 8%
Crop-based biofuels	214.2 ktoe – 5.6%
Annex IX-A biofuels	17.5 ktoe – 0.5%
Annex IX-B biofuels	16.3 ktoe – 0.4%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	13.3 ktoe – 0.3%
Ren. electricity - Rail	25.7 ktoe – 0.7%
Ren. electricity - Other	0 ktoe – 0%
Total	3,845 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

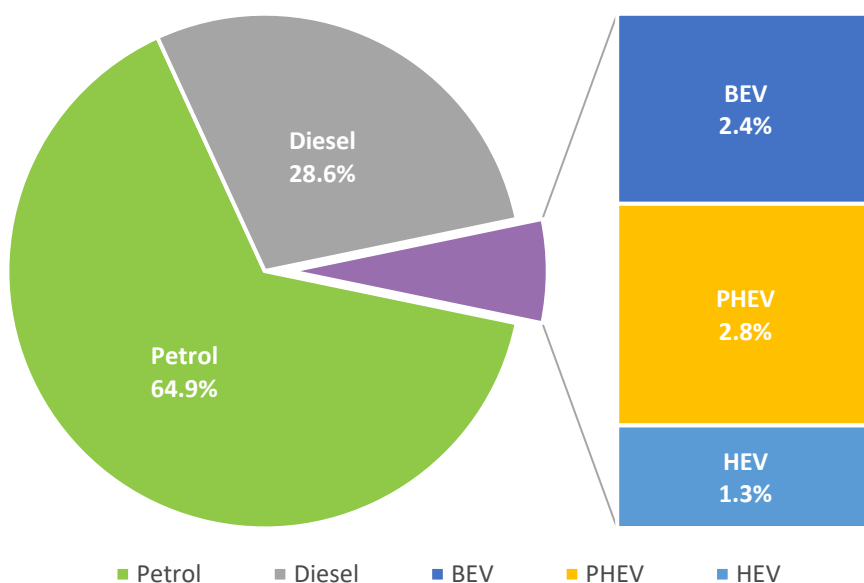


Page | 31

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

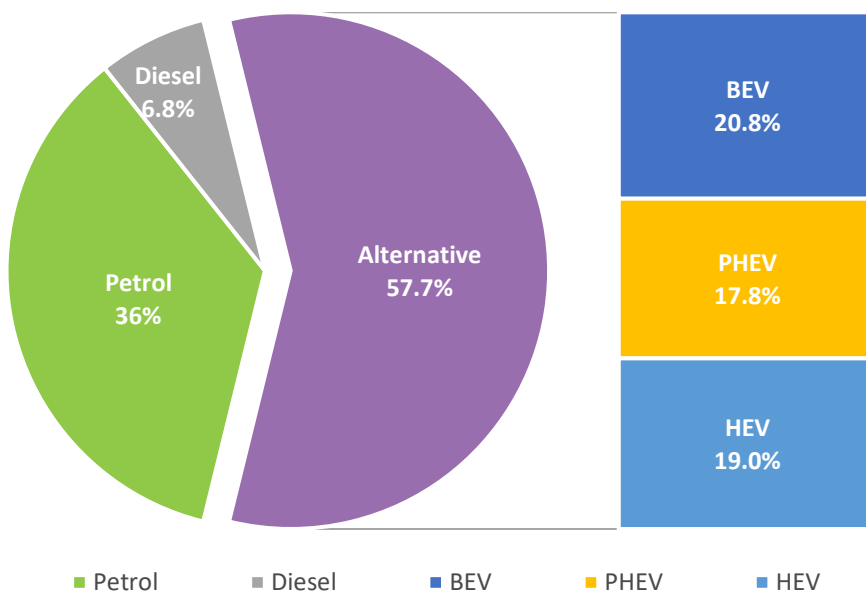


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 32



Member State Overview

Estonia started the process of transposing RED II into national law. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion in April 2022. The [infringement case](#) is still active. The country aims to achieve a 65% overall share of renewables in its gross final consumption of energy and 14% RES-T by 2030. Estonia's RES-T in 2021 was 5.6% without multipliers and 8.6% with multipliers.

Legal basis

- [The Act on Amendments to the Law on the Organization of Energy Management and Amendments to Related Laws \(Adopted on 4 May 2022\)](#) – transposing various RED II transport provisions.
- [Liquid Fuel Law](#) (revision entered into force on 28 May 2022) – transposing the RED II crop cap and biofuel blending obligation.
- [Regulation for Environmental requirements for liquid fuels, sustainability criteria for biofuels, liquid biofuels and biomass fuels](#) (revision entered into force on 25 June 2022) – transposing the RED II's Art. 29 GHG reduction targets.
- [Atmospheric Air Protection Act](#) (in force from 6 June 2022).

Biofuels policy and decarbonisation targets

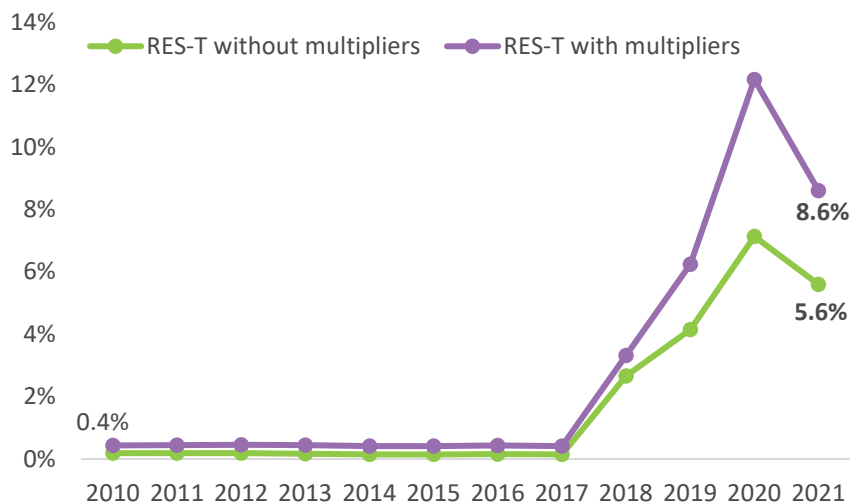
- **Crop-based biofuels:** The crop cap is set at 4.5%.
- **Annex IX biofuels:**
 - The target for **Annex IX-A** biofuels is at least 0.5% from 2022.
 - The use of biofuels produced from **Annex IX- B** feedstock is capped at 1.7%.
- **Multiple counting:** x2 for Annex IX A biofuels; x4 for renewable electricity in road, x1.5 in train; x1.2 in aviation and maritime.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

Page | 33

Measures to ensure compliance

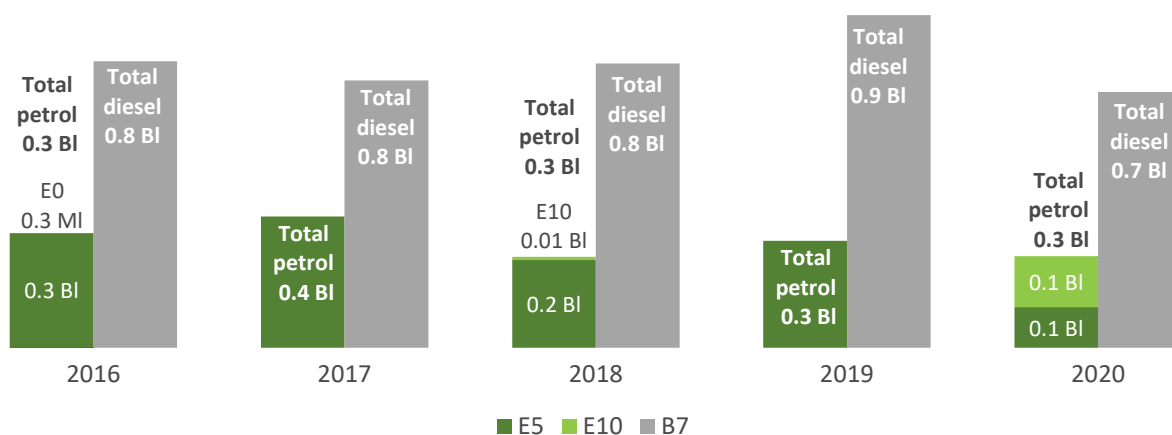
- **Minimum overall biofuel target:** 7.5% until 2028, then 8.5%.
- **Penalties:** Fuel suppliers failing to meet their blending obligations should pay up to 300 so-called fine units (€1,200) or in the case of a legal person, a fine up to €10,000,000.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



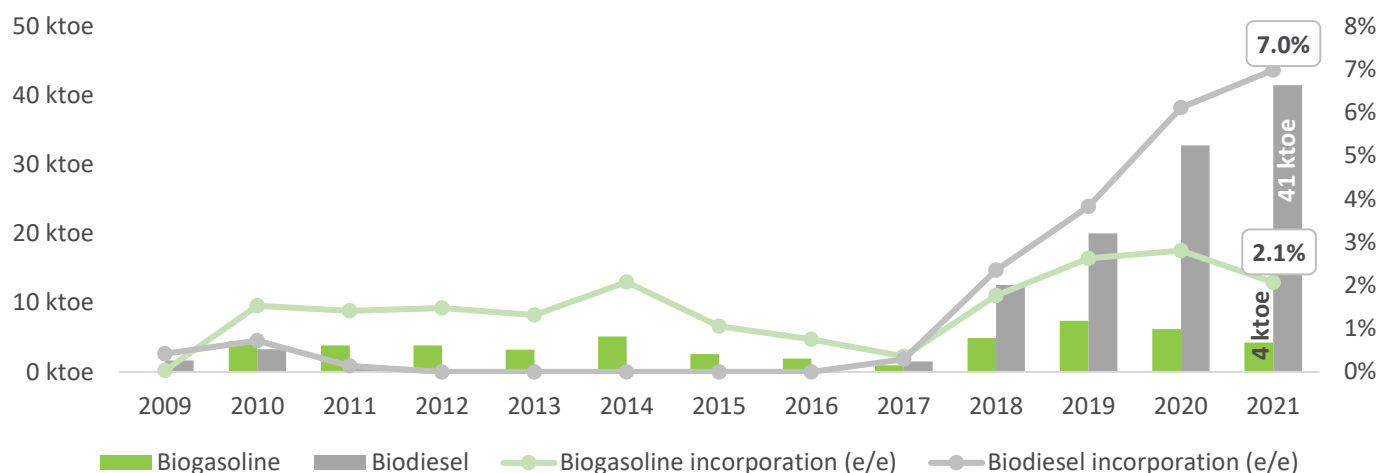
Energy source	Quantity
Fossil	781 ktoe – 94.4%
Renewables	46 ktoe – 5.6%
Crop-based biofuels	19.2 ktoe – 2.3%
Annex IX-A biofuels	22.3 ktoe – 2.7%
Annex IX-B biofuels	4.2 ktoe – 0.5%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	0.3 ktoe – 0.03%
Ren. electricity - Rail	0.9 ktoe – 0.1%
Ren. electricity - Other	0 ktoe – 0%
Total	828 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

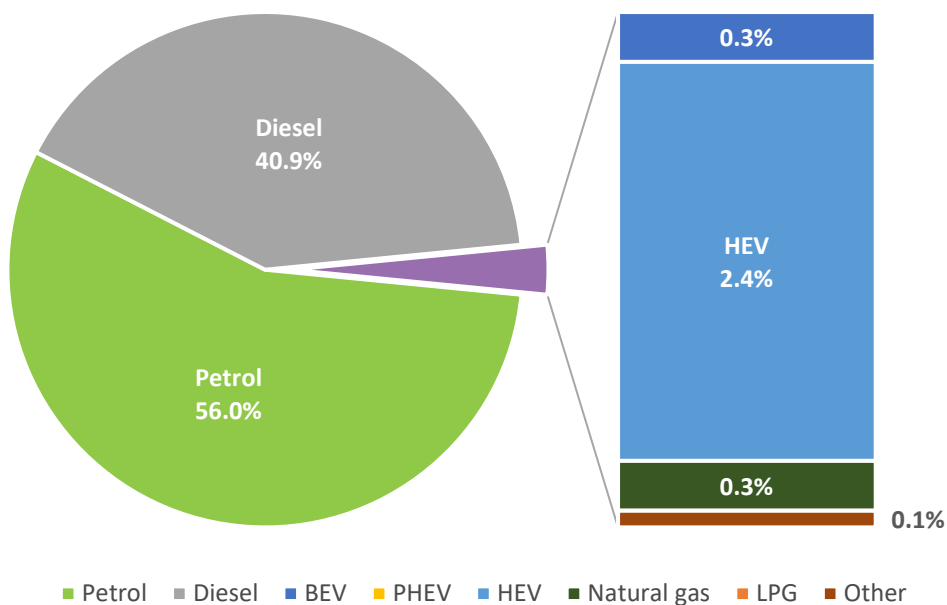


Page | 34

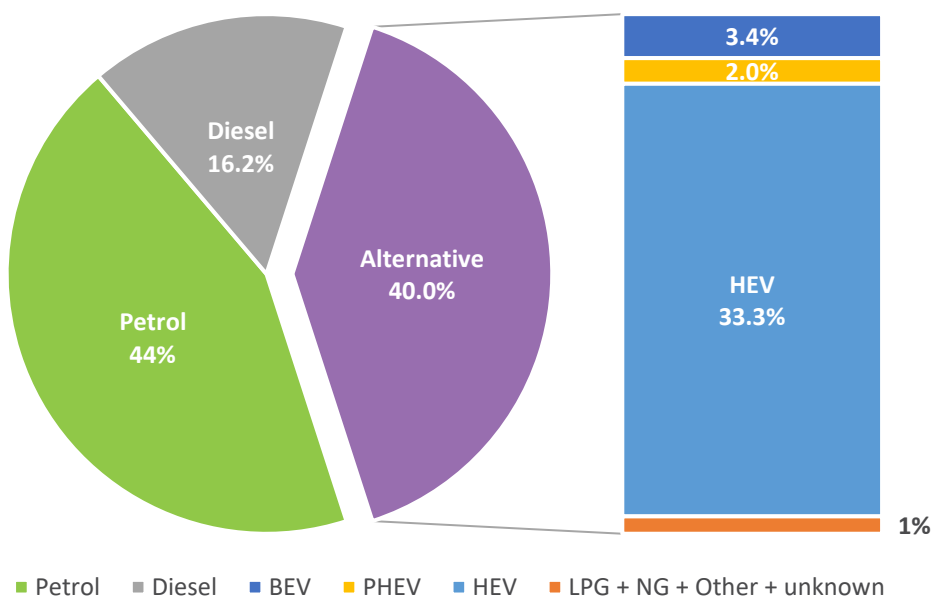
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023



Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023



Member State Overview

Finland transposed all transport related provisions of RED II. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive in July 2021. The [infringement case](#) is still active. The country aims to achieve a 51% overall share of renewables in its gross final consumption of energy by 2030 and a 30% RES-T by 2029. In April 2022, the overall blending obligation was temporarily reduced to cope with the surge of fuel prices. Finland's RES-T in 2021 was 18% without multipliers and 20.5% with multipliers.

Legal basis

- [Law 603/2021 amending the law on promoting the use of biofuels in traffic](#) of 30 June 2021 – transposing RED II.
- [7.6.2013/393 Act on biofuels, bioliquids and biomass fuels](#) as amended in November 2020 – transposing RED II Art. 29 GHG reduction targets.

Biofuels policy and decarbonisation targets

- **Crop-based biofuels:**
 - Crop cap set at 2.6% from the second half of 2021.
 - High-ILUC-risk biofuels are capped at 0% from the second half of 2021.
- **Annex IX biofuels, biogas, and RFNBOs:**
 - Targets for Annex IX-A biofuels and biogas, and RFNBOs (starting 2023):

▪ 2% in 2021-2023;	▪ 8% in 2028;
▪ 4% in 2024-2025;	▪ 9% in 2029;
▪ 6% in 2026-2027;	▪ 10% in 2030 and beyond
 - Suppliers must ensure that at least a minimum amount of Annex IX-A biofuels and biogas is supplied to the market: 0.2% in 2022–2024, 1% in 2025–2029, and 3.5% from 2030, as in RED II Art. 25.
 - Biofuels produced from Annex IX- B feedstock are not capped.
- **Multiple counting:** no multipliers.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

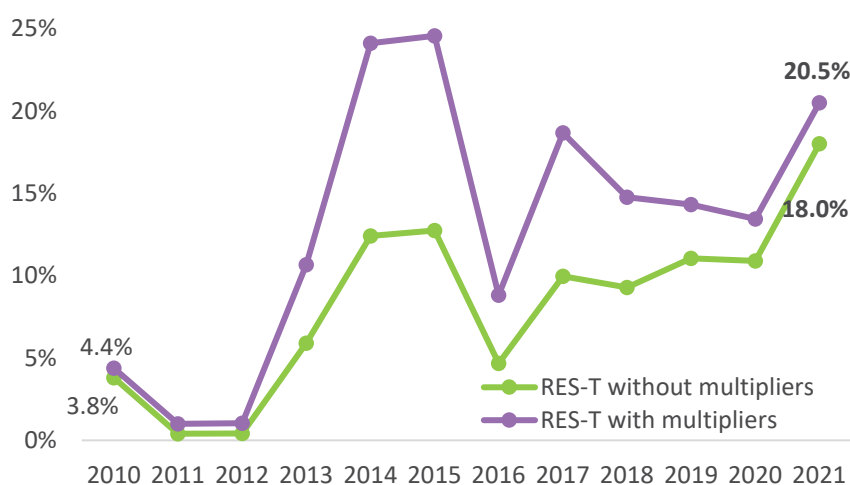
Page | 36

Measures to ensure compliance

- **Blending obligations:** Overall obligation for fuel suppliers for the share of the energy content of renewable fuels in the total energy content of motor gasoline, diesel oil, natural gas, biofuels, biogas and RFNBOs:

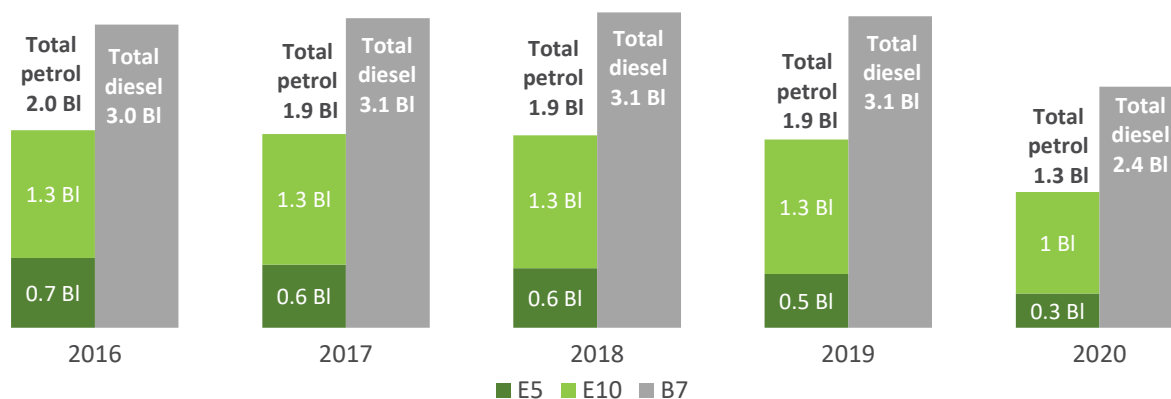
○ 13.5% in 2022-2023	○ 30% in 2027	○ 34% from 2030
○ 28% in 2024	○ 31% in 2028	
○ 29% in 2025-2026	○ 32% in 2029	
- **Penalties:** The Finnish Energy Agency imposes a penalty fee of €0.04/MJ for non-compliance with the distribution obligation for renewable fuels. For biofuels, biogas and RFNBOs for consumption, the Energy Agency imposes a penalty fee of €0.03/MJ for non-compliance.
- **Flexibility for fuel suppliers:** If a fuel supplier exceeds their overall blending obligation on a given year, they may be entitled to carry over the excess amount up to 30% of said obligation to comply with the obligation for the following year. The same mechanism also applies separately to the Annex IX-A/RFNBO obligation.
- **Attempts to relax biofuels blending obligations:** In April 2022, the Finnish government decided to temporarily reduce its 2022 overall obligations from 19.5% to 12%. A proposal for the same reduction for 2023 is still to be adopted at the time of writing, alongside proposals to increase the general biofuel blending levels again starting from 2024. To the authors' best knowledge, these proposals were set to be sent to the Finnish Parliament by the end of September 2022. The sub-targets would remain unchanged.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



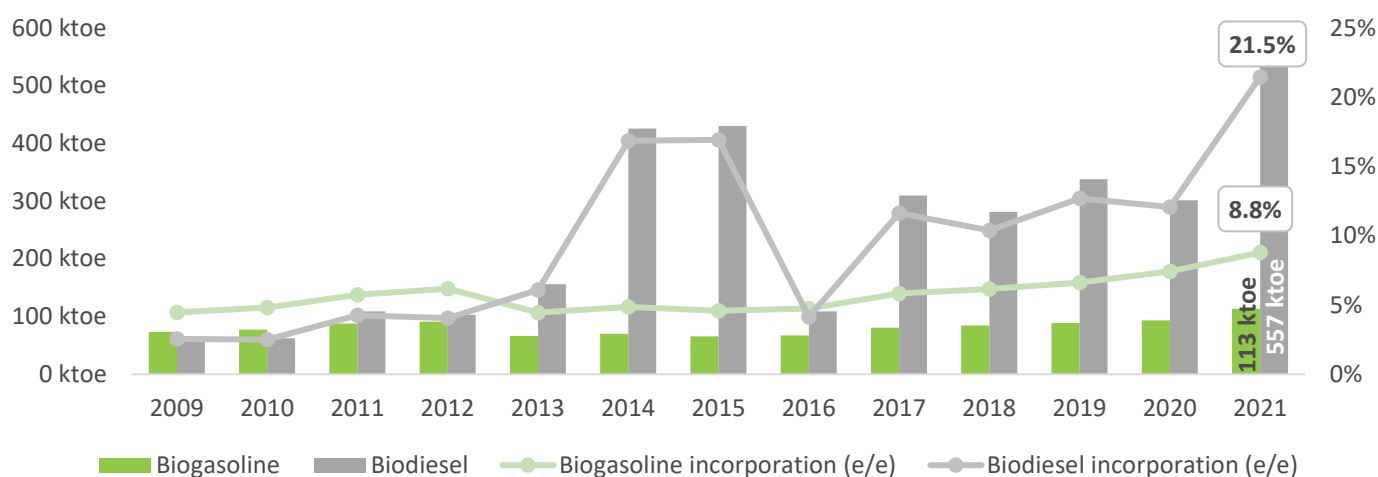
Energy source	Quantity
Fossil	3,170 ktoe – 82%
Renewables	694 ktoe – 18%
Crop-based biofuels	64.7 ktoe – 1.7%
Annex IX-A biofuels	83.2 ktoe – 2.2%
Annex IX-B biofuels	6.1 ktoe – 0.02%
Other compliant biofuels	510 ktoe – 13.2%
Ren. electricity - Road	7.7 ktoe – 0.2%
Ren. electricity - Rail	22.6 ktoe – 0.5%
Ren. electricity - Other	0 ktoe – 0%
Total	3,864 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

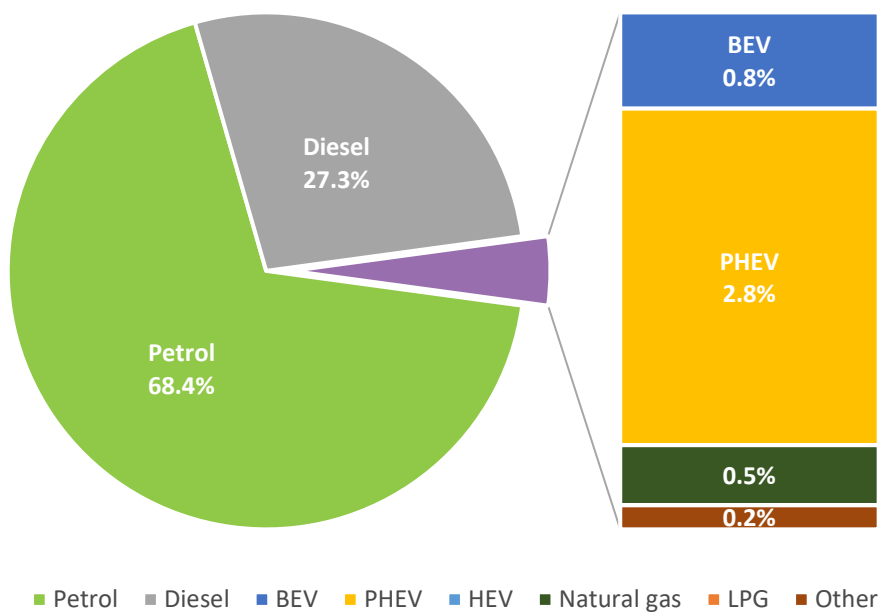


Page | 37

Biofuels consumption and incorporation in energy – Source: Eurostat, 2023

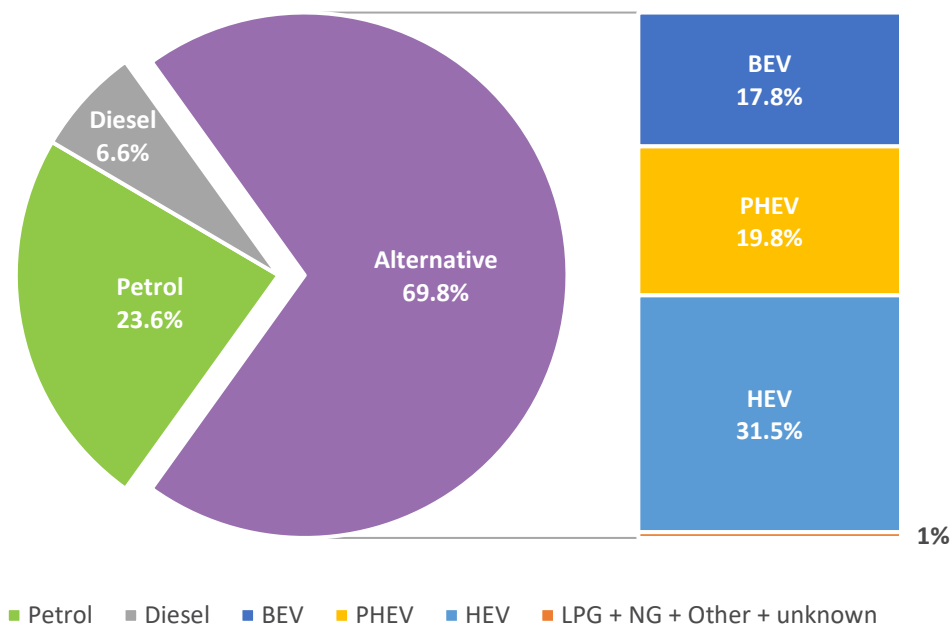


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 38



Member State Overview

France transposed almost all transport related provisions of RED II. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion for partial transposition in September 2022. The [infringement case](#) is still active.

The country aims to achieve a 15% share of RES-T by 2030. It has set individual biofuels blending obligations for petrol and diesel. France's RES-T in 2021 was 7.5% without multipliers and 8.2% with multipliers.

Legal basis

- [Energy Code – Art. L281-1 to L281-5 & Art. L641-6](#) – transposing RED II blending targets and sustainability targets.
- [Codes des douanes Art. 266](#) – implementing the biofuels blending obligations and specific caps.
- [Decree No. 2019-570 of June 2019](#) – implementing the tax incentives for the incorporation of biofuels.
- [Codes des impositions sur les biens et services: Art. L312-79](#) – implementing some of the tax rates for biofuels.

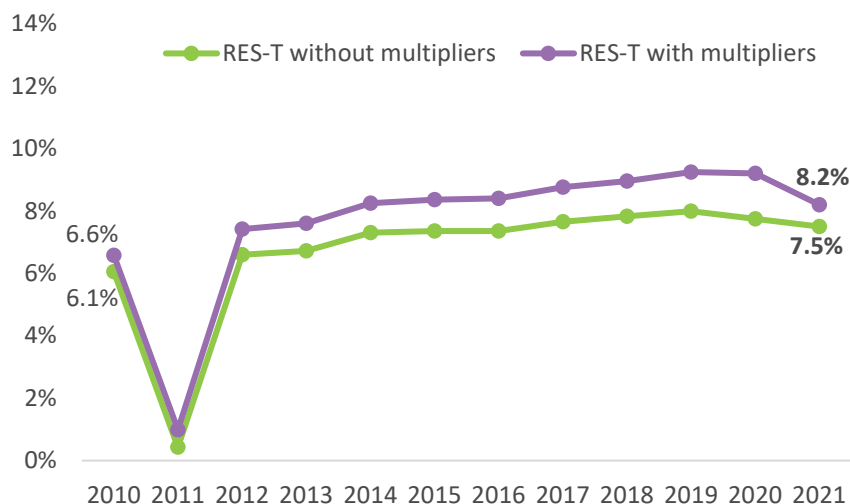
Biofuels policy and decarbonisation targets

- **Crop-based biofuels:**
 - Crop cap at 2020 consumption levels in road and rail transport, +1% flexibility within a 7% limit, as in RED II Art. 26. A separate cap is fixed for the use of residues of sugar extraction and starch transformation (1.0%). Biofuels made from residues of sugar extraction however must count 50% of their energy content towards the crop cap, and 50% towards the separate cap of 1%. A cap is fixed for the use of tall oil (0.1%).
 - High-ILUC-risk: capped at 2019 levels (except if certified low-ILUC-risk) and gradually phased out from 2023, as in RED II Art.26. In addition, biofuels from soy and palm, incl. PFAD, are excluded from the blending target.
- **Annex IX biofuels:**
 - **Annex IX-A targets:** in petrol: 1.2% in 2023, 1.3% in 2024 and 3.5% by 2030, as in RED II Art. 25. In diesel: 0.4% in 2023, 0.5% in 2024.
 - **Annex IX-B biofuels:** their use is capped at 0.9%.
- **Multiple counting:** x2 for Annex IX-A biofuels other than tall oil, up to the difference between the 7% crop cap and the biofuels blending obligations in petrol and diesel; x2 for Annex IX-B biofuels up to 0.2%, in energy; x4 for renewable electricity in road.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

Measures to ensure compliance

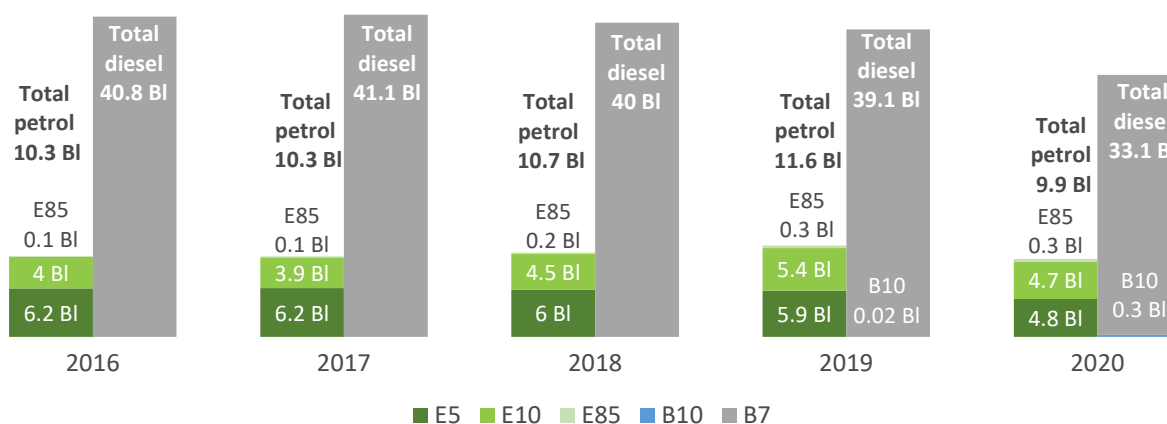
- **Blending obligations (in energy):** 2023: 9.5% in petrol (of which 1,2% advanced biofuels), 8.6% in diesel (of which 0.4% advanced), and 1% for aviation fuel | 2024: 9.9% in petrol.
- **Penalties:** The tax incentive mechanism TIRUERT penalizes operators who do not respect blending obligations. The tax rates of 140€/hl for petrol and diesel, and 168€/hl for aviation fuel, apply if the operators fail to meet its blending obligations. Otherwise, the tax is zero.
- **Tax incentive:** A special energy tax rate is applicable to higher biofuel blends: Ethanol-Diesel ED95 (12.11€/MWh), Diesel B100 (12.9€/MWh), Superethanol E85 (17.89€/MWh).

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



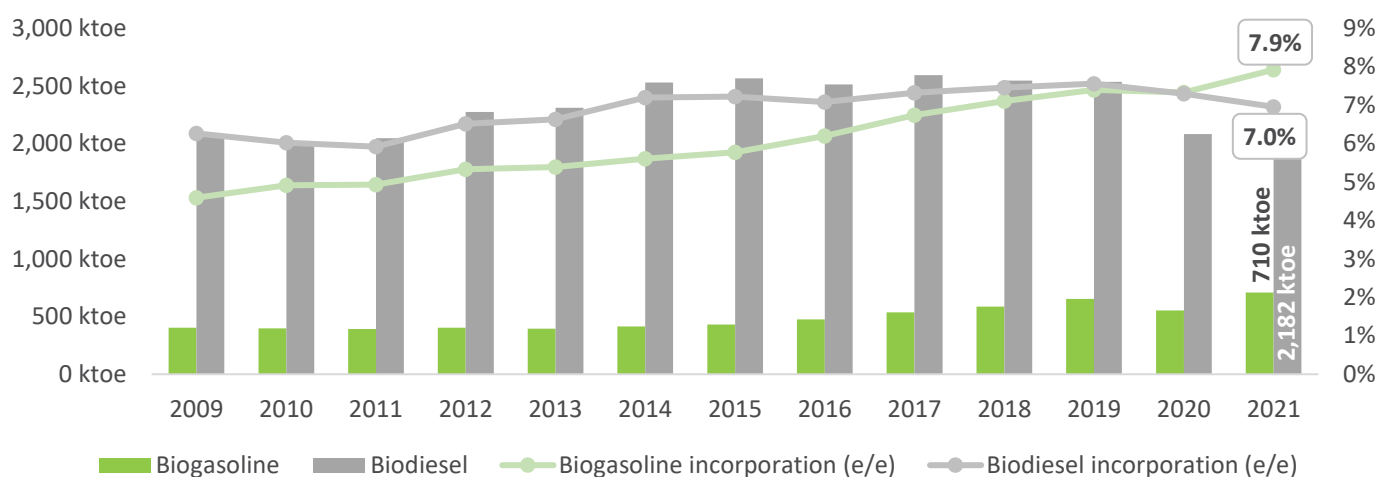
Energy source	Quantity
Fossil	37,853 ktoe – 92.5%
Renewables	3,081 ktoe – 7.5%
Crop-based biofuels	2,562 ktoe – 6.3%
Annex IX-A biofuels	71.2 ktoe – 0.2%
Annex IX-B biofuels	111.8 ktoe – 0.3%
Other compliant biofuels	152.3 ktoe – 0.4%
Ren. electricity - Road	15.3 ktoe – 0.04%
Ren. electricity - Rail	150.8 ktoe – 0.4%
Ren. electricity - Other	17.1 ktoe – 0.04%
Total	40,934 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

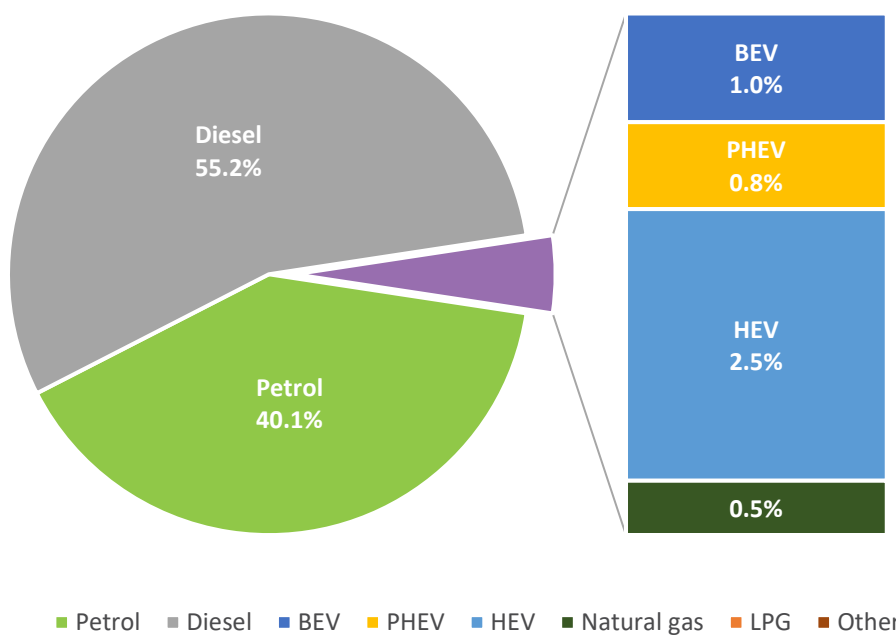


Page | 40

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

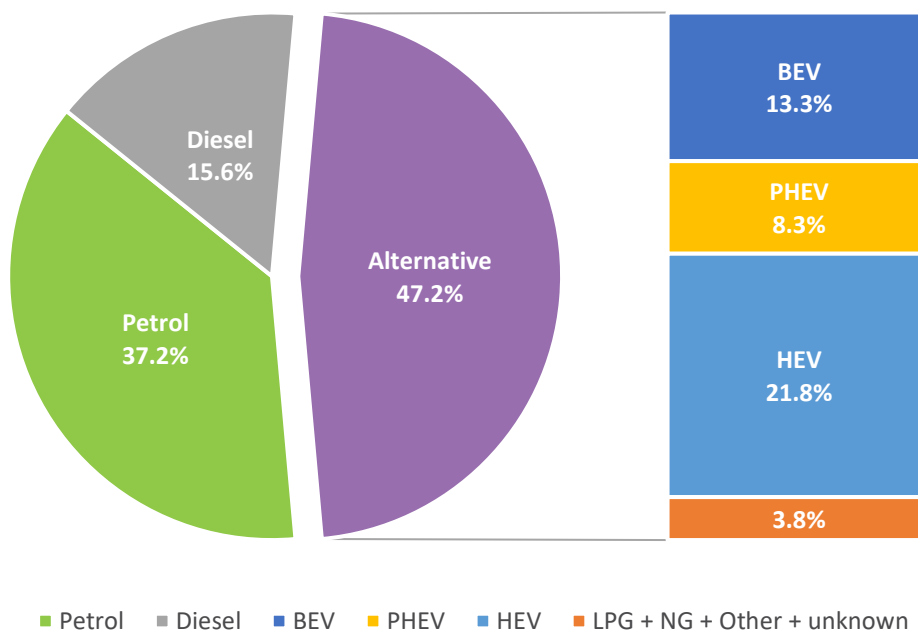


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 41



Member State Overview

Germany completed the transposition of all transport related provisions of RED II into national law. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion in May 2022. The [infringement case](#) is still active (INFR(2021)0192). Germany aims to achieve a 25% GHG reduction for fuels in 2030 and has set ambitious binding sub-targets for advanced biofuels and RFNBOs. Germany's RES-T in 2021 was 6.1% without multipliers and 8% with multipliers.

Legal basis

- [Thirty-eighth ordinance for the implementation of the Federal Emission Control Act](#) – transposing Directive 2015/652.
- [Regulation](#) to determine further provisions for the further development of the greenhouse gas reduction quota (November 2021).
- [Biofuel Sustainability Ordinance - Biokraft-NachV of 2021](#) – transposing the RED II art. 29 GHG reduction targets.
- [Law to protect against harmful environmental effects caused by air pollution, noise, vibrations and similar processes](#) as amended in 2021 (Federal Emission Control Act – BImSchG).

Biofuels policy and decarbonisation targets

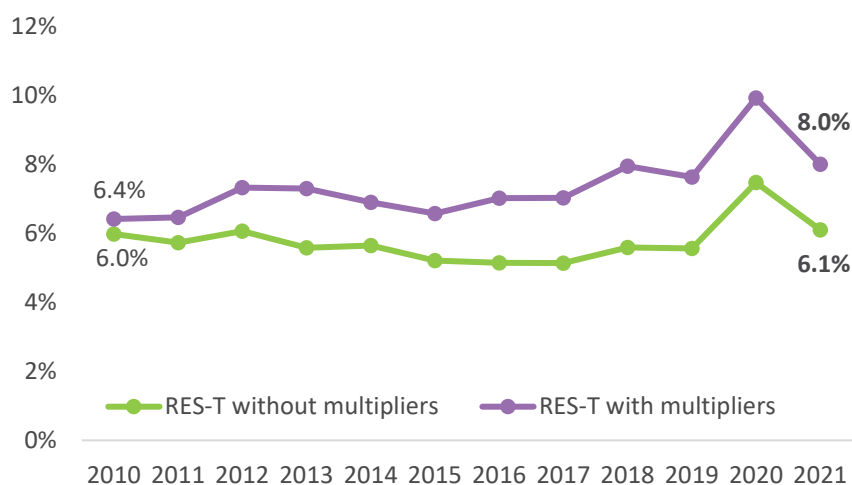
- **Crop-based biofuels:**
 - **Crop cap** set at 4.4% of estimated 2020 consumption levels from the calendar year 2022; the base value shall be taken as a basis for the GHG emissions of the biofuels from food and feed crops exceeding this proportion.
 - **High-ILUC-risk biofuels** to be phased out from 0.9% in 2022 to 0% in 2023.
- **Annex IX biofuels:**
 - **Targets for Annex IX-A biofuels:** are set at 0.4% in 2024 and at least 2.6% in 2030 (without double counting).
 - **The use of Annex IX-B biofuels and biogas** is capped at 1.9%.
- **E-fuels for aviation:** E-kerosene mandate in aviation of 0.5% in 2026, 1% in 2028, and 2% in 2030.
- **Multiple counting:** x2 for Annex IX-A biofuels (excl. POME) quantities exceeding the sub-target; x3 for renewable electricity in road; x2 for RFNBOs.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

Page | 42

Measures to ensure compliance

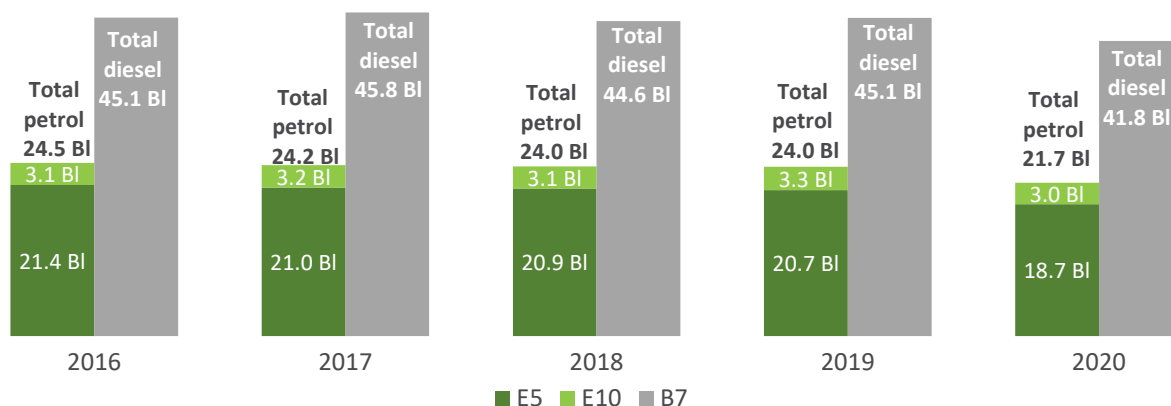
- **GHG reduction obligation:** GHG emissions of fossil petrol and diesel fuels placed on the market should be reduced by 8% in 2023, 9.25% in 2024 and 25% in 2030.
- **Penalties:** Penalties for fuel suppliers failing to fulfil the GHG reduction quota obligation:
 - **For biofuels:** 600 €/tCO₂eq reduction missing.
 - **For Annex IX:** 45 €/GJ
 - **For aviation:** 70 €/GJ

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



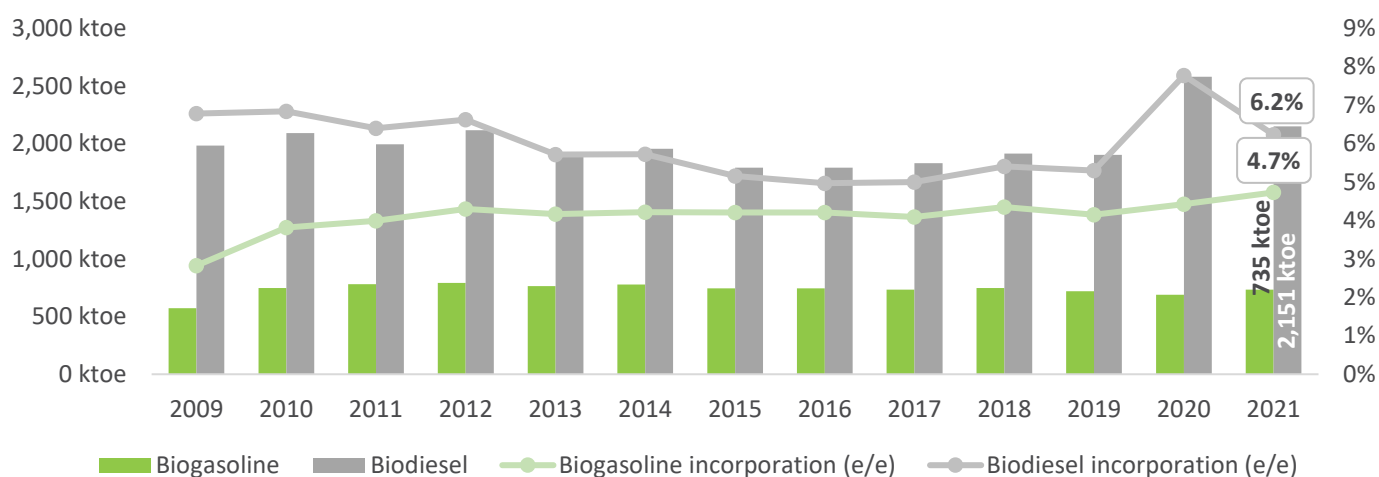
Energy source	Quantity
Fossil	45,405 ktoe – 93%
Renewables	3,416 ktoe – 7%
Crop-based biofuels	2,122 ktoe – 4.3%
Annex IX-A biofuels	183.7 ktoe – 0.4%
Annex IX-B biofuels	442.4 ktoe – 0.9%
Other compliant biofuels	212.8 ktoe – 0.4%
Ren. electricity - Road	48.9 ktoe – 0.1%
Ren. electricity - Rail	405.4 ktoe – 0.8%
Ren. electricity - Other	0 ktoe – 0%
Total	48,821 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

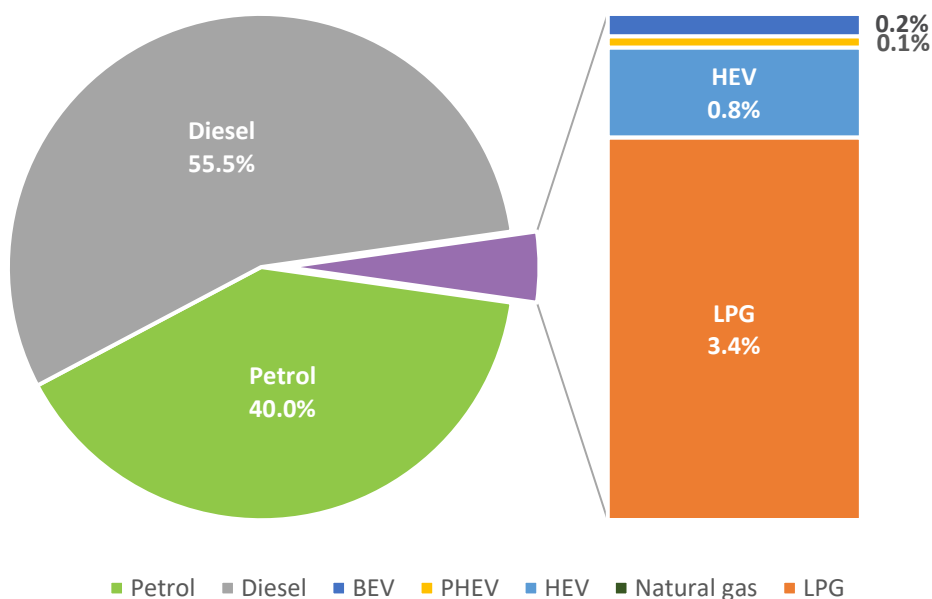


Page | 43

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

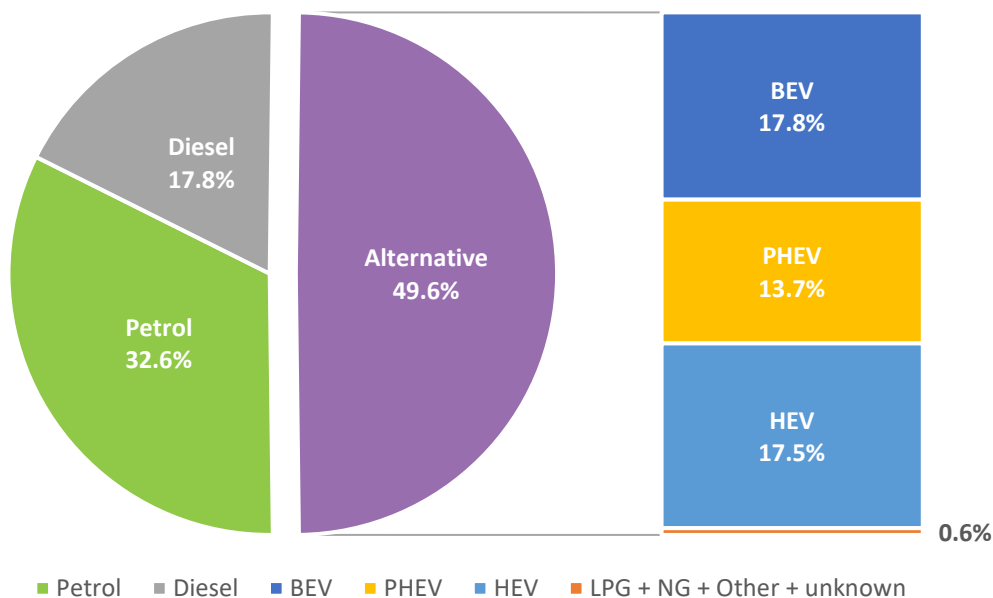


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 44



Member State Overview

Greece is lagging behind with the transposition of RED II into national law. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion for partial transposition in May 2022. The [infringement case](#) is still active.

Greece's RES-T in 2021 was 3.5% without multipliers and 4.3% with multipliers.

Legal basis

[Law 4062/2012 - Official Gazette 70/A/22-3-2012](#) – transposing RED I.

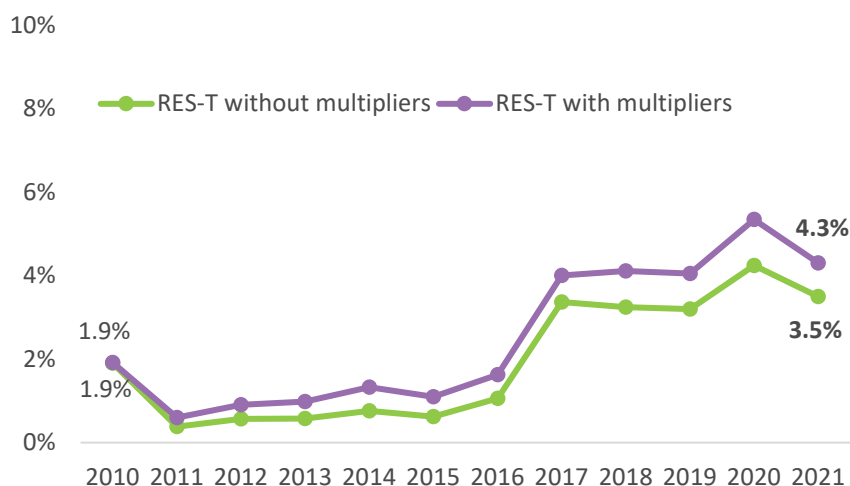
Biofuels policy and decarbonisation targets

Sustainability criteria: as in RED I Art. 29 re. no-go areas for agricultural biomass and GHG savings for biofuels.

Measures to ensure compliance

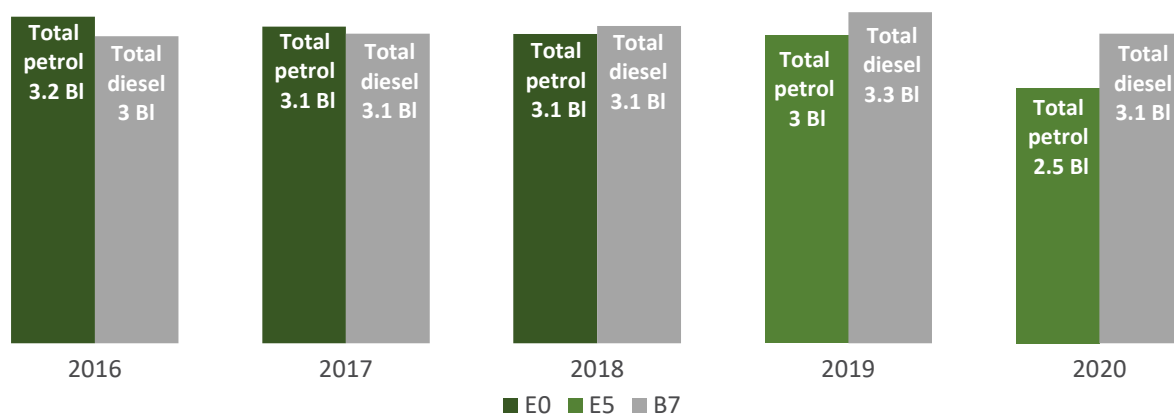
- **Blending obligations from 2020:**
 - Advanced biofuel target: 0.2% in volume.
 - Biofuel in petrol: 3.3% in energy.
 - Biofuel in diesel: 7% in volume.
- **Penalties:** Penalties for fuel suppliers failing to fulfil their quota: from €5,000 to €1,500,000.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



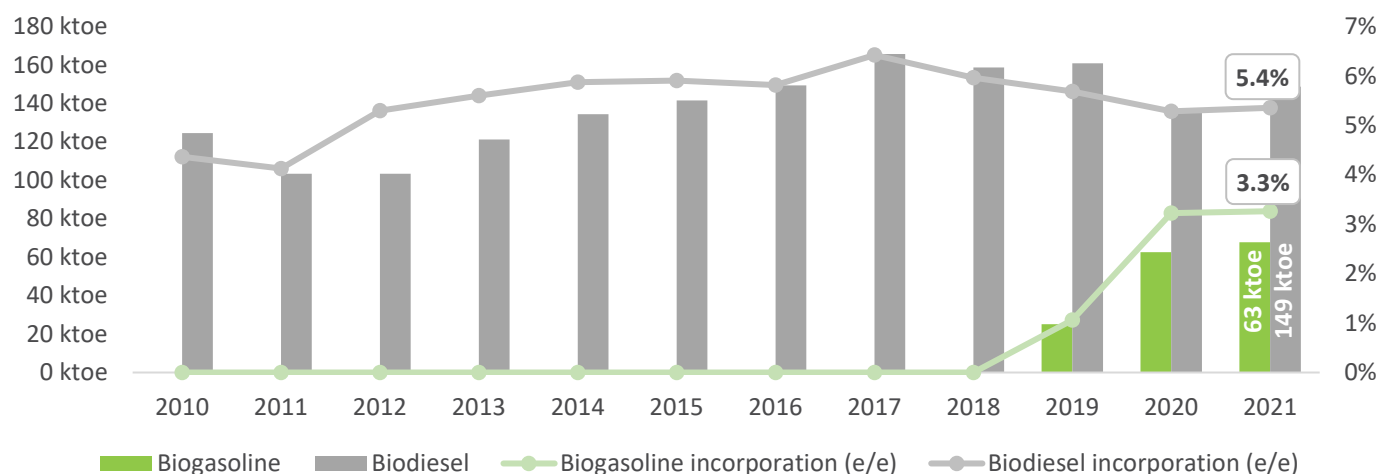
Energy source	Quantity
Fossil	4,516 ktoe – 96.5%
Renewables	165.5 ktoe – 3.5%
Crop-based biofuels	116.7 ktoe – 2.5%
Annex IX-A biofuels	0 ktoe – 0%
Annex IX-B biofuels	22.8 ktoe – 0.5%
Other compliant biofuels	9.2 ktoe – 0.2%
Ren. electricity - Road	0.3 ktoe – 0.006%
Ren. electricity - Rail	4.5 ktoe – 0.1%
Ren. electricity - Other	0 ktoe – 0%
Total	4,681 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

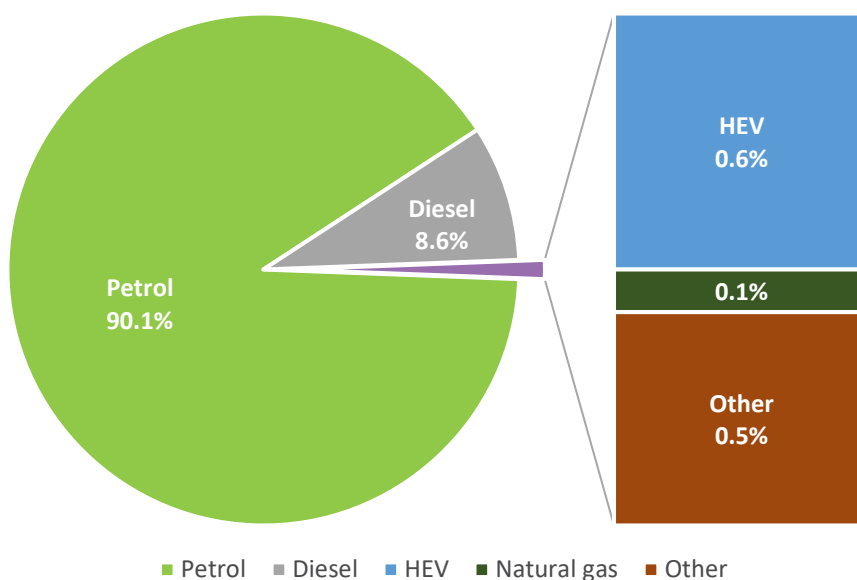


Page | 46

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

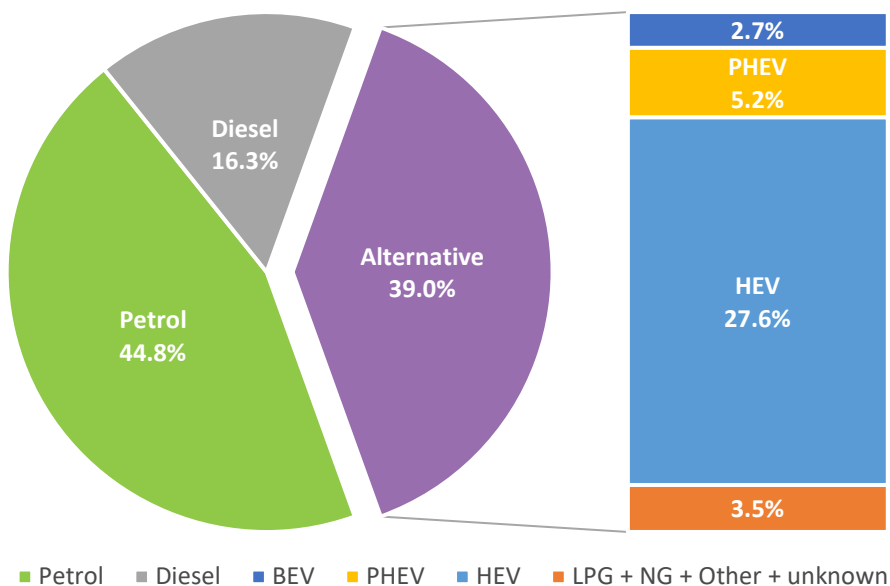


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 47



Member State Overview

Hungary has transposed almost all transport related provisions of RED II. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion in May 2022. It was referred to the Court of Justice on 15 February 2023. The [infringement case](#) is still active. Hungary aims to achieve 21% overall share of renewables in its gross final consumption of energy and 14% RES-T by 2030. Hungary's RES-T in 2021 was 4.5% without multipliers and 6.2% with multipliers. After discussions within the government to temporarily relax biofuels blending mandates to cope with the fuel prices, the possibility did not materialise.

Legal basis

- [Law XLIV of 2020](#) – on climate protection.
- [Law CXVII of 2010](#) – implementing provisions for the use of renewable energy for transport purposes and the reduction of greenhouse gas emissions from energy used in transport.
- Government [Decree 821/2021 \(XII 28\)](#) – implementing the sustainability requirements and verification of biofuels, liquid bio-energy carriers and fuels produced from biomass.

Biofuels policy and decarbonisation targets

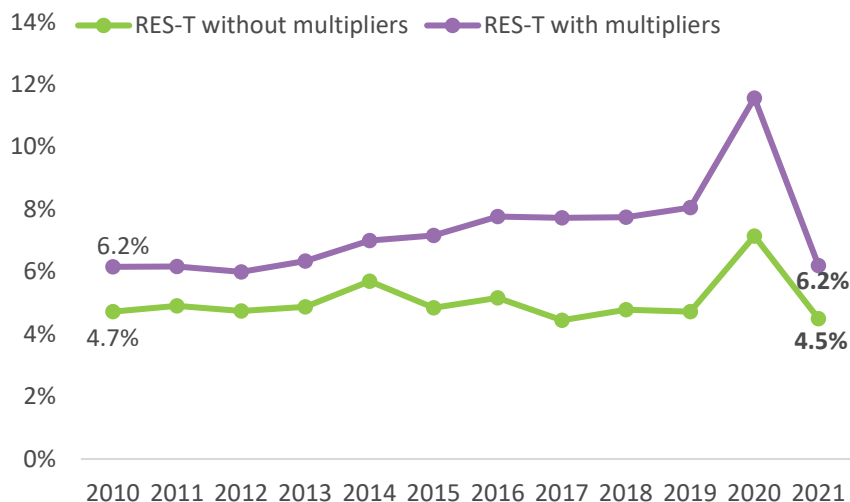
- **Crop-based biofuels:**
 - Crop cap set at 4%.
 - High-ILUC-risk biofuels capped at 2019 levels, except if certified as low ILUC-risk biofuels, with a linear decrease trajectory to zero by 31 December 2030, as in RED II Art. 26.
- **Annex IX biofuels:**
 - Targets for advanced biofuels¹⁶ set at 0.2% in 2023, 1% in 2025, and 3.5% by 2030, as in RED II Art. 25.
 - Cap for Annex IX-B biofuels at 4%, before double counting.
- **RFNBOs and RCFs:**
 - GHG reduction from RFNBOs should reach at least 70% to be counted in the RES/RES-T target.
 - Recycled carbon fuels have been allowed in RES-T since 1 January 2022.
- **Multiple counting:** x2 for advanced and Annex IX-B biofuels; x4 for renewable electricity in road, x1.5 in railway; x1.2 for aviation and maritime.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets.

Measures to ensure compliance

- **Blending obligations:** Overall 8.4% blending target for 2022; 6.1% in RON95 petrol and 0.2% (HVO) in diesel, in energy.
- **Penalties:** Penalties for fuel suppliers failing to fulfil the renewable mandates: HUF 35 per missing MJ. Penalties for fuel suppliers failing to fulfil the reporting obligation: from HUF 100,000 to HUF 100 million.

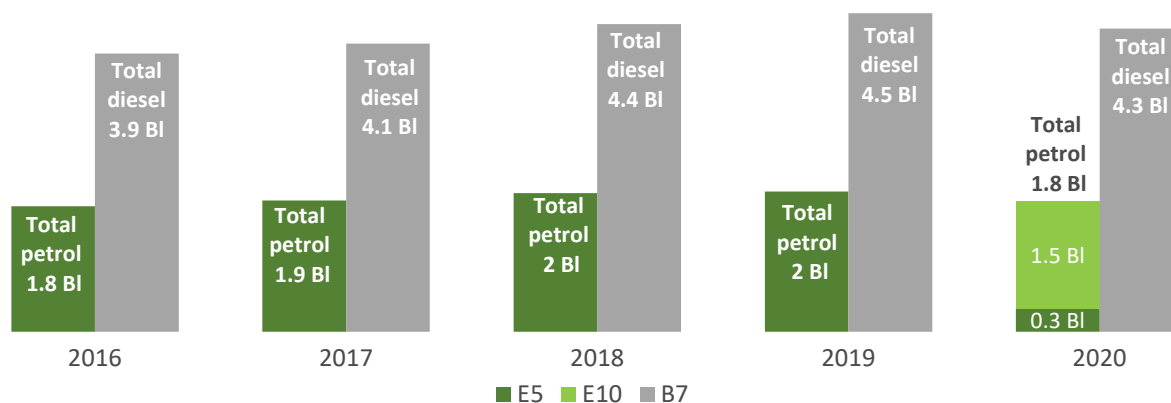
¹⁶ Feedstock for advanced biofuels in addition to the RED II Annex IX-A list: Residues and waste of the bakery and confectionary industry; drink residues, waste resulting from the processing of sub-standard quality fruit/vegetable, potato/beet pulp, wastewater containing starch, dry starch; residues of sugar refiners; molasses; vinasse; residues and waste from the distillation of alcohol; distiller's grains; whey permeate; olive-pomace; high boiling vegetable fraction; crude methanol; cereals, starch, sugar, oil, beans, and their grist from the harvest of crop rotation; biomass originating from fallow land; biomass originating from low-quality/contaminated fields; mixtures from meadows; damaged feedstocks; non-fat residues of animal origin, category 2-3; fats of animal origin, category 3; urban wastewater and its residues (except slurry); soap residue and its derivatives; brown grease/grease from grease traps; distillates of fatty acids; technical corn oil (TCO); distiller's dried grains with solubles (DDGS); other biowaste.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



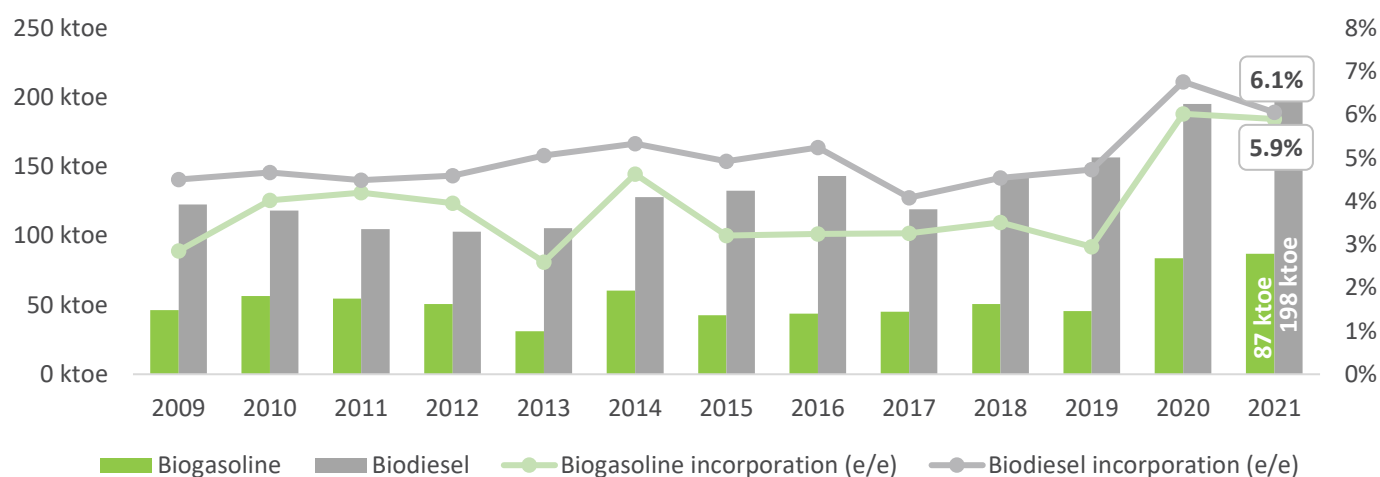
Energy source	Quantity
Fossil	4,531 ktoe – 93.9%
Renewables	294 ktoe – 6.1%
Crop-based biofuels	119.7 ktoe – 2.5%
Annex IX-A biofuels	0.2 ktoe – 0.004%
Annex IX-B biofuels	163.8 ktoe – 3.4%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	0.7 ktoe – 0.01%
Ren. electricity - Rail	9.9 ktoe – 0.2%
Ren. electricity - Other	0.09 ktoe – 0.002%
Total	4,826 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

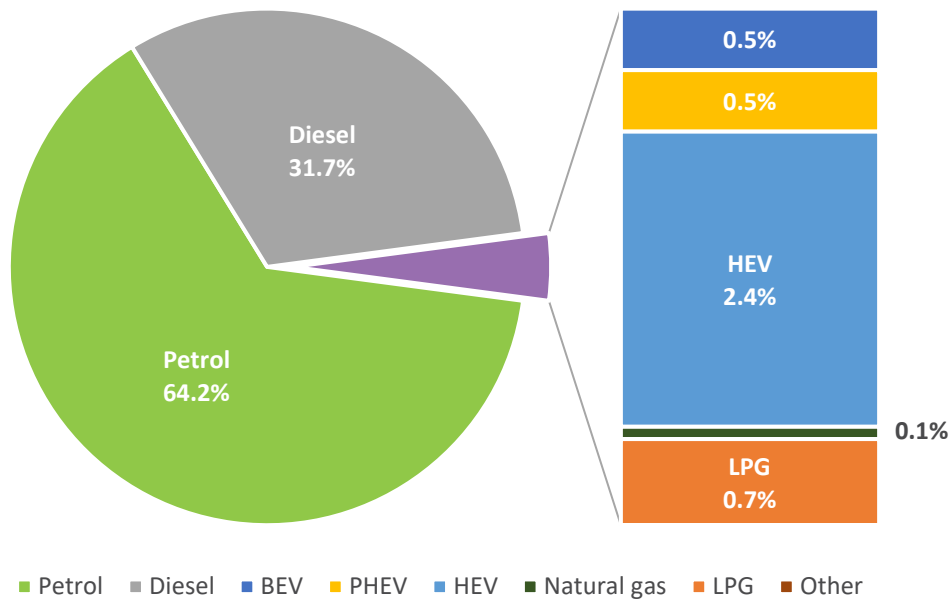


Page | 49

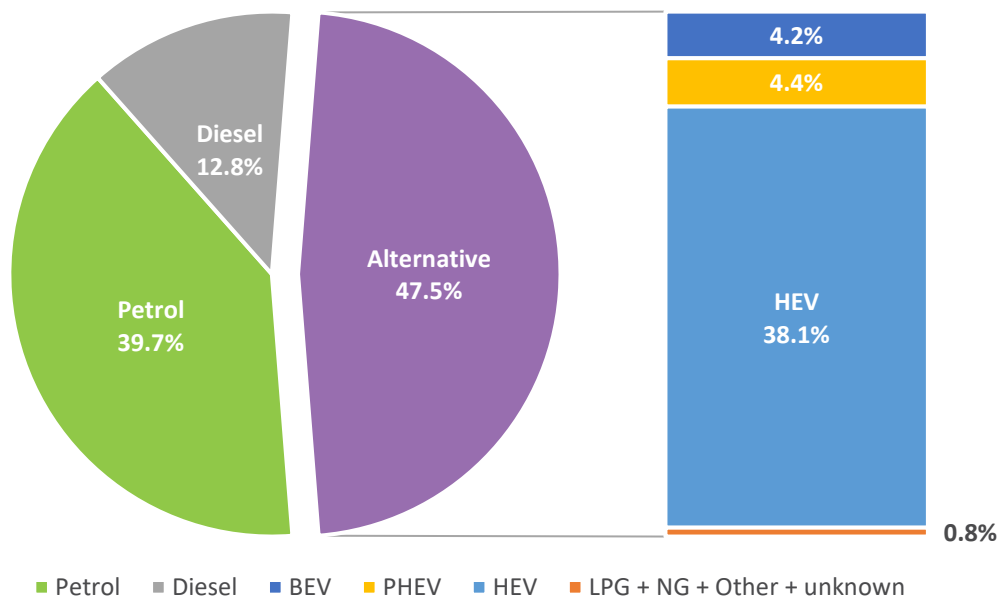
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023



Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023



Member State Overview

Ireland has transposed all transport related provisions of RED II. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion in May 2022. The [infringement case](#) is still active. Ireland aims to achieve a 14% RES-T by 2030. Ireland's RES-T in 2021 was 2.5% without multipliers and 4.3% with multipliers.

Legal basis

- [S.I. No. 350 of 2022 – European Union \(Renewable Energy\) Regulations \(2\) 2022](#) – setting RED II provisions for RES-T, the crop cap, Annex IX-A and IX-B biofuels, multipliers, and sustainability.
- [Appendix A to National Oil Reserves Agency \(Renewable Transport Fuel Obligation Rate\) Order 2022](#) – implementing the biofuel blending obligations from 2022.
- [S.I. No. 225 of 2022 National Oil Reserves Agency Act 2007 \(Biofuel Obligation buy-out-charge\) \(Amendment\) Regulations 2022](#) – increasing the penalty for not complying with blending mandates.
- [S.I. No. 670 of 2020 European Union \(Greenhouse gas emission reductions, Calculation methods and reporting Requirements\) \(Amendment\) Regulations 2020](#) – extending the FQD target to the years after 2020.

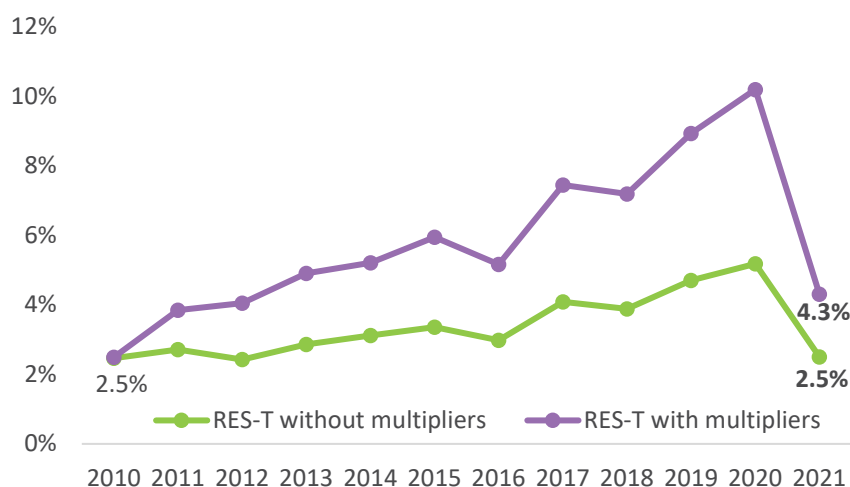
Biofuels policy and decarbonisation targets

- **Crop-based biofuels:**
 - Crop cap is set at 2%.
 - High-ILUC-risk biofuels capped at
 - In 2021, the level of consumption in 2019;
 - From 1 January 2025 to 31 December 2030, 50% of the level of consumption in 2019; and
 - From 1 January 2031, 0%.
- **Annex IX biofuels:**
 - Targets for Annex IX-A biofuels set at 0.3% in 2023, 1% in 2025, and 3.5% by 2030, as in RED II Art. 25.
 - The use of Annex IX-B biofuels and biogas in transport is capped at 1.7% by 2030.
- **Multiple counting:** x2 for Annex IX biofuels; x4 for renewable electricity in road, x1.5 in train; x1.2 for aviation and maritime fuels.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

Measures to ensure compliance

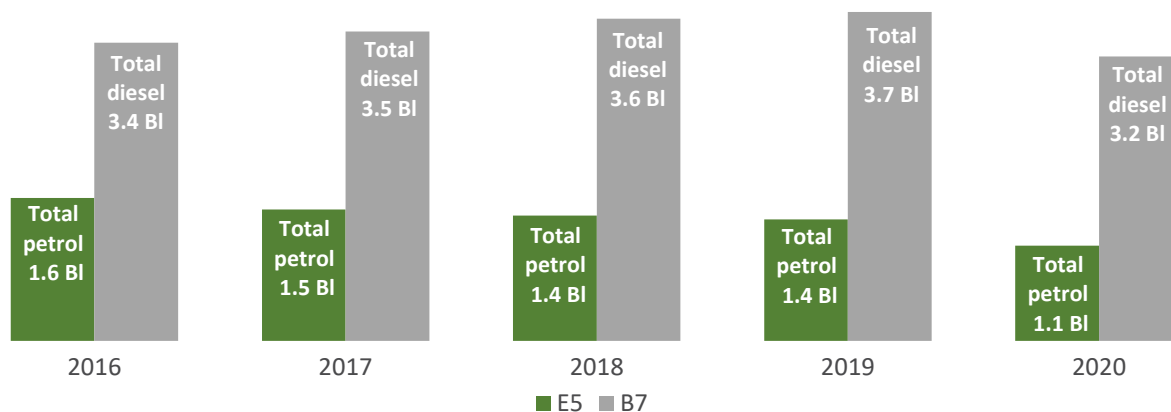
- **Blending obligations:** Overall mandate of 16.985% in energy. Advanced biofuel mandate of 0.3% in energy.
- **GHG intensity reduction for transport fuels:** 6% target, compared to the fossil reference of 94.1 gCO_{2eq}/MJ.
- **Penalties:** Buy-out price is set at €0.05/MJ for the overall target and €0.08/MJ for the advanced target.
- **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.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



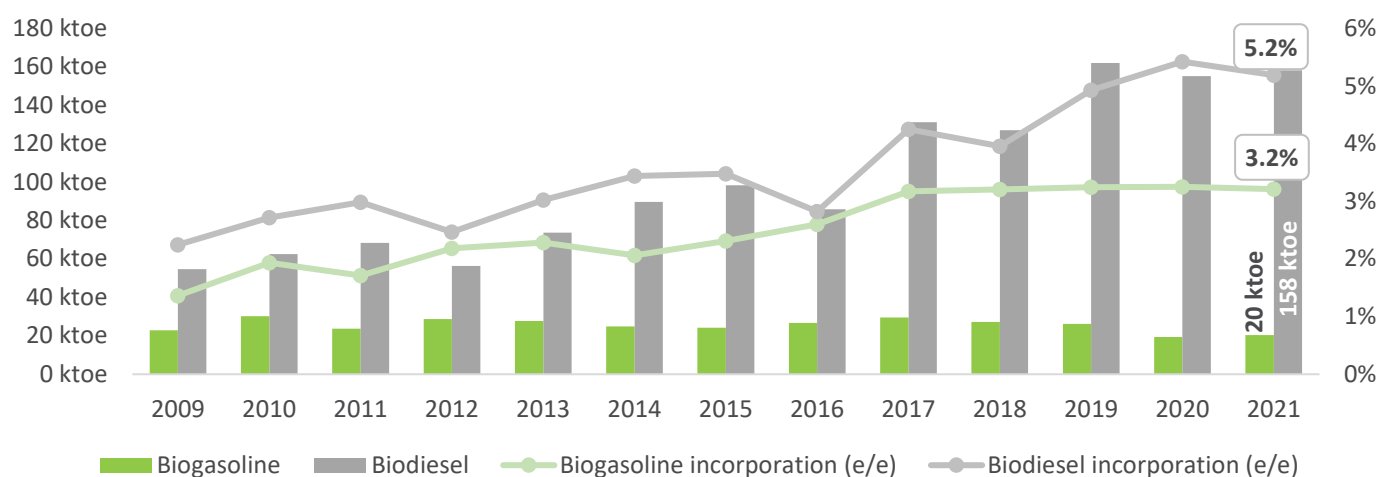
Energy source	Quantity
Fossil	3,348 ktoe – 94.7%
Renewables	188 ktoe – 5.3%
Crop-based biofuels	10.4 ktoe – 0.3%
Annex IX-A biofuels	0.4 ktoe – 0.01%
Annex IX-B biofuels	160.4 ktoe – 4.5%
Other compliant biofuels	13.3 ktoe – 0.4%
Ren. electricity - Road	2 ktoe – 0.06%
Ren. electricity - Rail	1.5 ktoe – 0.04%
Ren. electricity - Other	0 ktoe – 0%
Total	3,536 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

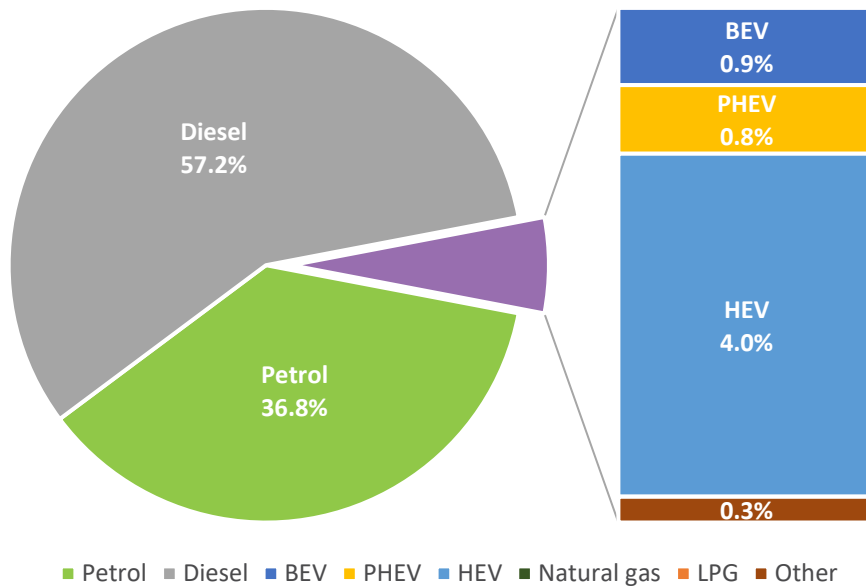


Page | 52

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

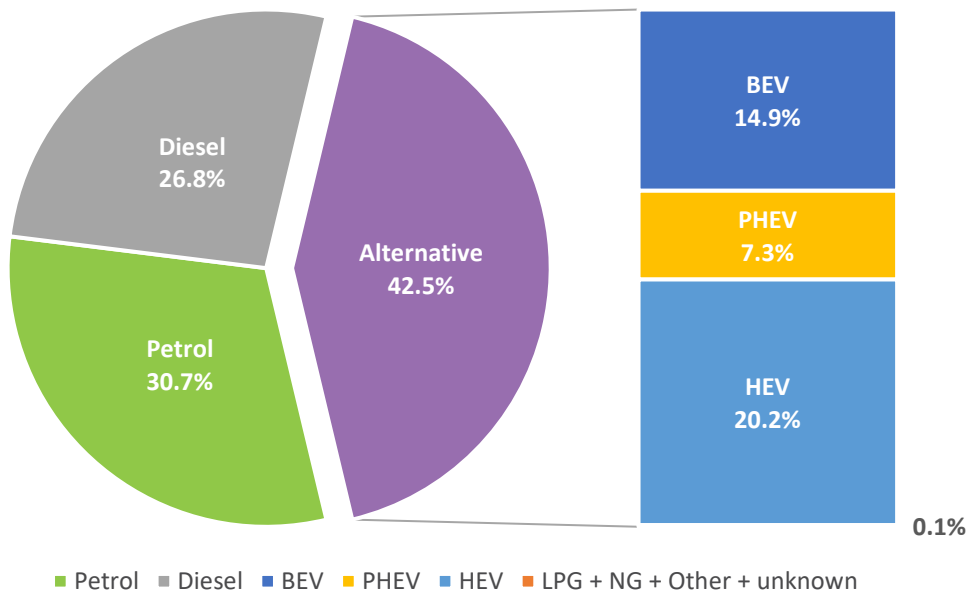


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 53



Member State Overview

Italy transposed all transport related provisions of RED II. Some provisions remained to be implemented via ministerial decrees still pending. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion for partial transposition in July 2022. The [infringement case](#) is still active.

Italy aims to achieve 30% overall share of renewables in its gross final consumption of energy and 16% RES-T by 2030. Additionally, Italy has set ambitious binding sub-targets for advanced biofuels and biomethane. Italy's RES-T in 2021 was 5.2% without multipliers and 10% with multipliers.

Legal basis

- [Legislative Decree No.199](#) of 8 November 2021 – transposing RED II.
- [Legislative Decree No. 107](#) of 16 March 2023 - Updating the trajectory for renewable fuels targets in transport until 2030.

Biofuels policy and decarbonisation targets

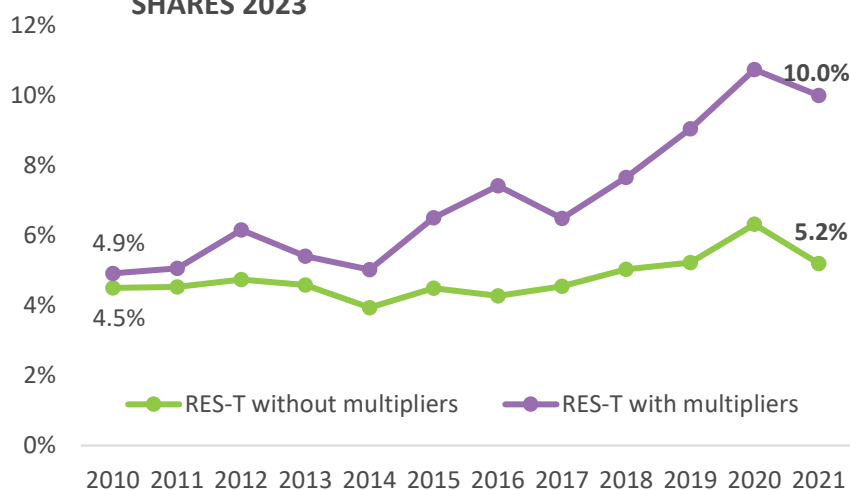
- **Crop-based biofuels:**
 - **Crop cap** at 2020 consumption levels in road and rail transport, +1% flexibility, but no more than 7% of gross final consumption of energy as in RED II Art. 26.
 - **High-ILUC-risk biofuels** capped at 2019 levels, except if certified as low-ILUC-risk biofuels, with a linear decrease trajectory to zero by 31 December 2030, as in RED II Art. 26 to be implemented by ministerial decree. The use of palm oil, palm empty fruit bunches, PFAD, and soybean oil and derivatives are excluded from 2023. POME is still allowed.
- **Annex IX biofuels:**
 - Targets for **Annex IX-A** biofuels and biomethane are set at 3.4% in 2023, 4.2% in 2024 and will increase yearly up to 8% in 2030.
 - The use of biofuels produced from **Annex IX- B** feedstock is capped at 2.5% without multipliers.
- **New provision in place since 2023:** obligation of min. 300kt/y of biofuels “in purity” (refers to HVO) increasing 100kt/y until 2030 (i.e., up to 1 million tons/y) irrespective whether conventional or advanced.
- **RFNBOs and Recycled carbon fuels** are allowed in RES-T.
- **Multiple counting:** x2 for Annex IX-A biofuels; x4 for renewable electricity in road, x1.5 in train; x1.2 for aviation and maritime fuels.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

Page | 54

Measures to ensure compliance

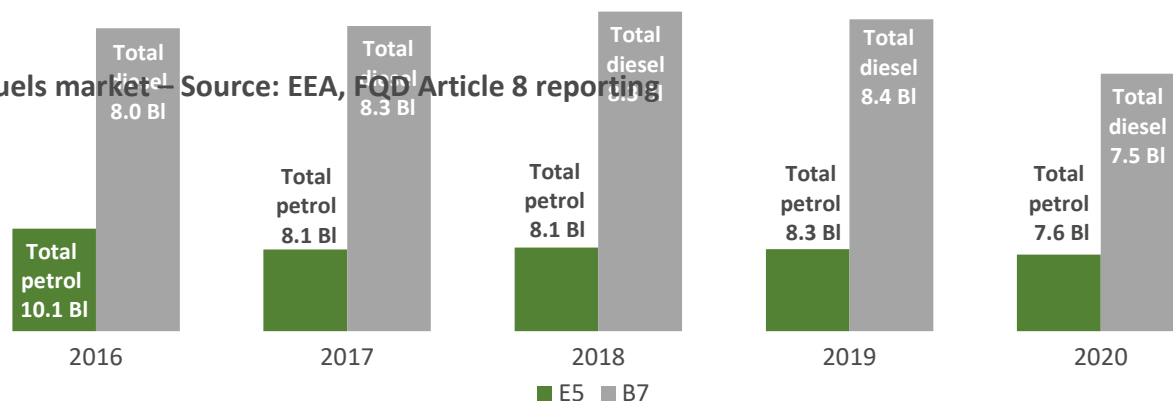
- **Blending obligations:**
 - **Minimum overall blending obligation (in energy):** 10% in 2023, 10.8% in 2024.
 - **Biofuels in petrol (in energy):** at least 0.5% in 2023, 1% in 2024, 3% in 2025, up to 5% in 2030.
- **Penalties:** From 2020, fuels suppliers not complying with at least 95% of the renewable mandates must pay a penalty of 750€ per missing certificate, a certificate being 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.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



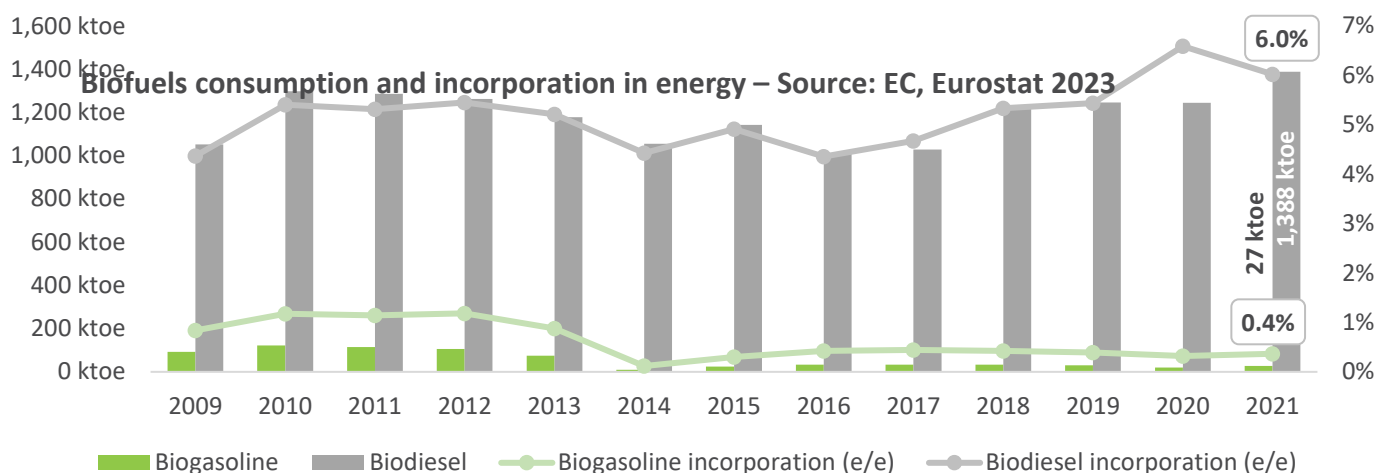
Energy source	Quantity
Fossil	30,014 ktoe – 94.1%
Renewables	1,879 ktoe – 5.9%
Crop-based biofuels	208.3 ktoe – 0.7%
Annex IX-A biofuels	538.3 ktoe – 1.7%
Annex IX-B biofuels	800 ktoe – 2.5%
Other compliant biofuels	5.3 ktoe – 0.02%
Ren. electricity - Road	13.2 ktoe – 0.04%
Ren. electricity - Rail	155.9 ktoe – 0.5%
Ren. electricity - Other	158.3 ktoe – 0.5%
Total	31,893 ktoe

Fuels market – Source: EEA, FOD Article 8 reporting

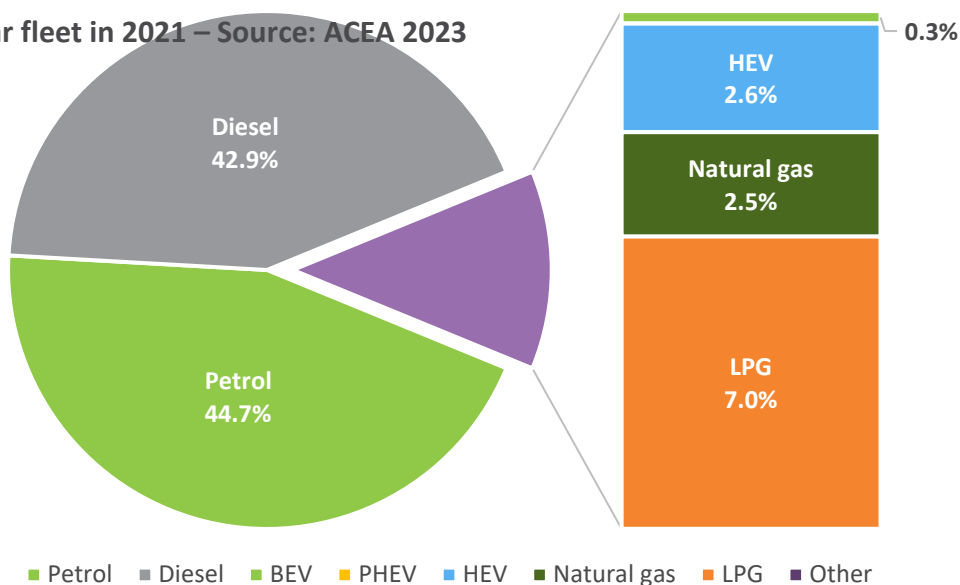


Page | 55

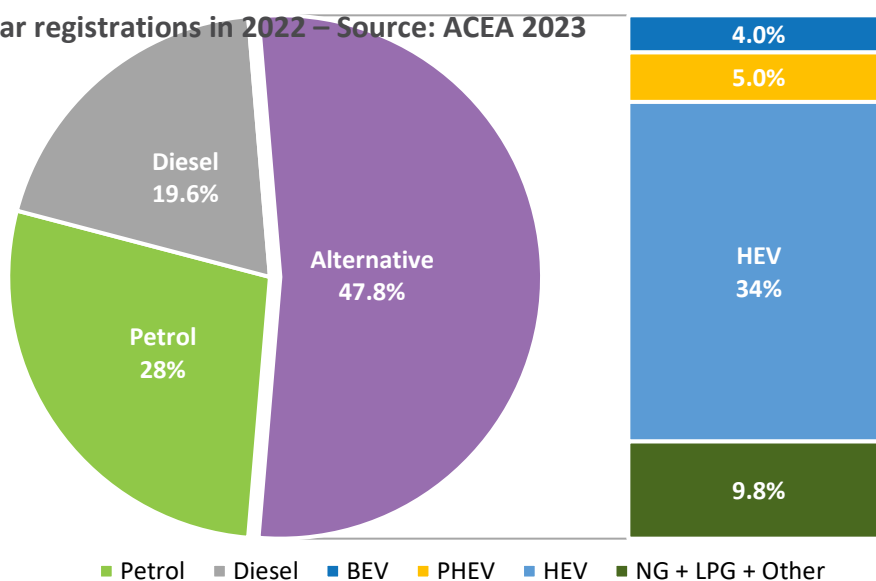
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023



Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023



Member State Overview

The RED II transport requirements are still not fully implemented in Latvian legislation, but the sustainability provisions, including Art. 29-31, were approved by the Cabinet of Ministers in November 2022. The deadline to transpose the directive into national law was 30 June 2021. In July 2021, the country received a letter of formal notice from the Commission, followed by a reasoned opinion in February 2023. The infringement case is still active.

The country aims to achieve 50% overall share of renewables in its gross final consumption of energy. Latvia has currently set the RES- T target at 7% by 2030, which excludes crop-based biofuels, as per its NECP. It is currently unknown whether this target will be reviewed in Latvia's updated NECP. Latvia's share of renewables in transport in 2021 was 4.8% without multipliers and 6.4% with multipliers, leaving it heavily reliant on fossil fuels. However, the share of renewable energy in transport will likely decrease in 2022 and 2023, as the biofuel blending requirements are optional from mid-2022 until 2024. Decision to suspend the biofuels blending obligations for 18 months from July 2022, leaving it voluntary for fuel suppliers was made in the context of the energy crisis and the surge of fuel prices in 2022. From January 1st, 2024, the requirement to blend petrol and diesel with biofuel will become mandatory again, with the transitional provisions losing their force.

Legal basis

- [Regulations of the Cabinet of Ministers No. 332, version of 2022](#) – establishing rules for assessing the conformity of gasoline and diesel fuel.
- [Regulations of the Cabinet of Ministers No. 686 of November 2022](#) – implementing the RED II's Art. 29 sustainability provisions.
- Regulations 248 – NOR/2019 of Central Statistical Bureau "Procedure for Calculating the Proportion of Energy Produced from Renewable Energy Sources".

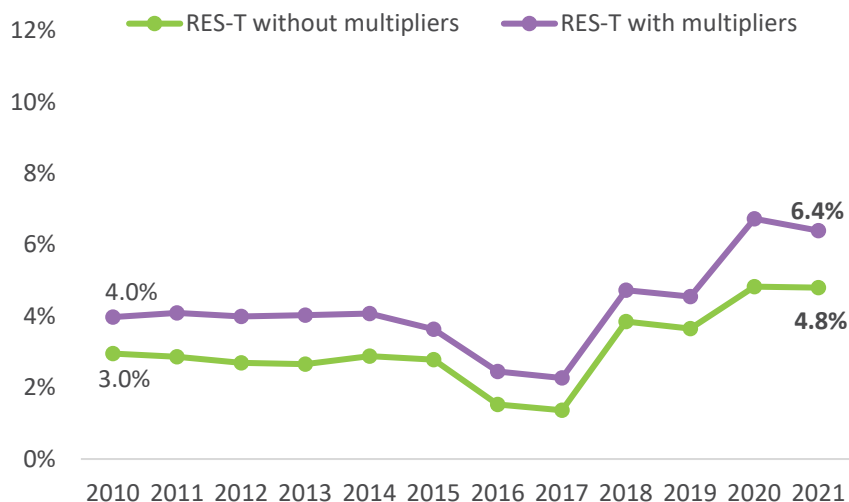
Biofuels policy and decarbonisation targets

- **Crop-based biofuels:** Crop-based biofuels cannot contribute to the RES-T target.
- **Annex IX biofuels:** Targets for Annex IX-A biofuels set at 0.2% in 2022, 1% in 2025, and 3.5% by 2030, as in RED II Art. 25.
- **Recycled carbon fuels** are allowed in RES-T.
- **Multiple counting:** For statistics purposes, x2 for Annex IX A biofuels; x4 for renewable electricity in road, x1.5 in train; x1.2 for aviation and maritime fuels.
- **Sustainability criteria:** as in RED II Art. 29 re. no-go areas for agricultural biomass. Re. GHG savings, the criteria are only set for installations starting operation before or after January 2015; not for those after January 2021.

Measures to ensure compliance

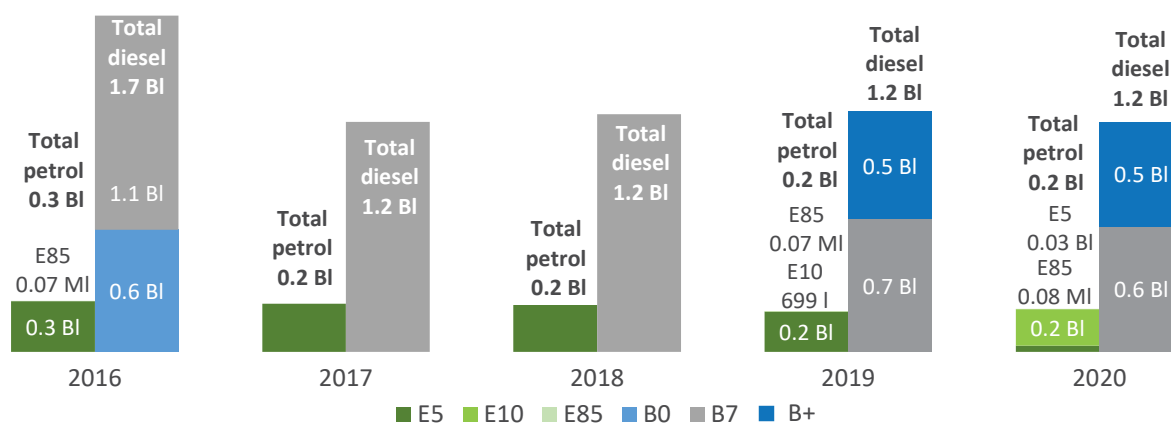
- **Blending obligations:** RON 95 petrol must contain at least 9.5% bioethanol by volume, RON 98 petrol may contain up to 5% bioethanol by volume and diesel must contain 6.5% biofuels by volume during the period from 1 April until 31 October 2023.
- **Attempts to relax biofuels blending obligations:** decision to suspend the biofuels blending obligations for 18 months from July 2022, leaving it voluntary for fuel suppliers, was made in the context of the energy crisis and the surge of fuel prices in 2022. From 1 January 2024, the requirement to blend petrol and diesel with biofuels will become mandatory again, with the transitional provisions losing their force.
- **Tax incentives:** E85 and B100 have lower excise tax than petrol and diesel. Unleaded petrol blend containing 70%-85% ethanol is taxed at 30% of the normal rate of €509/1,000l and biodiesel and paraffinized diesel obtained from biomass are taxed at the EU minimum gas oil rate: €330/1,000l.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



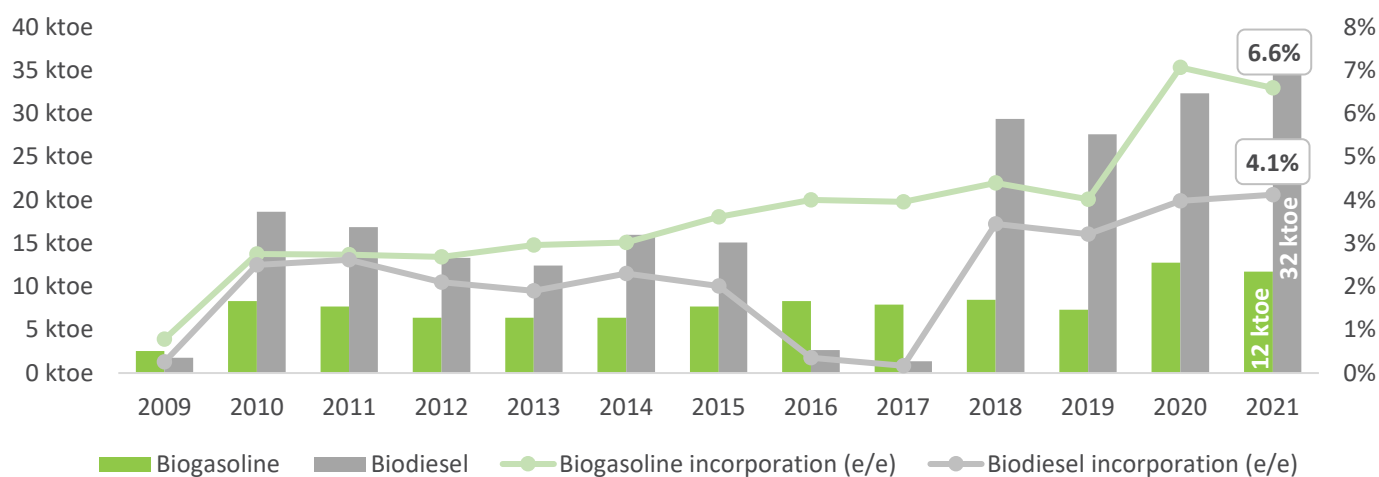
Energy source	Quantity
Fossil	989 ktoe – 95.2%
Renewables	50 ktoe – 4.8%
Crop-based biofuels	33.5 ktoe – 3.2%
Annex IX-A biofuels	12.3 ktoe – 1.2%
Annex IX-B biofuels	0 ktoe – 0%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	1.3 ktoe – 0.1%
Ren. electricity - Rail	3 ktoe – 0.3%
Ren. electricity - Other	0.1 ktoe – 0.001%
Total	1,039 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

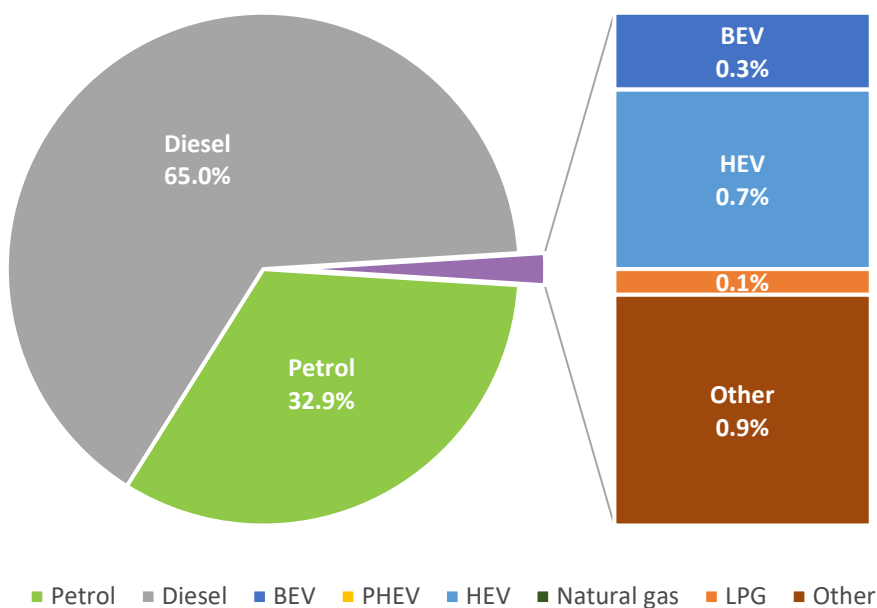


Page | 58

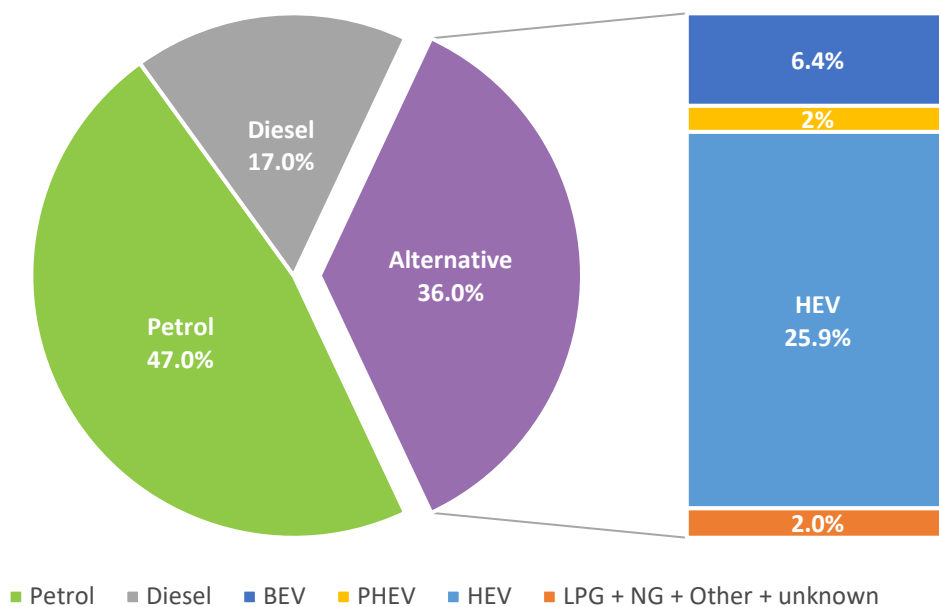
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023



Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023



Member State Overview

Lithuania completed the transposition of all transport related of RED II. It received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021. The [infringement case](#) is still active.

The country aims to achieve a 39.8% overall share of renewables in its gross final consumption of energy by 2027 and at least a 15% RES-T by 2030. Lithuania's RES-T in 2021 was 6.4% without multipliers and 6.5% with multipliers.

Legal basis

- [2021 Law on Alternative Fuels of the Republic of Lithuania](#) – transposing RED II provisions.
- [Renewable Resources Energy Law](#) – transposing the sustainability provisions of the RED II Art. 29.

Biofuels policy and decarbonisation targets

- **Crop-based biofuels:**
 - Crop cap at 1% higher than 2020 consumption levels in road and rail from 2022 onwards.
 - High-ILUC-risk biofuels capped at 2019 levels, except if certified as low-ILUC-risk biofuels, with a linear decrease trajectory to zero by 31 December 2030, as in RED II Art. 26.
- **Annex IX biofuels:**
 - Targets for Annex IX-A biofuels and RFNBOs:

▪ min. 0.2% in 2022	▪ min. 1% in 2025	▪ min. 2.2% in 2028
▪ min. 0.4% in 2023	▪ min. 1.4% in 2026	▪ min. 2.7% in 2029
▪ min. 0.7% in 2024	▪ min. 1.8% in 2027	▪ min. 3.5% in 2030
 - The use of biofuels produced from Annex IX- B feedstock is capped at 1.7%.
- **Recycled carbon fuels** are allowed to count towards the RES-T.
- **Multiple counting:** x2 for Annex IX-A biofuels above 2020 levels.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

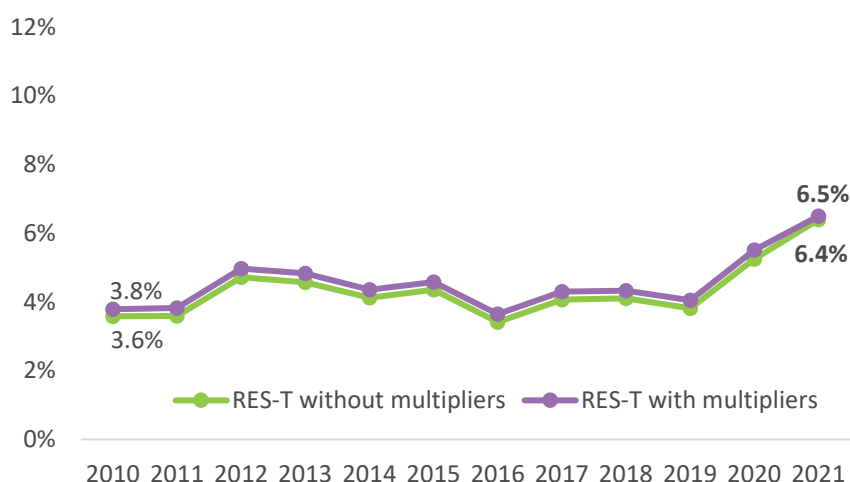
Measures to ensure compliance

- **Blending obligations**
 - Overall biofuels mandates for total petrol and diesel supplied to the market:

▪ min. 6.8% in 2022	▪ min. 8.6% in 2025	▪ min. 12.9% in 2028
▪ min. 7.2% in 2023	▪ min. 9.8% in 2026	▪ min. 14.7% in 2029
▪ min. 7.8% in 2024	▪ min. 11.3% in 2027	▪ min. 16.8% in 2030
 - Separate biofuels mandates for each litre of petrol and diesel supplied to the market: 6.6% in petrol and 6.2% in diesel, in energy.
 - Separate biogas or non-biological gaseous fuel from renewable energy sources mandates:

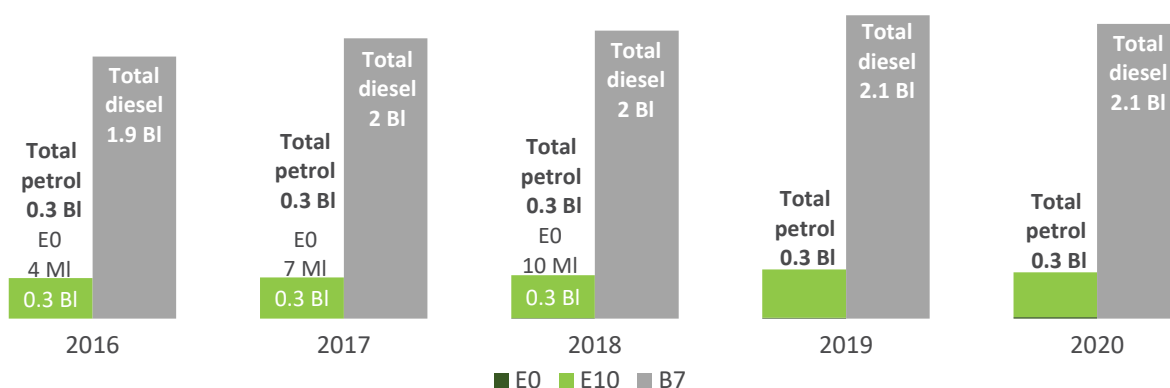
▪ min. 4.2% in 2025	▪ min. 10.8% in 2028
▪ min. 6.3% in 2026	▪ min. 13.6% in 2029
▪ min. 8.4% in 2027	▪ min. 16.8% in 2030

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



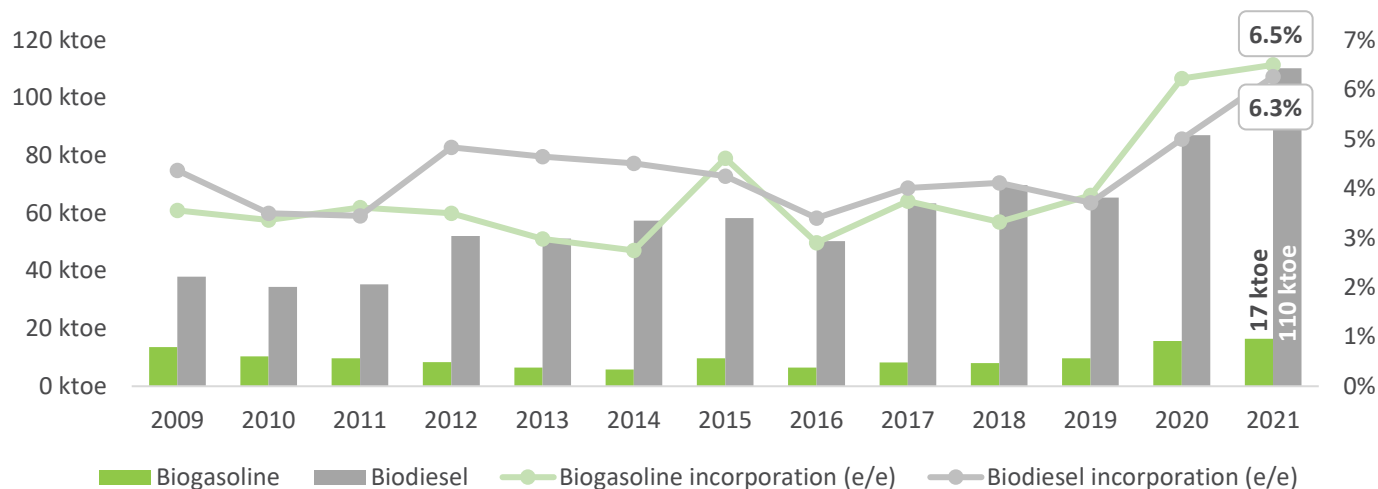
Energy source	Quantity
Fossil	1,889 ktoe – 93.6%
Renewables	128 ktoe – 6.4%
Crop-based biofuels	92.7 ktoe – 4.6%
Annex IX-A biofuels	0 ktoe – 0%
Annex IX-B biofuels	0 ktoe – 0%
Other compliant biofuels	34.2 ktoe – 1.7%
Ren. electricity - Road	0.8 ktoe – 0.04%
Ren. electricity - Rail	0.2 ktoe – 0.01%
Ren. electricity - Other	0.3 ktoe – 0.01%
Total	2,018 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

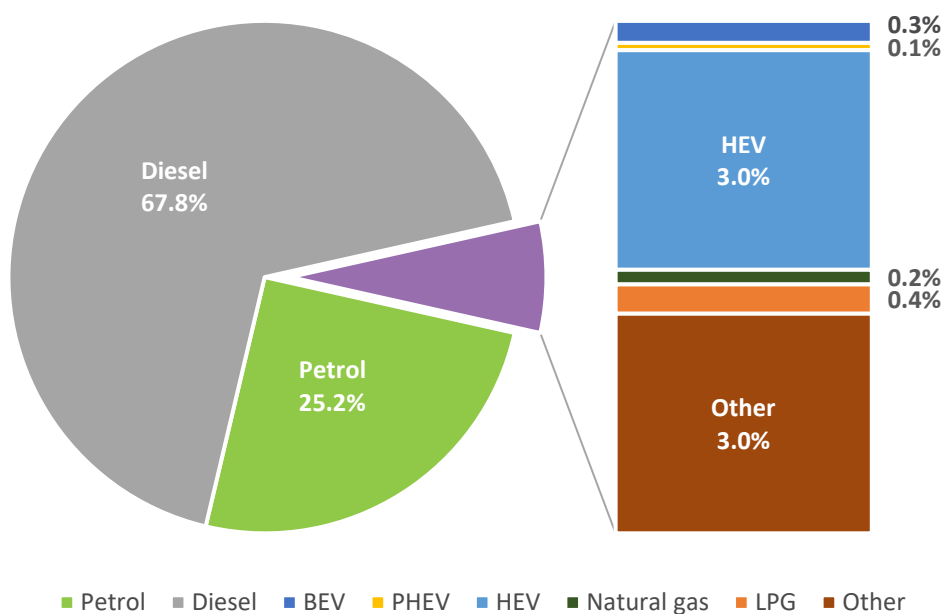


Page | 61

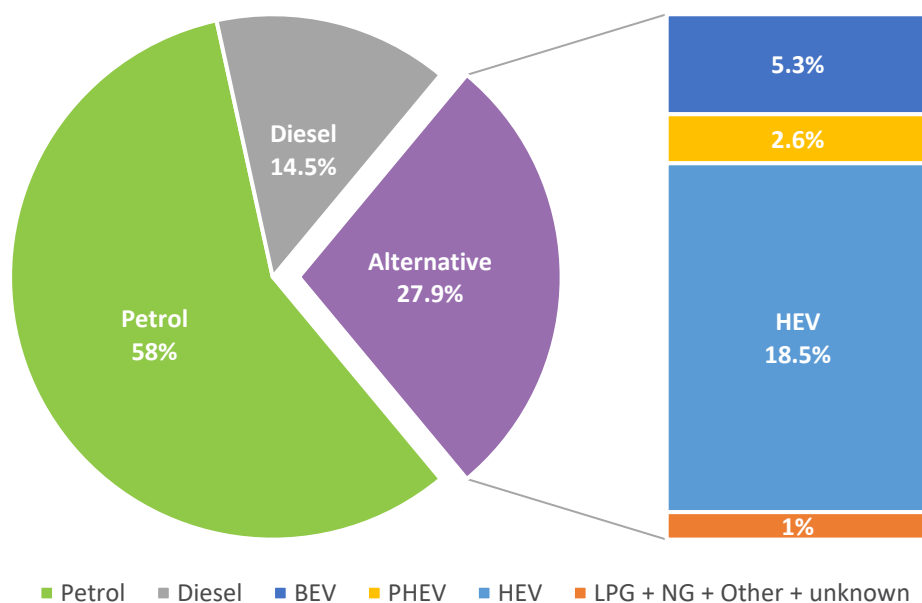
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023



Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023



Member State Overview

Luxembourg is lagging behind with transposition of transport related provisions of RED II. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion for partial transposition in May 2022. The [infringement case](#) is still active. Its RES-T in 2021 was 6.4% without multipliers and 8% with multipliers.

Legal basis

- [Law of 17 December 2010](#) – setting the penalties and tax incentives for biofuels.
- [Grand-ducal regulation of 28 February 2017 modifying the grand-ducal regulation of 27 February 2011 setting the sustainability criteria for biofuels and bioliquids](#) – setting the sustainability requirements of RED II Art. 29.
- [Law of 29 August 2017](#) – setting the targets for the GHG intensity reduction of fuels from 2020.
- [Law of 20 December 2019 concerning the State revenue and expenditure budget for the financial year 2020](#) – implementing the crop cap and double counting for Annex IX-A biofuels.
- [Environment Code \(version of 25 September 2022\)](#) – compiling every applicable environmental legislation.

Biofuels policy and decarbonisation targets

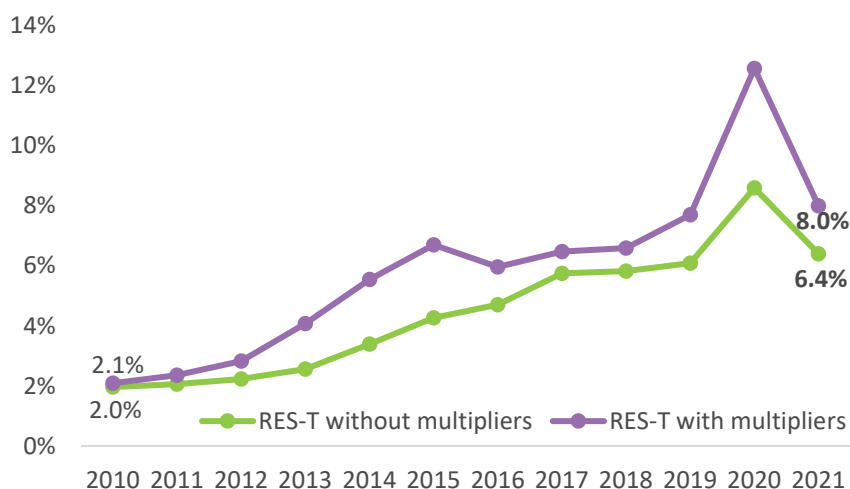
- **Crop-based biofuels:** Crop cap set at 5%.
- **Multiple counting:** x2 for Annex IX biofuels.
- **Sustainability criteria:** as in RED I Art. 17 re. GHG savings for biofuels.

Page | 63

Measures to ensure compliance

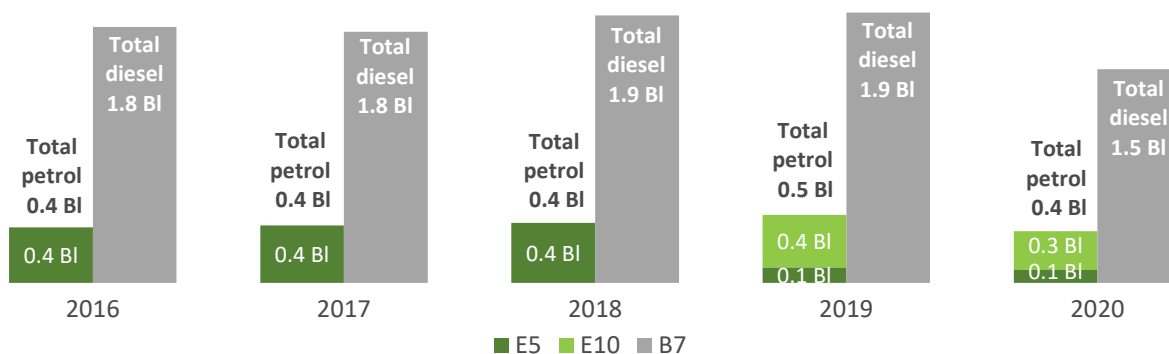
- **Blending obligations:** 7.7% without multipliers and 9.7% with multipliers. Advanced biofuels must represent at least 50% of the biofuels mix after double counting. The obligation can be lowered from 7.7% to 6% depending on the availability of biofuels and considering the energy context.
- **GHG intensity reduction for transport fuels:** 6% target, compared to the fossil reference of 94.1 gCO_{2eq}/MJ.
- **Penalties:** Fuel suppliers failing to meet their blending obligations are fined €1,200/1,000l.
- **Tax incentives:** Biofuels are exempted from the taxes on energy products and the additional taxes for social and climate change contributions.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



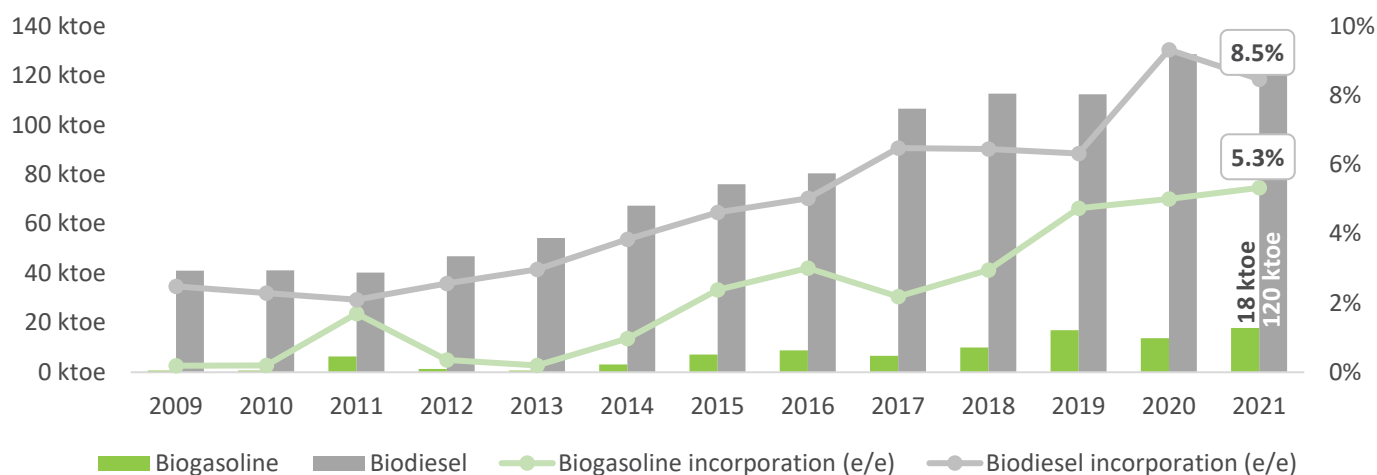
Energy source	Quantity
Fossil	1,646 ktoe – 92.3%
Renewables	138 ktoe – 7.7%
Crop-based biofuels	80.3 ktoe – 4.5%
Annex IX-A biofuels	0 ktoe – 0%
Annex IX-B biofuels	55.4 ktoe – 3.1%
Other compliant biofuels	0.8 ktoe – 0.04%
Ren. electricity - Road	0.2 ktoe – 0.01%
Ren. electricity - Rail	1.3 ktoe – 0.7%
Ren. electricity - Other	0 ktoe – 0%
Total	1,784 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

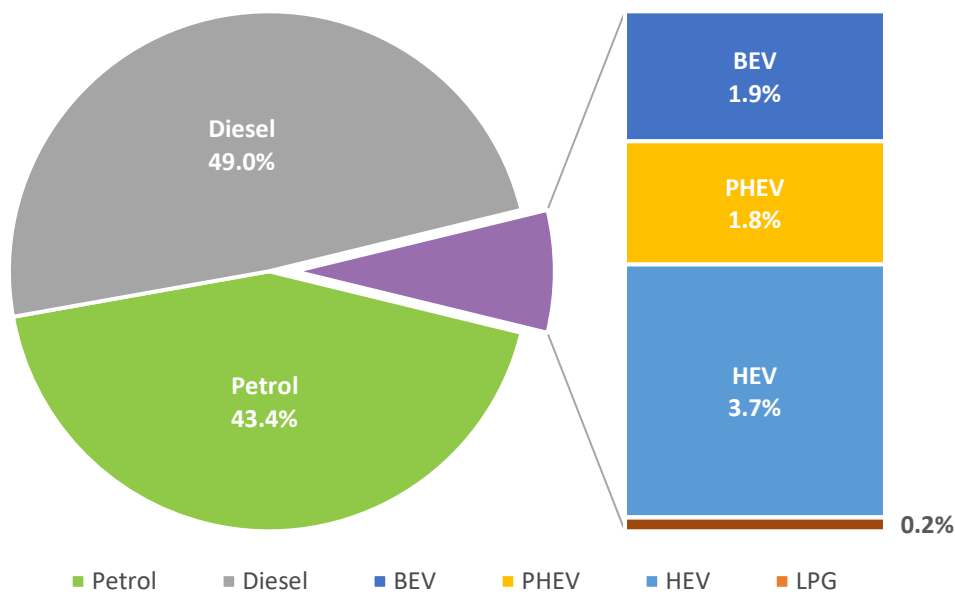


Page | 64

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

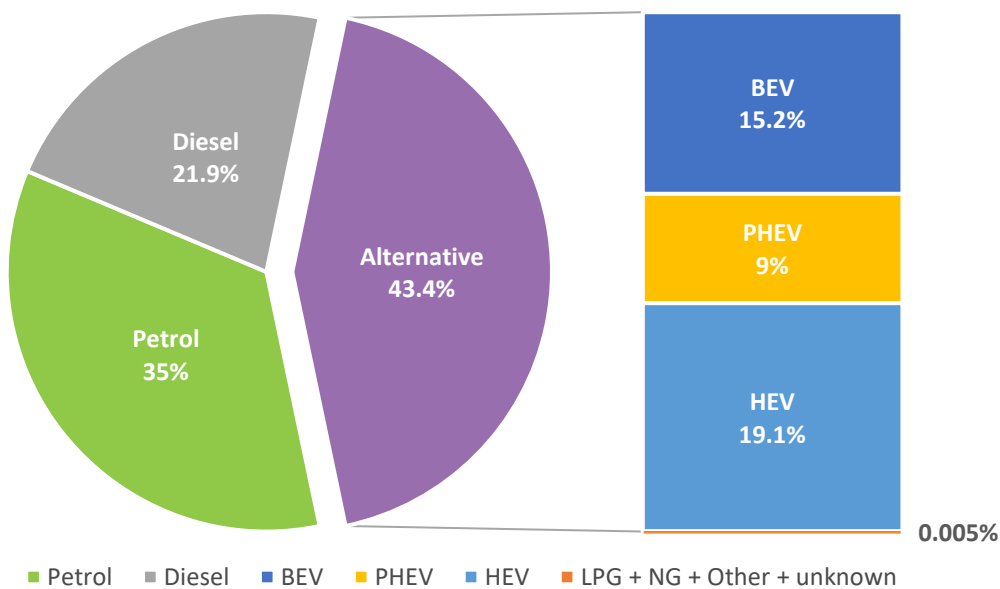


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 65



Member State Overview

Malta transposed all transport related provisions of the RED II. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion for partial transposition in July 2022. The [infringement case](#) is still active. Malta's RES-T target is 14% by 2030. In 2021, its RES-T was 5.6% without multipliers and 10.6% with multipliers.

Legal basis

- [S.L. 545.35 \(28 Dec. 2021\) Promotion of Energy from Renewable Sources Regulations](#) – transposing the main parts of the RED II.
- [545.37 \(Dec. 28, 2021\) Regulations on the criteria of sustainability of biofuels, bioliquids and fuels from biomass](#) – Implementing some sustainability provisions of the RED II.

Biofuels policy and decarbonisation targets

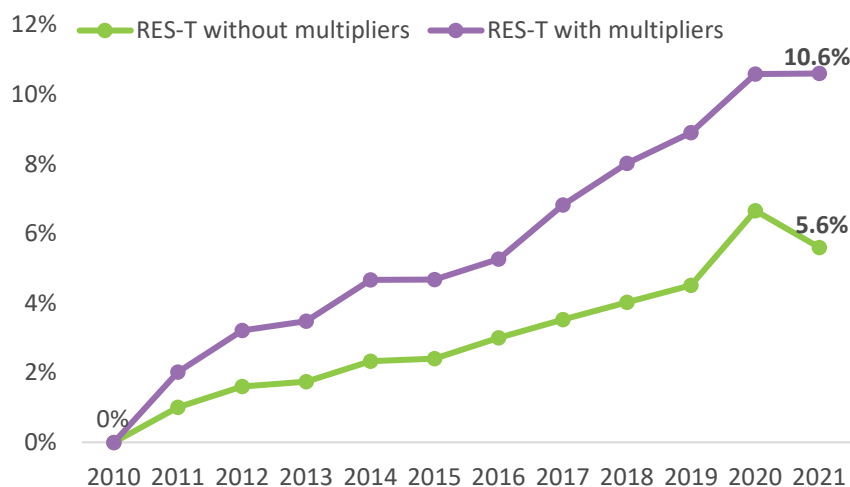
- **Crop-based biofuels:**
 - Crop cap at 2020 consumption levels in road and rail transport, +1% flexibility within a 7% limit, as in RED II Art. 26.
 - High ILUC-risk biofuels capped at 2019 levels, except if certified as low ILUC-risk biofuels, until 2023. From 2024 they cannot be accounted anymore towards the target in transport.
- **Annex IX biofuels:**
 - Targets for Annex IX-A biofuels set at 0.2% in 2022, 1% in 2025, and 3.5% by 2030, as in RED II Art. 25.
 - The limit of 1.7% for Annex IX-B biofuels does not apply to Malta.
- **Multiple counting:** x2 for Annex IX biofuels; x4 for renewable electricity in road, x1.5 in train; x1.2 for aviation and maritime fuels.
- **Recycled carbon fuels** are allowed in RES-T.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

Page | 66

Measures to ensure compliance

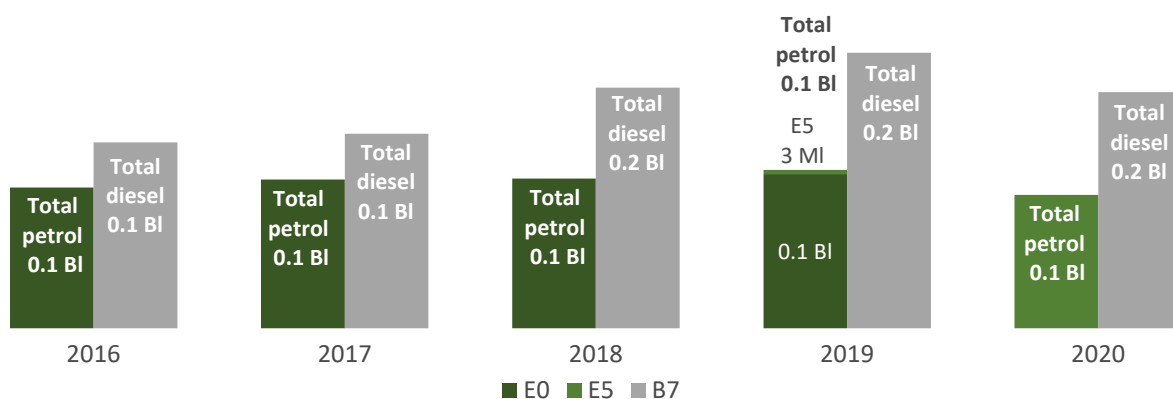
- **Penalties:** The Regulator may impose an administrative fine upon any person who infringes any provision or fails to comply with any directive or decision of the Regulation on renewable energy, of an amount not exceeding €100,000 for each contravention.
- **Tax incentives:** Biofuels and bioliquids operators must be granted authorisation to conduct activities of import, production or blending of biofuels and pay annual fees of €50 plus a charge of €0.00175/l of biofuel.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



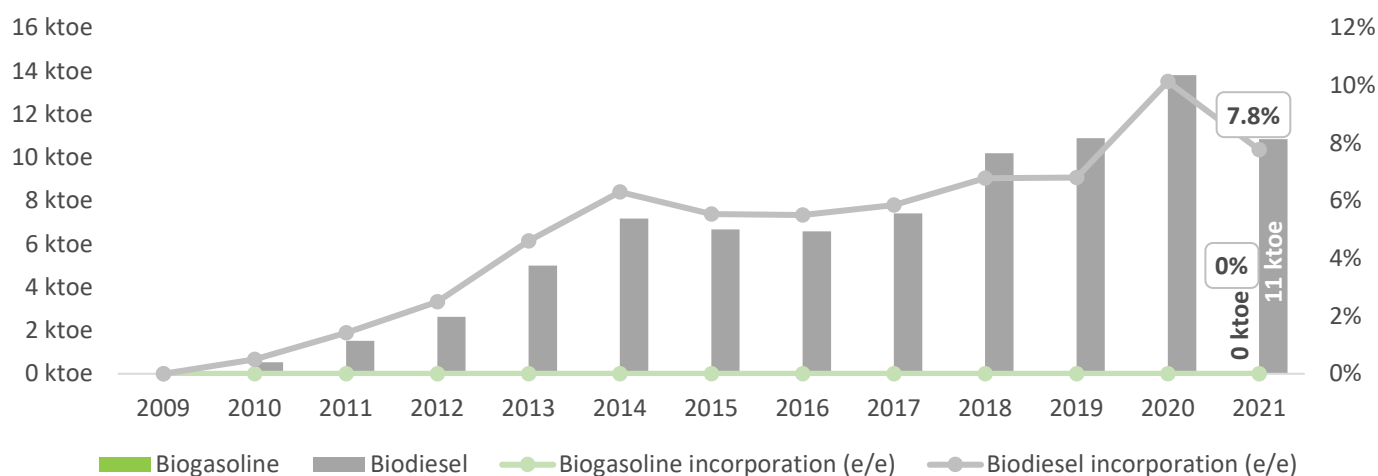
Energy source	Quantity
Fossil	183 ktoe – 94.4%
Renewables	11 ktoe – 5.6%
Crop-based biofuels	0.02 ktoe – 0.01%
Annex IX-A biofuels	1.8 ktoe – 0.9%
Annex IX-B biofuels	8.9 ktoe – 4.6%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	0.03 ktoe – 0.02%
Ren. electricity - Rail	0 ktoe – 0%
Ren. electricity - Other	0 ktoe – 0%
Total	194 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting



Page | 67

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023



Member State Overview

The Netherlands formally transposed RED II by adopting two sets of implementation laws, the Decision Energy Transport and the Regulation Energy Transport, in late December 2021. However, the country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 the [infringement case](#) is still active. The Netherlands aims for a 27% overall share of renewables in its gross final consumption of energy and a 28% RES-T by 2030. It has set blending obligations for biofuels as well as advanced Annex IX-A biofuels. The country's RES-T in 2021 was 5.4% without multipliers and 9% with multipliers.

Legal basis

- [Law on Environmental Management](#) – in which chapters 9.7 (transposition RED) and 9.8 (transposition FQD) are the relevant chapters.
- [Decree energy transport \(valid from 1 January 2022\)](#) – establishing the biofuel blending obligations and Annex IX-A biofuel targets.
- [Decision of 20 December 2021 amending the Energy Transport Decree with regard to the implementation of Directive \(EU\) 2018/2001](#) – transposing the RED II Art. 29 GHG reduction targets.

Biofuels and decarbonisation targets

- **Crop-based biofuels:**
 - The crop cap is fixed at 1.4%.
 - Biofuels made from palm and soy, except for certified low-ILUC-risk palm and soy oil, are legally excluded.
- **Annex IX biofuels:**
 - Targets for Annex IX-A biofuels, based on 2020 consumption levels (double counted):

▪ 2022: at least 1.8%	▪ 2025: at least 3.6%	▪ 2028: at least 5.6%
▪ 2023: at least 2.4%	▪ 2026: at least 4.2%	▪ 2029: at least 6.3%
▪ 2024: at least 2.9%	▪ 2027: at least 4.9%	▪ 2030: at least 7%
 - Annex IX-B biofuels: A cap is fixed at 10% to the use of biofuels from used oils and fats (double counted).
- **Multiple counting:** Annex IX A and B: x1.6. Electricity: x4. Gaseous fuels: x2. Maritime: x0.8. Aviation: x1.2
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

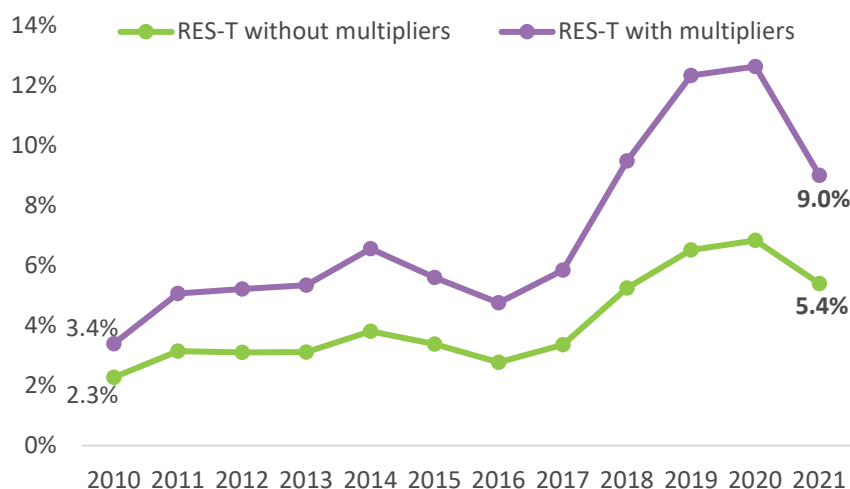
Page | 68

Measures to ensure compliance

- **Renewable mandate in transport** (excluding RCFs and including inland shipping only as of 2023):

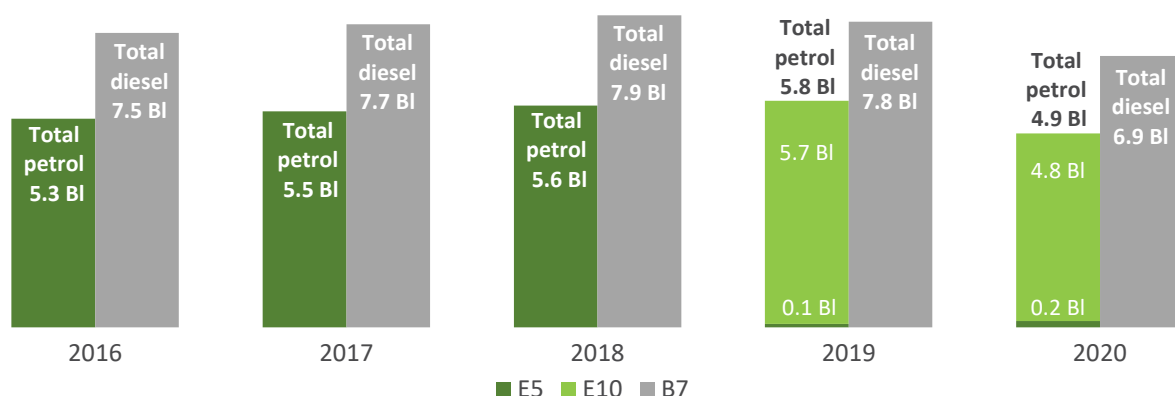
○ 2022: 17.9%	○ 2025: 21%	○ 2028: 25%
○ 2023: 18.9%	○ 2026: 22.3%	○ 2029: 26.5%
○ 2024: 19.9%	○ 2027: 23.6%	○ 2030: 28%
- **GHG intensity reduction for transport fuels:** 6% target, compared to the fossil reference of 94.1 gCO_{2eq}/MJ. UERs cannot be counted towards the target.
- **Penalties:** A fuel supplier failing to fulfil the quota obligation can be brought to Court for committing an economic misdemeanour. (Certificate system in place for crop-based and Annex IX-A & Annex IX-B biofuels).

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



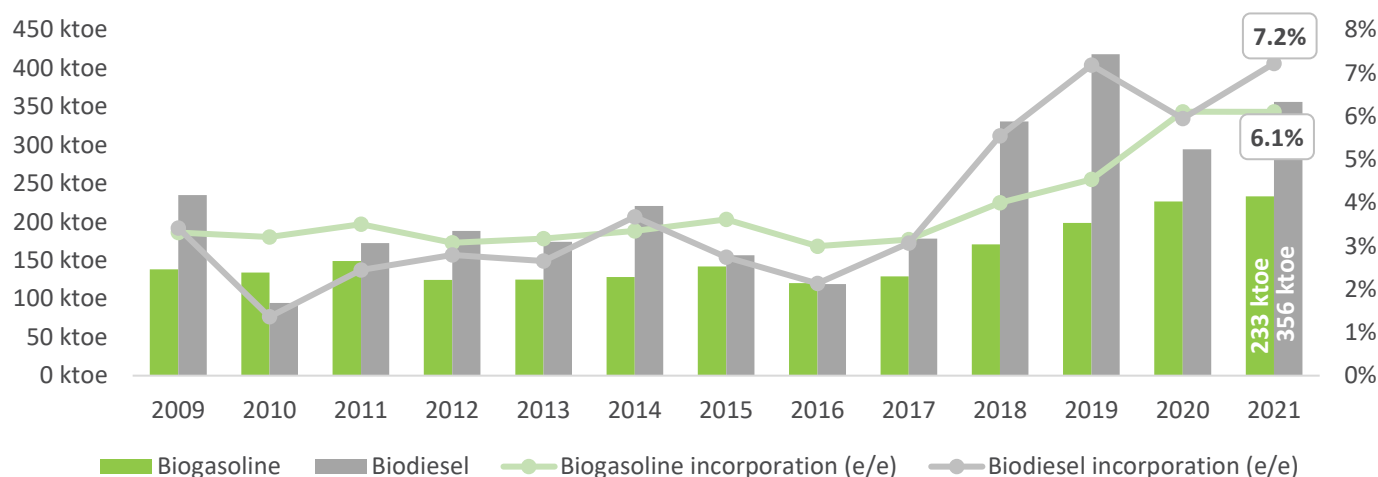
Energy source	Quantity
Fossil	8,109 ktoe – 92.3%
Renewables	673 ktoe – 7.7%
Crop-based biofuels	125.9 ktoe – 1.4%
Annex IX-A biofuels	144.4 ktoe – 1.6%
Annex IX-B biofuels	358.3 ktoe – 4.1%
Other compliant biofuels	1.7 ktoe – 0.02%
Ren. electricity - Road	17 ktoe – 0.2%
Ren. electricity - Rail	25.7 ktoe – 0.3%
Ren. electricity - Other	0 ktoe – 0%
Total	8,782 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

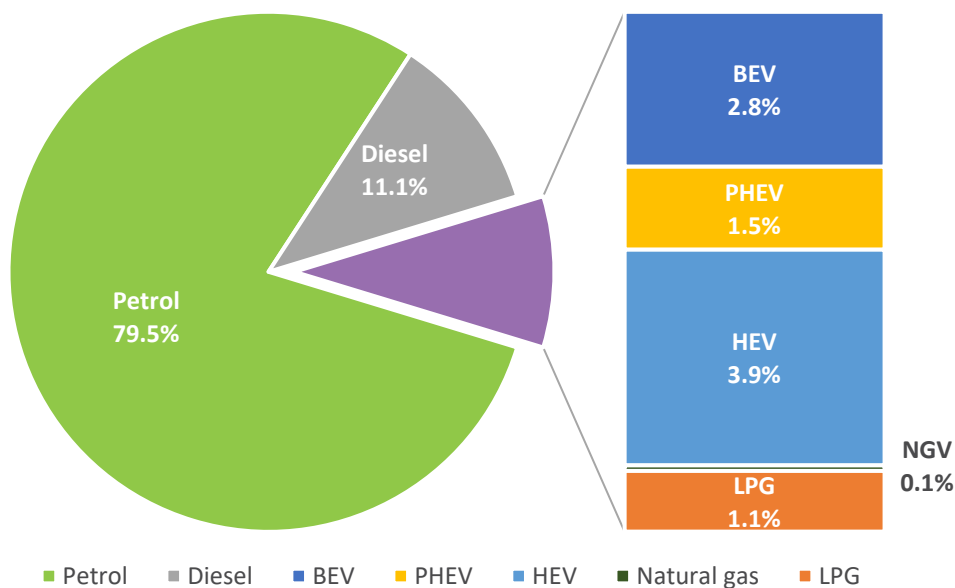


Page | 69

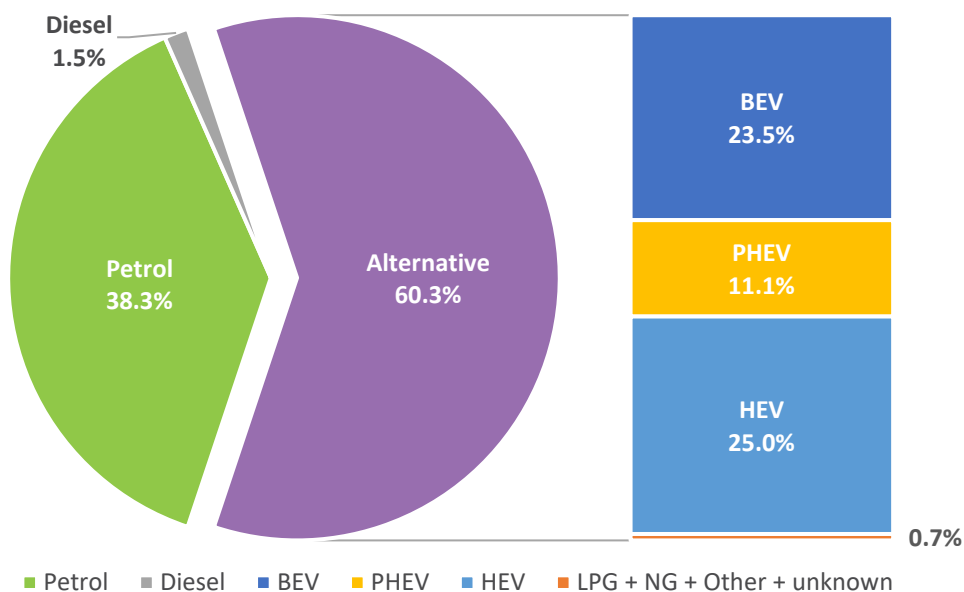
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023



Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023



Member State Overview

To date, Poland has only partially transposed the RED II. The deadline for the transposition was 30 June 2021 ; the Commission therefore sent the country a letter of formal notice in July 2021, followed by a reasoned opinion in February 2023. The [infringement case](#) is still active.

Poland's RES-T in 2021 was 5.5% without multipliers and 5.7% with multipliers.

Legal basis

- [Act on biocomponents and liquid biofuels of 25 August 2006 \(applicable in 2022\)](#) – setting the crop cap.
- [Act of 19 July 2019](#) – amending the act on biocomponents and liquid biofuels and some other acts.
- [Law on facilitating the preparation and implementation of investments in agricultural biogas plants and their operation](#) of 8 May 2023

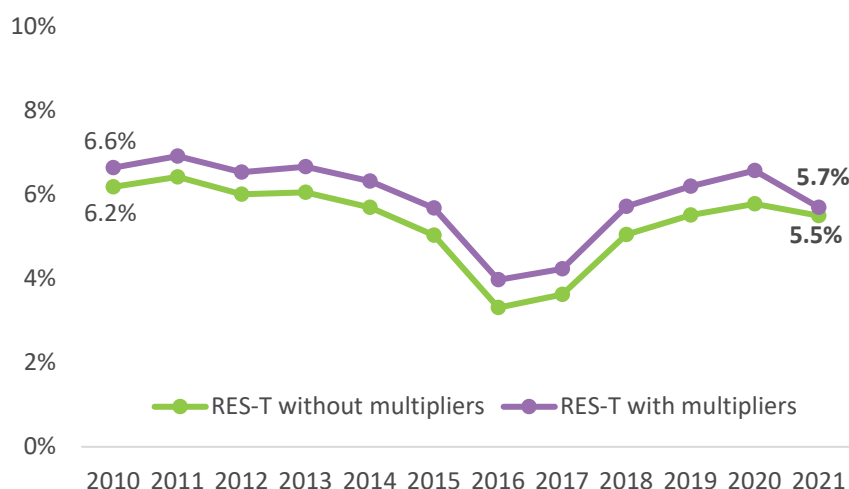
Biofuels policy and decarbonisation targets

- **Crop-based biofuels:** Crop cap set at 7%.
- **Annex IX-A (RED I) target:** at least 0.1% in 2020.
- **Multiple counting:** x2 for Annex IX biofuels.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

Measures to ensure compliance

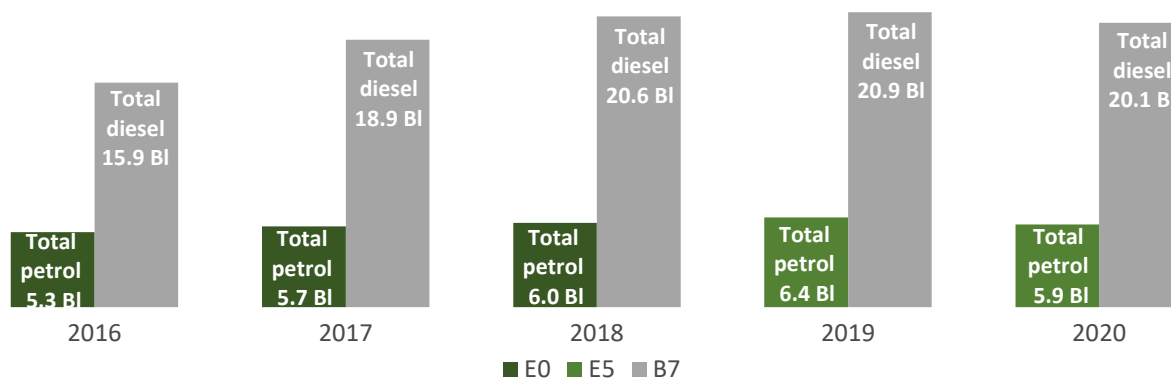
- **Blending obligations:**
 - **Minimum overall target**, or so called National Indicative Target (NIT): 8.8% in 2022, 8.9% in 2023 and 9.1% in 2024. In 2023 the minimum level of fulfilment of the NIT was 80%.
 - **Biofuel in petrol:** SP95: 3.2% in 2023, 5.3% in 2024 | SP98: 3.2% in 2023 and 2024.
 - **Biofuel in diesel:** 5.2%.
- **Penalties:** A reduction factor of 0.82 applies to the overall target for biofuels meaning an effective target in 2023 of $8.9\% \times 0.82 = 7.3\%$ is used. In 2024, the the key reduction factor and minimum implementation levels will be raised to 85%. Fuel suppliers fulfilling less than 80% of this reduced obligation target must pay a penalty of PLN 0.2 per missing MJ ($\approx \text{€}8,400/\text{toe}$). In addition, a buy out-fee of PLN 0.1/MJ (about $\text{€}4,200/\text{toe}$) must be paid for fuels suppliers not respecting the obligation for the blending of biocomponents set independently for petrol and diesel.
- **Attempts to relax biofuels blending obligations:** In August 2022 in the context of the Ukraine crisis, the government put forward a proposal to reduce the minimum level of fulfilment of the NIT from 80% to 60%, but it is kept in the final version of the act approved in November 2022. But the same amendment lowered mandatory blending for diesel to 5.2%, raised the limit for HVO to 0.9% 2023, and raised the limit for biofuels from certain raw materials (Annex IX of RED) to 0.5%.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



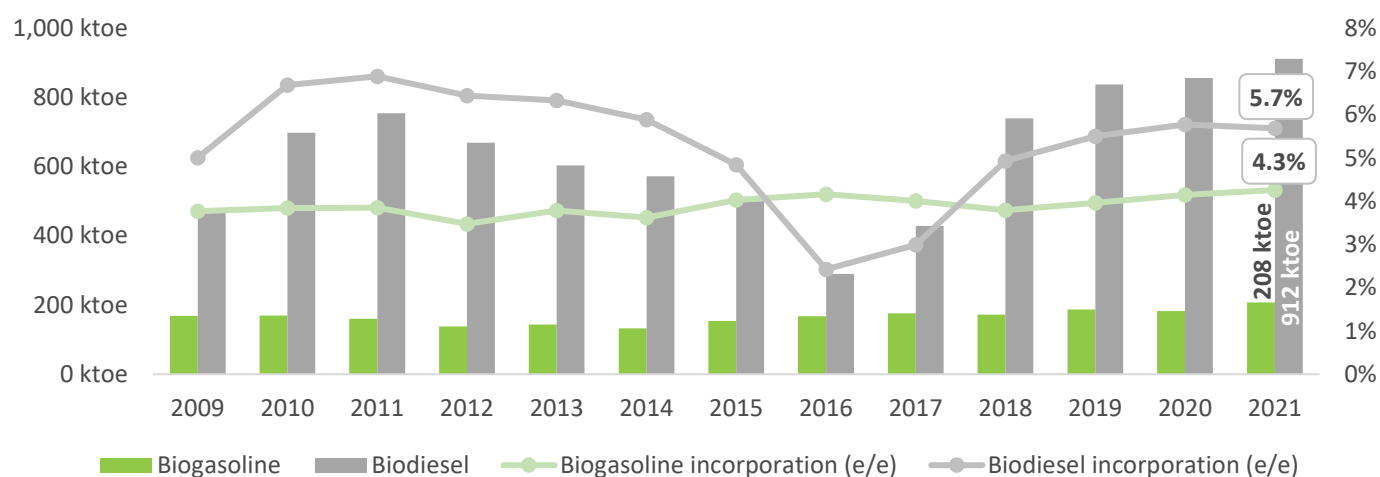
Energy source	Quantity
Fossil	20,059 ktoe – 94.5%
Renewables	1,162 ktoe – 5.5%
Crop-based biofuels	1,099 ktoe – 5.2%
Annex IX-A biofuels	20.8 ktoe – 0.01%
Annex IX-B biofuels	0 ktoe – 0%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	0.8 ktoe – 0.003%
Ren. electricity - Rail	39.8 ktoe – 0.2%
Ren. electricity - Other	1.3 ktoe – 0.006%
Total	21,221 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

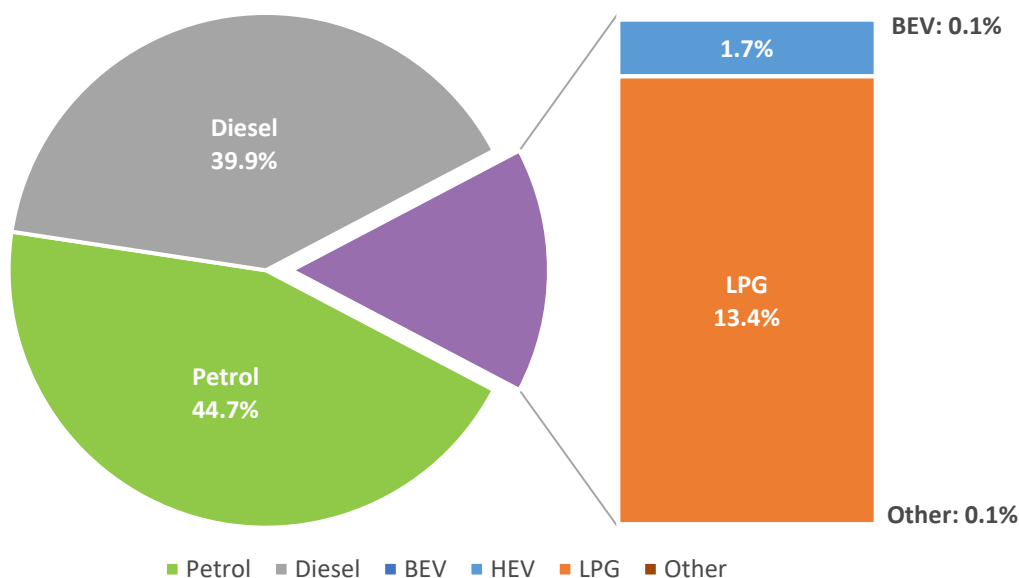


Page | 72

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

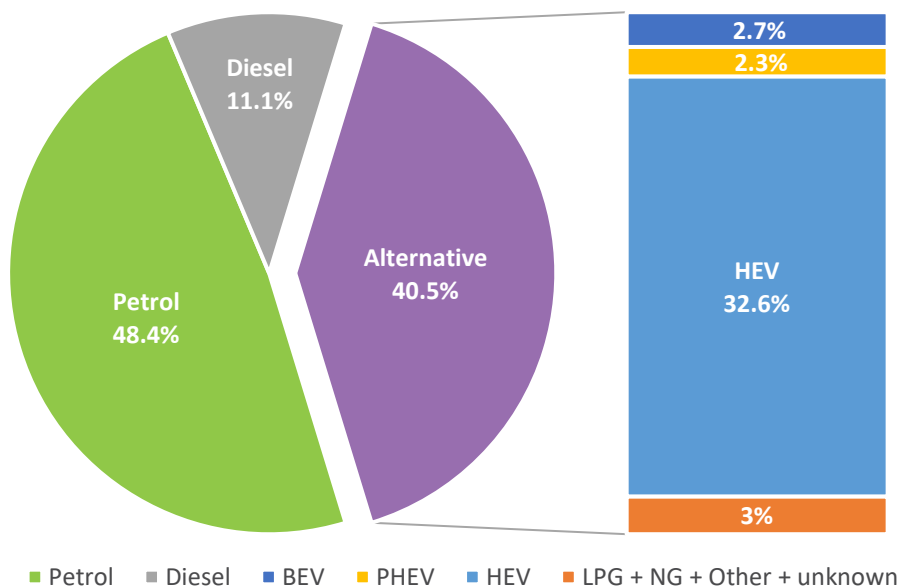


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 73



Member State Overview

On April 2023, the transposition of RED II was completed. Portugal aims to achieve 41% overall share of renewables in its gross final consumption of energy by 2027 and 20% RES-T by 2030. Portugal's RES-T in 2021 was 5.4% without multipliers and 8.6% with multipliers.

Legal basis

- [Decree Law 8-2021](#) – transposing some provisions of RED II; applicable until the RED II is fully transposed.
- [Decree Law 60-2020](#) – establishing the overall share of renewables in total energy consumption.
- [Ordinance 301/2011](#) – setting the penalty compensation for missing blending obligations.
- [Decree-Law No. 84 of 9 December 2022](#) – Establishes goals related to the consumption of energy from renewable sources, partially transposing the RED II.
- [Ordinance No. 110-A of 24 April 2023](#) – Regulates Decree-Law No. 84 of 9 December 2022, complementing the transposition of the RED II.

Biofuels policy and decarbonisation targets

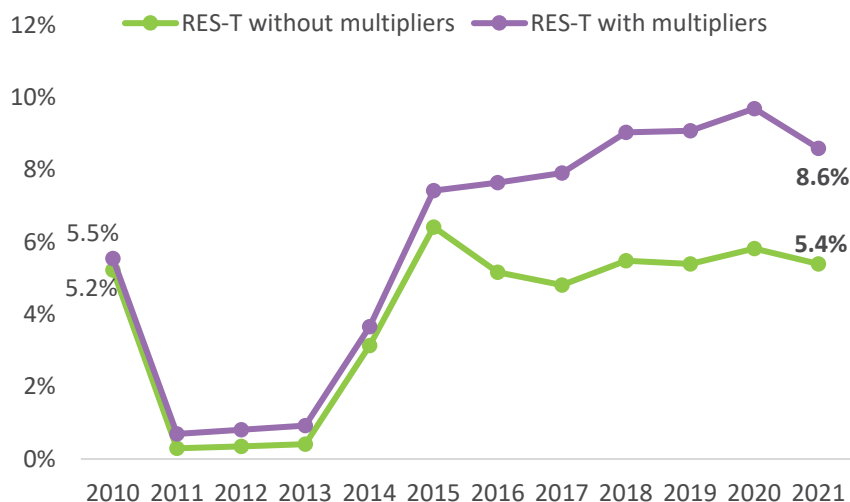
- **Crop-based biofuels:** Crop cap at 2020 consumption levels in road and rail transport, +1% flexibility within a 7% limit, as in RED II Art. 26, excluding biofuels made from raw materials grown on degraded or fallow land.
- **Annex IX biofuels targets:** in 2022: 0.2% | in 2023: 0.7% | in 2025 and 2026: 2% | in 2027 and 2028: 4% | in 2029: 7% | in 2030: 10%.
- **Multiple counting:** x2 for Annex IX biofuels and RFNBOs; x5 for renewable electricity in road, x2.5 in train.
- **Sustainability criteria:** as in RED II Art. 29 re. no-go areas for agricultural biomass.

Page | 74

Measures to ensure compliance

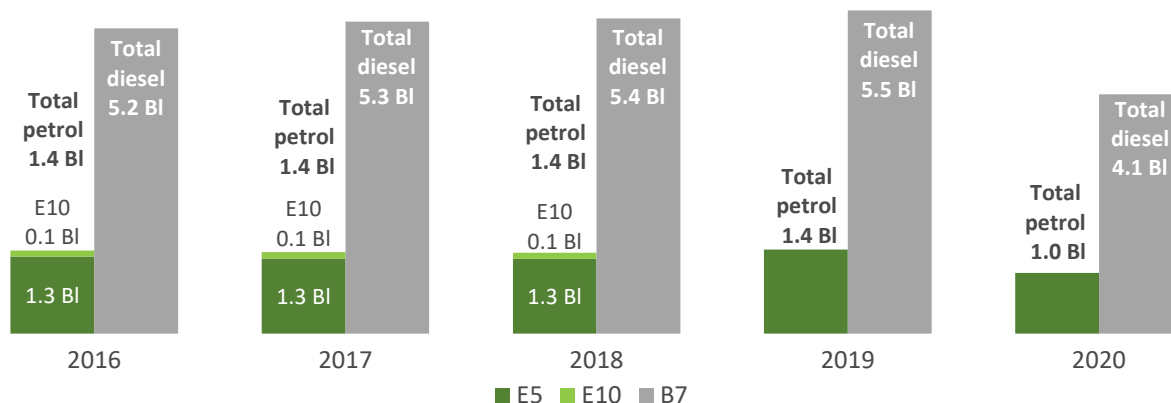
- **Blending obligation (in energy):** from 2022: 11% | from 2023: 11.5% | from 2025: 13% | from 2027: 14% | from 2029: 16%.
- **Penalties:** Incorporation of biofuels relies on a system of certificates called TdB and equivalent to 1 toe. Fuel suppliers failing to meet their blending obligations must pay €2,000 per missing TdB.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



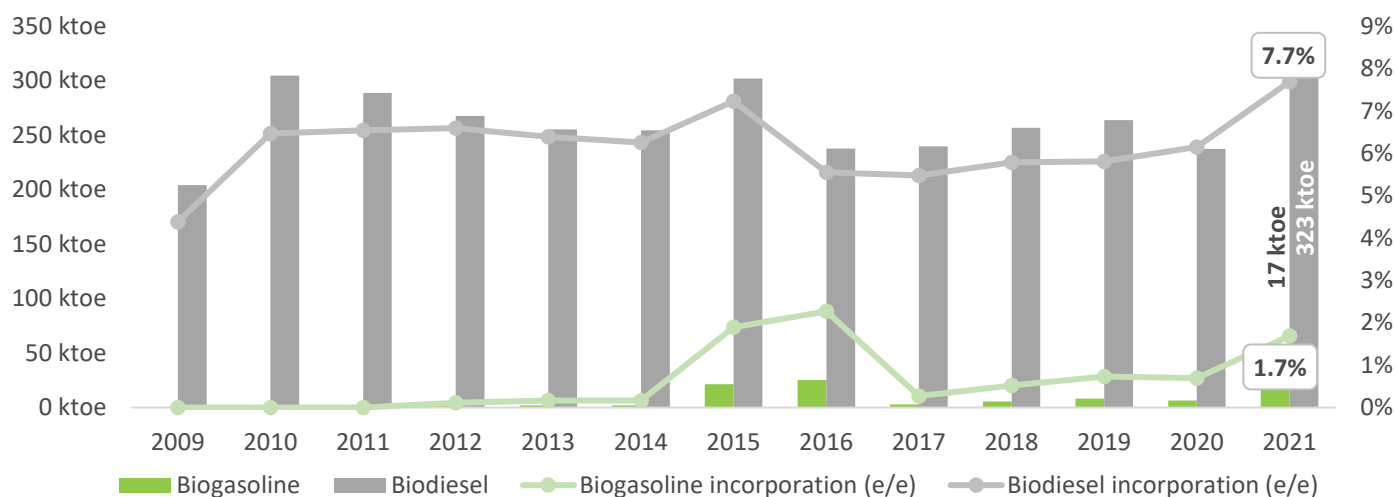
Energy source	Quantity
Fossil	4,864 ktoe – 93.1%
Renewables	362 ktoe – 6.9%
Crop-based biofuels	84 ktoe – 1.6%
Annex IX-A biofuels	83.8 ktoe – 1.6%
Annex IX-B biofuels	172.4 ktoe – 3.3%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	0.8 ktoe – 0.02%
Ren. electricity - Rail	20.8 ktoe – 0.4%
Ren. electricity - Other	0.3 ktoe – 0.005%
Total	5,226 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

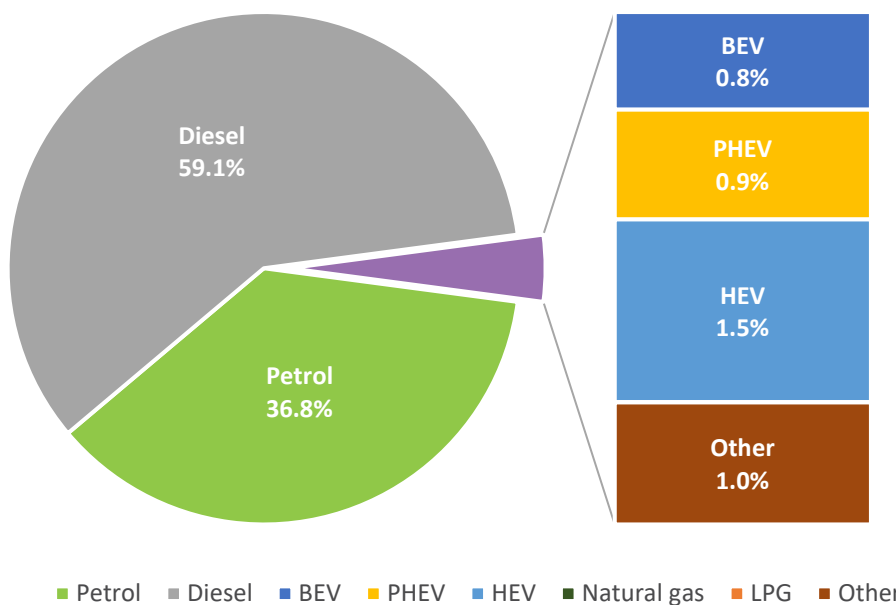


Page | 75

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

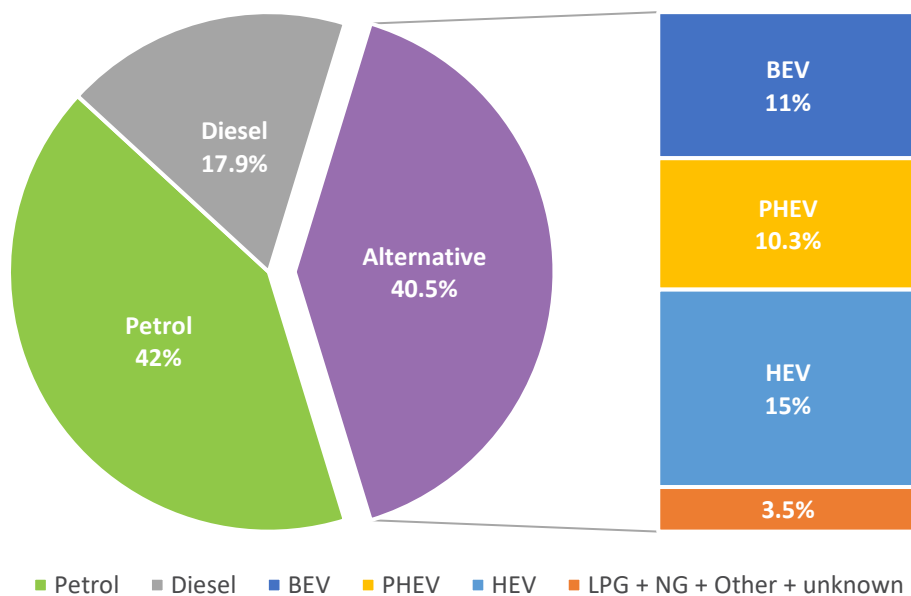


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 76



Member State Overview

Romania implemented the provisions of RED II through an emergency ordinance. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion for partial transposition in May 2022. The [infringement case](#) is still active.

The stated goal is to achieve a 14% RES-T by 2030. Romania's RES-T in 2021 was 7.1% without multipliers and 7.7% with multipliers.

Legal basis

- [Emergency Ordinance no. 162/2022 of 6 December 2022](#) – implementing various provisions of RED II.

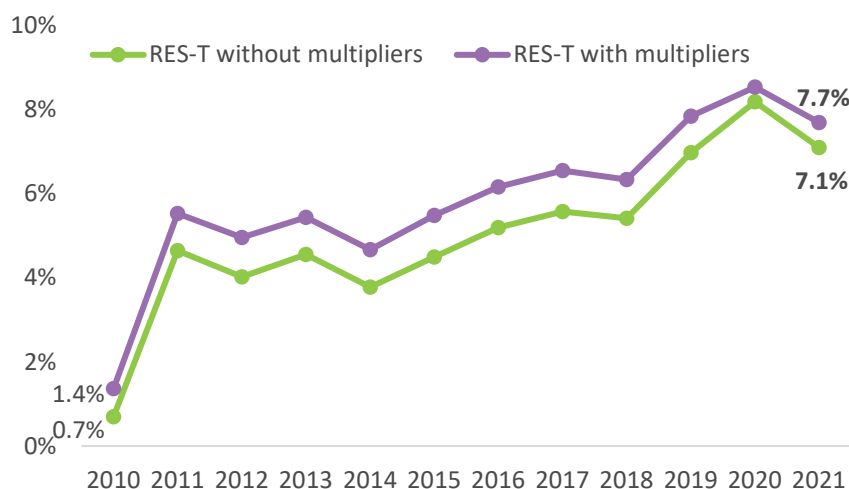
Biofuels policy and decarbonisation targets

- **Crop-based biofuels:** Crop cap at 2020 consumption levels in road and rail transport, +1% flexibility within a 7% limit, as in RED II Art. 26.
- **Annex IX A biofuels:** a draft proposal law sets minimum targets for Annex IX-A biofuels and biomethane at 0.2% in 2022, 1% in 2025, and 3.5% by 2030.
- **Multiple counting:** x2 for Annex IX biofuels.
- **Sustainability criteria:** as in RED II Art. 29 re. no-go areas for agricultural biomass.

Measures to ensure compliance

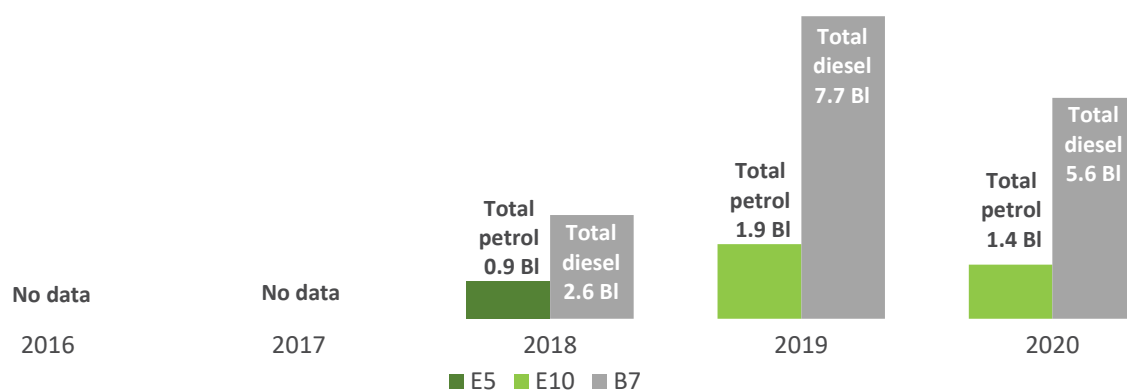
- **Blending obligations:** 8% for petrol and 6.5% for diesel, in volume.
- **Penalties:** A fine of RON 70,000-100,000 (about €14,500-20,700) must be paid by fuel suppliers failing to meet their blending requirements.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



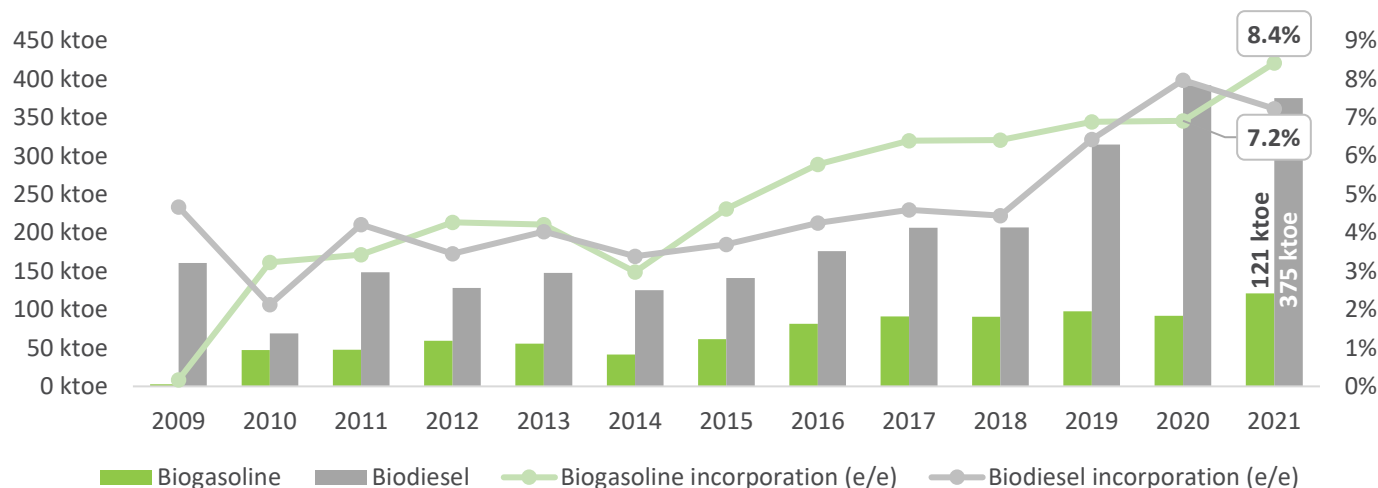
Energy source	Quantity
Fossil	6,178 ktoe – 91.9%
Renewables	547 ktoe – 8.1%
Crop-based biofuels	495.8 ktoe – 7.4%
Annex IX-A biofuels	0 ktoe – 0%
Annex IX-B biofuels	0 ktoe – 0%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	6.9 ktoe – 0.1%
Ren. electricity - Rail	42.2 ktoe – 0.6%
Ren. electricity - Other	1.8 ktoe – 0.03%
Total	6,725 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

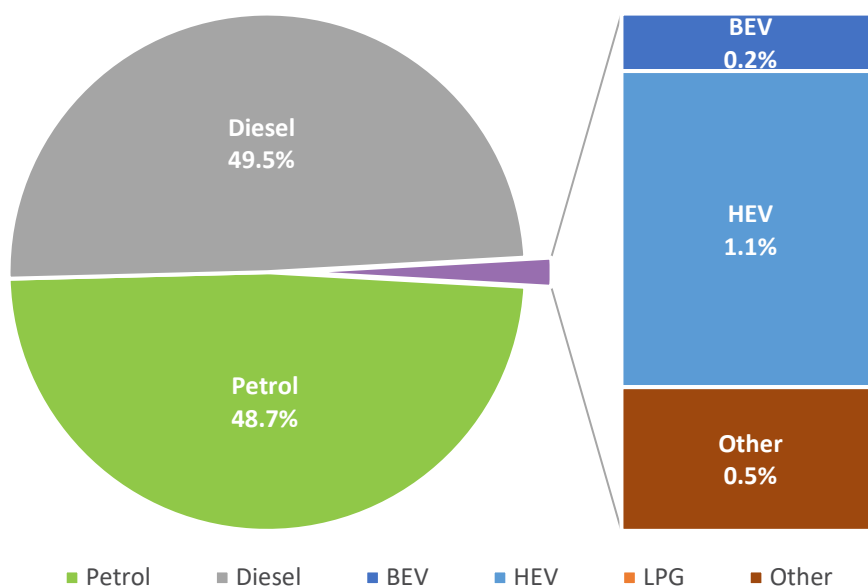


Page | 78

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

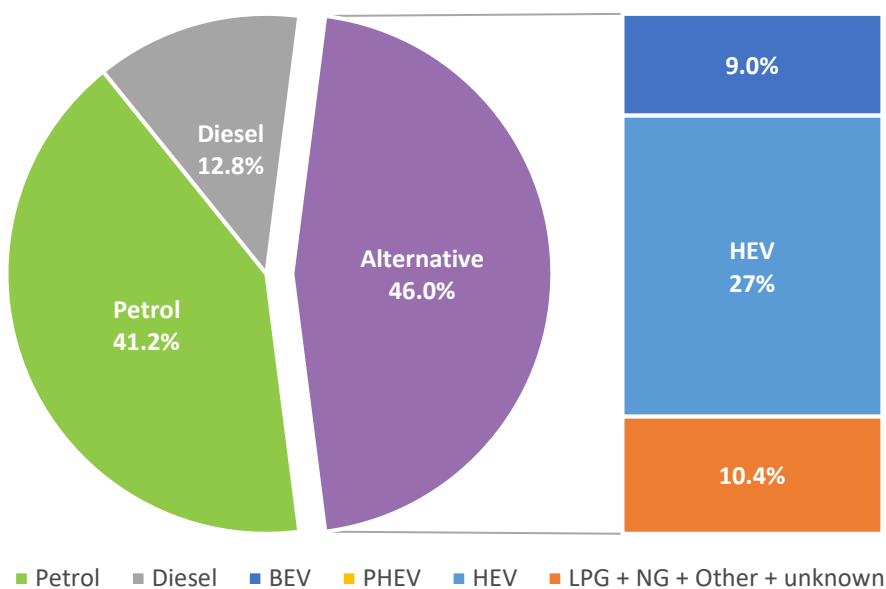


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 79



Member State Overview

Slovakia finalized its transposition of RED II in January 2023. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion in December 2021. The [infringement case](#) is still active. The Commission decided on 26 January to refer Slovakia to the Court of Justice of the European Union with a request to impose financial sanctions in accordance with Article 260(3) TFEU for failing to transpose the RED II into national legislation. The country aims to achieve a 19.2% overall RES and a 14% RES-T by 2030. Slovakia's RES-T in 2021 was 6.9% without multipliers and 8.8% with multipliers.

Legal basis

- [Act 309/2009](#) on the support of renewable energy sources and highly efficient combined production and on the amendment and supplementation of certain laws – transposing the RED II provisions (effective from 1 January 2023 to 30 December 2023).
- [Decree on renewable energy calculation](#) of 2022 – implementing provisions of Act 309/2009.
- [Decree no. 271/2011](#) – transposing additional RED II provisions | [Amended in February 2023](#).

Biofuels policy and decarbonisation targets

- **RES-T targets (incl. RCFs and RFNBOs):**
 - **Liquid fuels:** 8.2% for 2022 | 8.6% for 2023 | 8.8% for 2024 | 9.2% for 2025 | 9.5% for 2026 | 10.0% for 2027 | 10.4% for 2028 | 10.8% for 2029 | 11.4% for 2030.
 - **Gaseous fuels:** 2% for 2023 | 3% for 2024 | 4% for 2025 | 6% for 2026 | 8% for 2027 | 10% for 2028 | 12% for 2029 | 14% for 2030.
- **Crop-based biofuels:**
 - **Crop cap** set at 6% of energy content.
 - **High-ILUC-risk biofuels** capped at 0% from 1 January 2023.
- **Annex IX biofuels:**
 - **Annex IX-A targets:** 0.5% for 2023 | 0.65% for 2024 | 1.05% for 2025-2026 | 1.4% for 2027-2028 | 1.75% for 2029 | 2.1% for 2030 of total energy content of fuels placed on the market. The country includes new feedstock to the Annex IX-A list ¹⁷.
 - **Annex IX-B** capped at 1.7% of overall share of renewables in transport, before double counting.
- **Multiple counting:** x2 for Annex IX-A and B biofuels; x4 for renewable electricity in road, x1.5 in train; x1.2 for aviation and maritime fuels.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

Page | 80

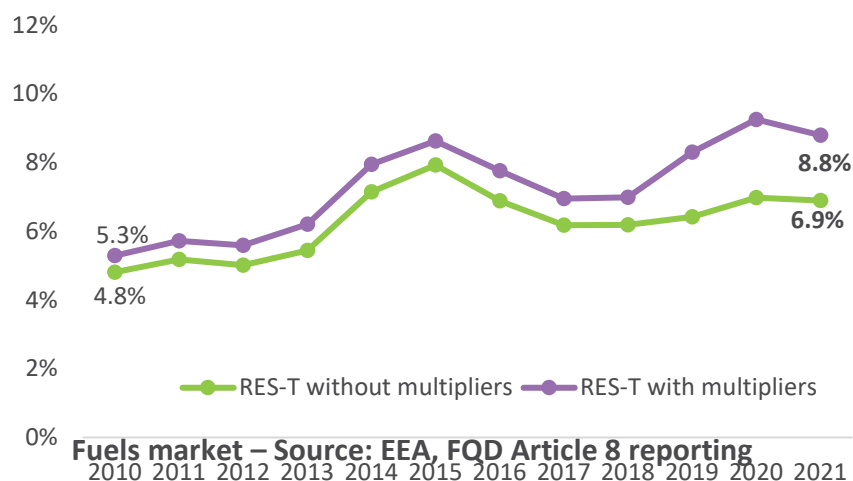
Measures to ensure compliance

- **Blending obligations:** 9% in petrol, including at least 3% ETBE, and 6.9% in diesel, in volume, from 2020.
- **GHG intensity reduction for transport fuels:** 6% target, compared to the fossil reference of 94.1 gCO₂eq/MJ.
- **Penalties:** Fuel suppliers failing to achieve the fuel GHG intensity reduction target must pay: €0.37/kgCO₂eq. Fuel suppliers failing to meet their total renewable share must pay €0.05/missing MJ (around €2,092/toe). Fuel

¹⁷ Residues from corn processing; waste resulting from the production of non-alcoholic beer; slurry containing starch; brown grease and grease from grease traps; free fatty acids and soap residues; technical corn oil from Distiller's dried grains with solubles; technical alcohol waste, heads tails and fusel oils; wastewater from alcohol distillation residues and lecithin slurry from production; wastewater resulting from processing of palm oil; wet corn fibre.

suppliers failing to blend in the mandatory minimum of renewables must pay 2€/l of missing renewable (biofuels).

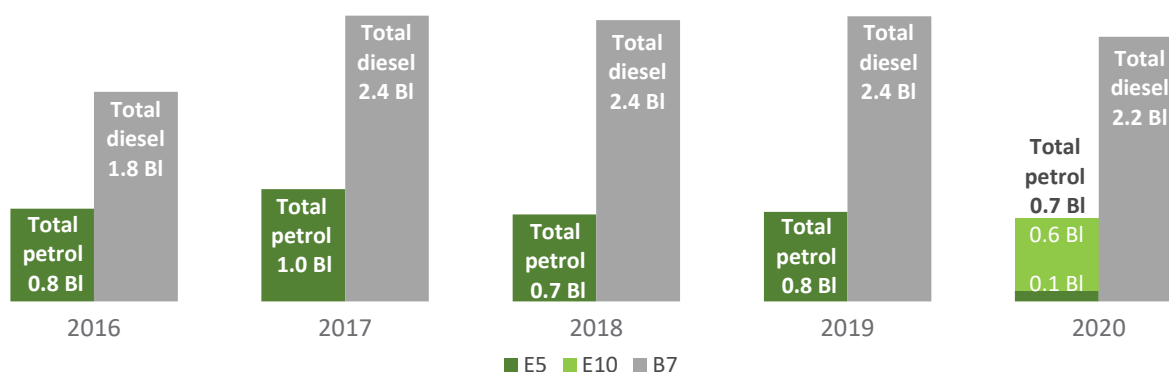
Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



Energy source	Quantity
Fossil	2,327 ktoe – 93.1%
Renewables	172 ktoe – 6.9%
Crop-based biofuels	114.9 ktoe – 4.6%
Annex IX-A biofuels	8 ktoe – 0.3%
Annex IX-B biofuels	37.7 ktoe – 1.5%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	0.5 ktoe – 0.02%
Ren. electricity - Rail	8.9 ktoe – 0.4%
Ren. electricity - Other	1.8 ktoe – 0.07%
Total	2,498 ktoe

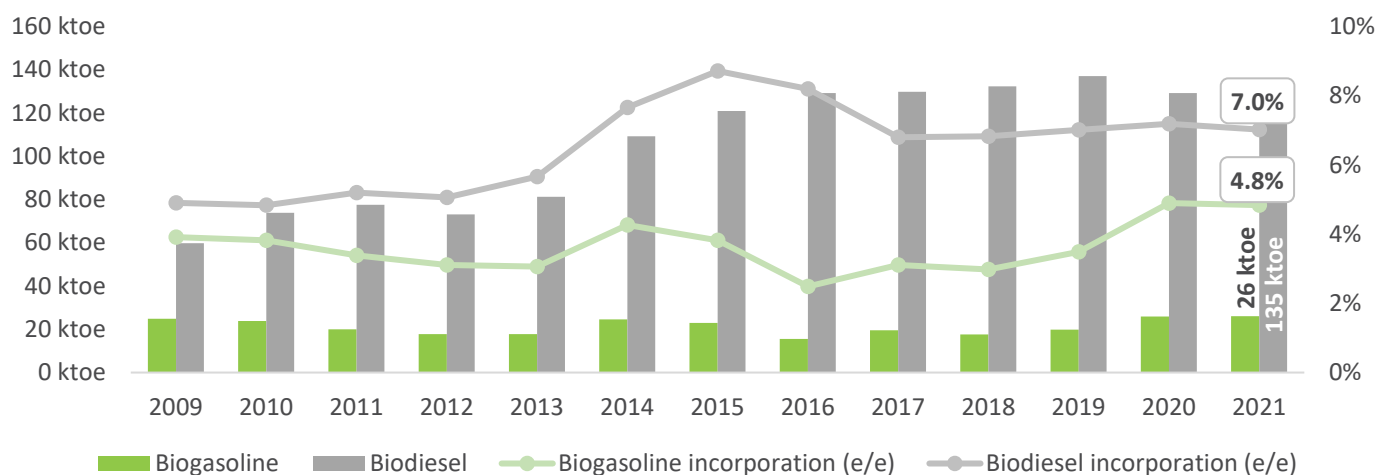
Fuels market – Source: EEA, FQD Article 8 reporting

2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

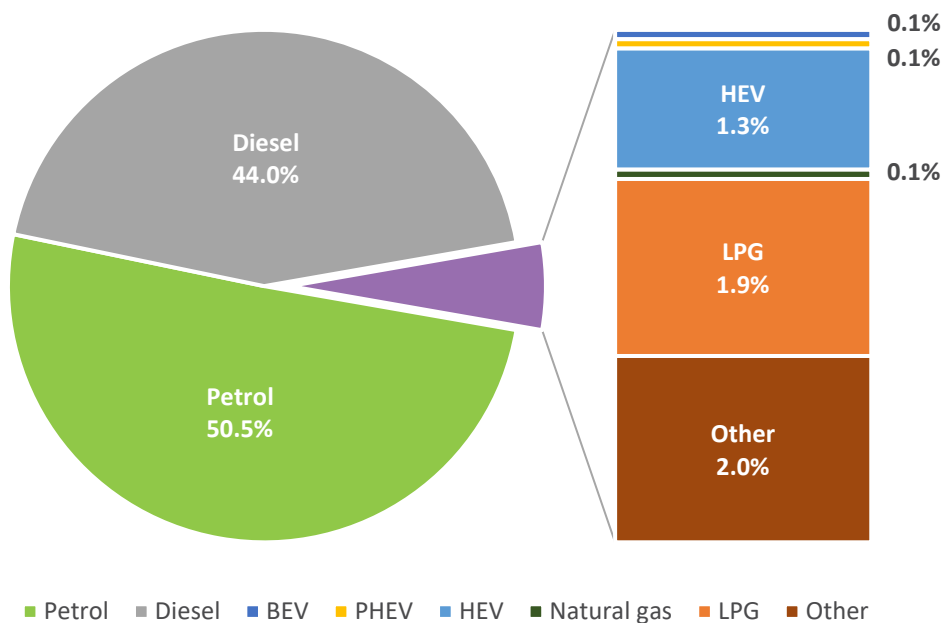


Page | 81

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

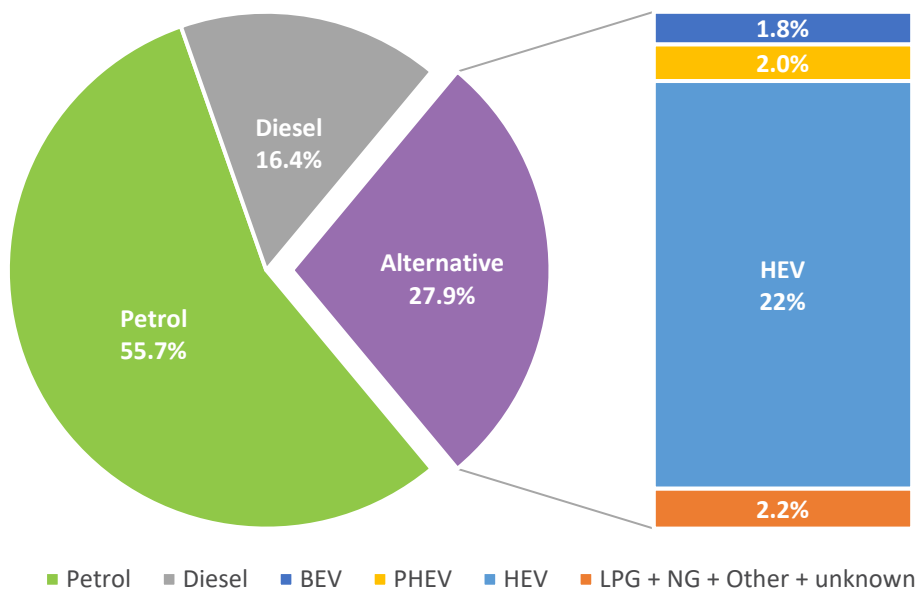


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 82



Member State Overview

Slovenia transposed many of the transport related provisions of RED II. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion for partial transposition in July 2022. The [infringement case](#) is still active. The country aims to achieve a 25% overall share of renewables in its gross final consumption of energy and 20.8% RES-T by 2030. Additionally, Slovenia has set separate targets for biogas of at least 2% in 2026 and 6% in 2030. Its RES-T in 2021 was 4.7% without multipliers and 10.6% with multipliers.

Legal basis

- [Act on the Promotion of the Use of Renewable Energy Sources](#) of July 2021 – transposing RED II.
- [Regulation on renewable energy sources in transport](#) of December 2021 – transposing RED II Art. 25, 26 & 27.
- [Regulation on sustainability criteria for biofuels and greenhouse gas emissions from fuels](#) of March 2021 – transposing RED II GHG reduction targets of Art. 29.

Biofuels policy and decarbonisation targets

- **Crop-based biofuels:**
 - Crop cap at 2020 consumption levels in road and rail transport, +1% flexibility within a 7% limit, as in RED II Art. 26.
- **Annex IX biofuels:**
 - Targets for Annex IX-A biofuels set at 0.2% in 2022, 1% in 2025, and 3.5% by 2030, as in RED II Art. 25
 - The use of Annex IX-B biofuels and biogas in transport is capped at 1.7% by 2030.
- **Multiple counting:** x2 for Annex IX-A biofuels; x4 for renewable electricity in road, x1.5 in train; x1.2 for aviation and maritime fuels.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

Page | 83

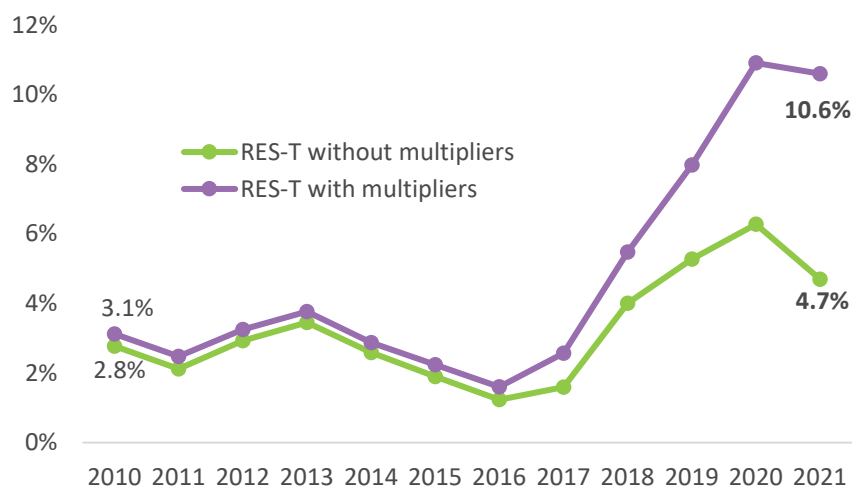
Measures to ensure compliance

- **Renewable energy incorporation targets:** Targets for renewable incorporation in transport can be achieved using biofuels, renewable electricity, RCFs and RFNBOs.

○ At least 10.1% in 2022	○ At least 13.8% in 2026
○ At least 10.3% in 2023	○ At least 15.8% in 2027
○ At least 10.6% in 2024	○ At least 18.3% in 2028
○ At least 11.2% in 2025	○ At least 20.8% in 2029 and 2030

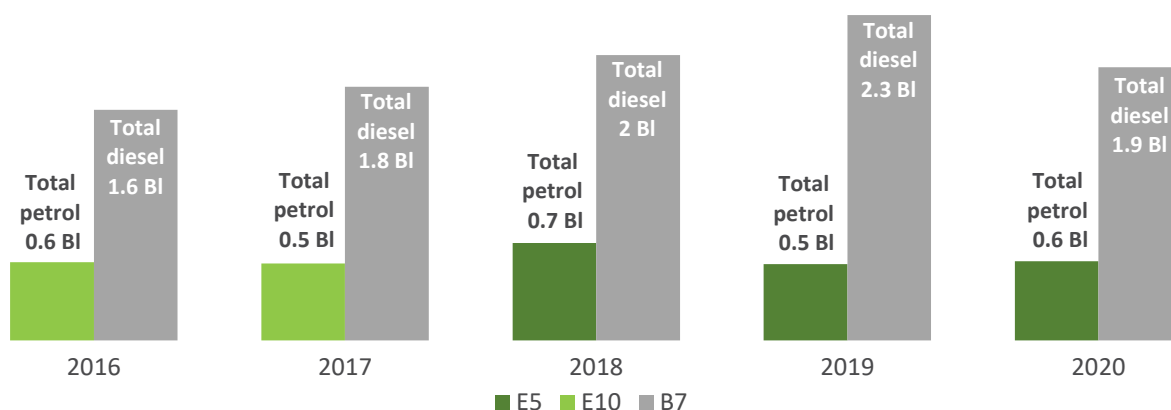
 - Fuel retailers not reaching the target will be allowed to offset the shortfall with any surpluses in the preceding or following 3 years.
- **Tax incentives:** The excise duty rate is set at 0% for ethanol, bio-ETBE, biodiesel, biogas, bio-dimethyl ether, and bio-methanol.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2022



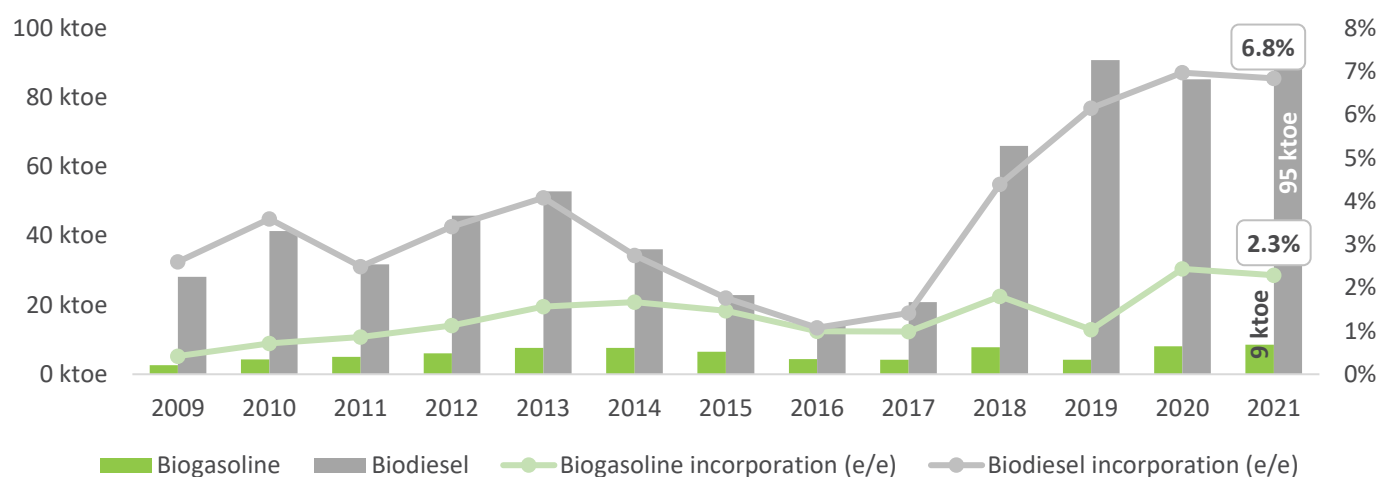
Energy source	Quantity
Fossil	1,678 ktoe – 93.9%
Renewables	109 ktoe – 6.1%
Crop-based biofuels	15.4 ktoe – 0.9%
Annex IX-A biofuels	30.9 ktoe – 1.7%
Annex IX-B biofuels	56.3 ktoe – 3.2%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	0.1 ktoe – 0.006%
Ren. electricity - Rail	6.3 ktoe – 0.4%
Ren. electricity - Other	0.2 ktoe – 0.01%
Total	1,787 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

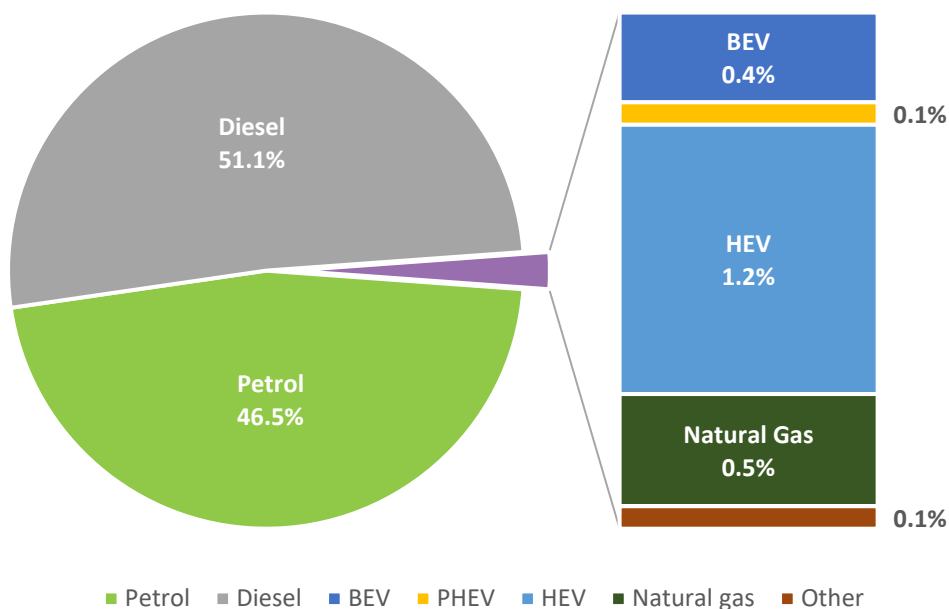


Page | 84

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

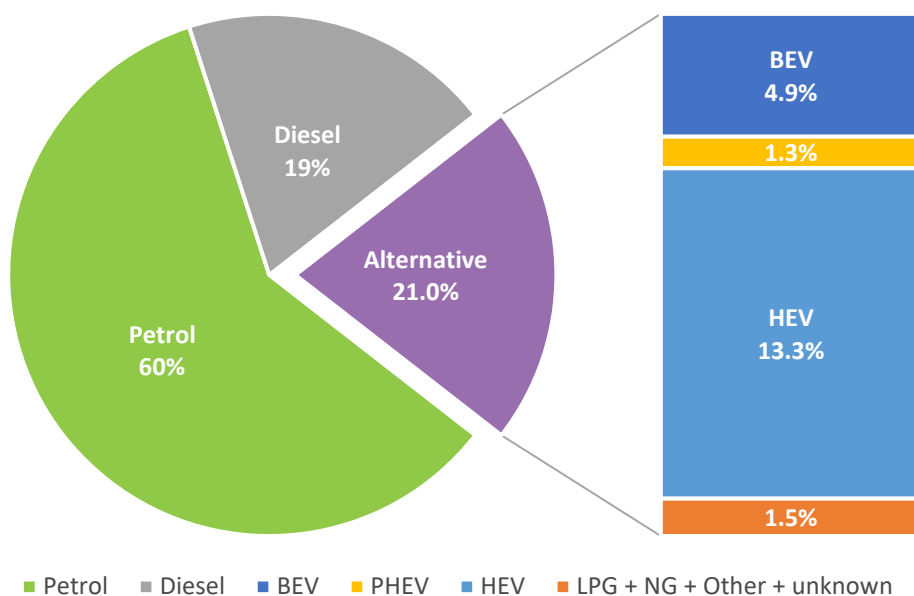


Passenger car fleet in 2021 – Source: ACEA 2023



Page | 85

Passenger car registrations in 2022 – Source: ACEA 2023



Member State Overview

Spain completed the transposition of RED II provisions related to transport into national law. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion for partial transposition in July 2022 and in January 2023. The [infringement case](#) is still active. The country aims to achieve a 42% overall RES and a 28% RES-T by 2030 with an intermediate RES-T target of 15% by 2025. Spain's RES-T in 2021 was 6.1% without multipliers and 9.2% with multipliers.

Legal basis

- [Order TED/1342/2022, of 23 December 2022](#) – laying down the cap for crop-based biofuels as of 2023 and the cap for high ILUC-risk biofuels as of 2024.
- [Royal Decree 376/2022, of 17 May 2022](#) – transposing the RED II provisions for biofuels and Art. 29 sustainability provisions as well as setting the biofuels market share mandates for the years from 2023 to 2026.
- [Royal Decree-Law 6/2022, of 29 March 2022](#) – transposing the FQD.
- [Royal Decree 205/2021, of 30 March 2021](#) – implementing the biofuels market share mandates for 2021 and 2022.
- [Resolution of 17 December 2021 of the Secretary of State for Energy](#) – updating the penalty for not respecting the biofuels market share obligation as of 2022.
- [Resolution of 30 September 2021 of the Secretary of State for Energy](#) – establishing the cap on high-ILUC-risk biofuels as of 2022.
- [Order ITC/2877/2008](#) – establishing a mechanism to promote the use of biofuels and other renewable fuels.
- [PNIEC 2021-2030](#) – implementing various provisions of RED II Art. 3, 25, and 27.

Page | 86

Biofuels policy and decarbonisation targets

- **Crop-based biofuels:**
 - **Crop cap** set, in energy, at 3.5% for 2023, 3% for 2024 and 2.6% for 2025 for the biofuels market share mandate.
 - Biofuels from palm oil, oil palm fresh fruit bunches, PFAD, palm kernel oil and palm kernel shells oil capped at 3.1% in energy for 2023, 3 % for 2024 and 2.6% for 2025 for the biofuels market share mandate.
- **Annex IX biofuels:**
 - **Targets for Annex IX-A biofuels**, in energy, for the RES-T goal set at 0.2% in 2022, 1% in 2025 and 3.5% in 2030, and for the biofuels market share mandate at:

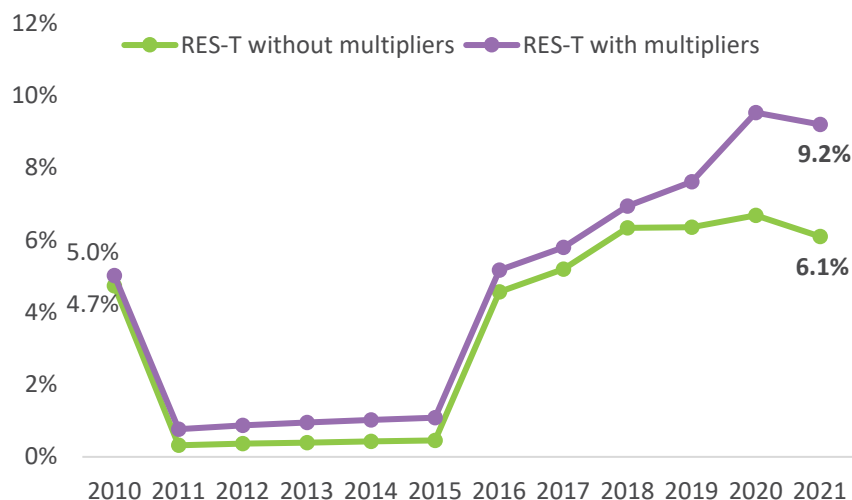
▪ 0.2% in 2022	▪ 0.5% in 2024	▪ 1.2% in 2026
▪ 0.3% in 2023	▪ 1% in 2025	▪ 3.5% in 2030
 - The use of **Annex IX-B biofuels and biogas** in transport is capped at 1.7% in energy as of 2021 both for the RES-T target and for the biofuels market share mandate.
- **Multiple counting:** x2 for Annex IX biofuels; x4 for renewable electricity in road, x1.5 in train; x1.2 in aviation and maritime.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

Measures to ensure compliance

- **Overall biofuels market share obligations in road transport (in energy):** 2023: 10.5% | 2024: 11% | 2025: 11.5% | 2026: 12%.

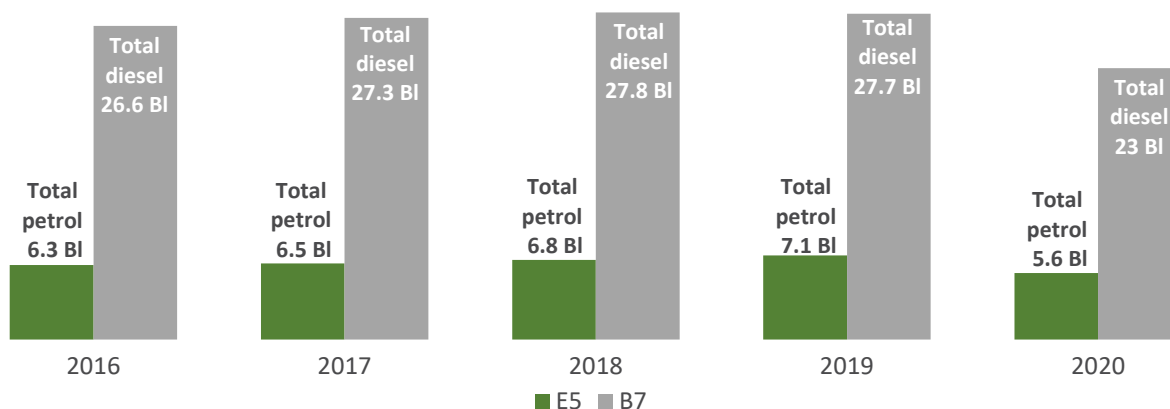
- **GHG intensity reduction target for transport fuels:** 6% as of 2022, compared to a reference of 94.1gCO_{2eq}/MJ.
- **Penalties:** Buy-out price of 1,623 €/toe as of 2022. Fuel suppliers meeting less than 50% of their obligation will be fined to up €30 million.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



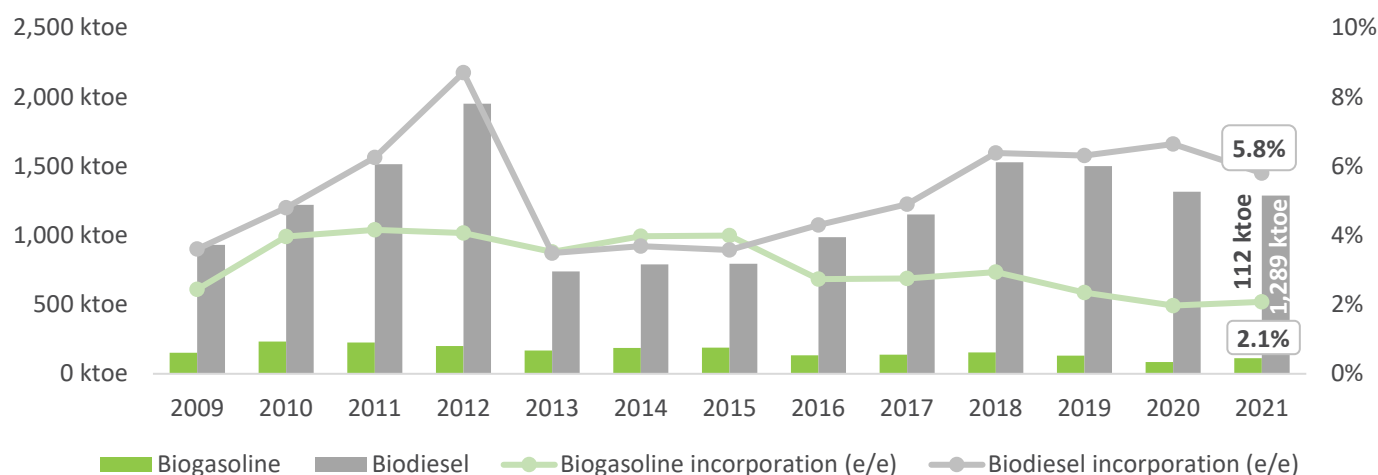
Energy source	Quantity
Fossil	25,861 ktoe – 93.1%
Renewables	1,668 ktoe – 6.9%
Crop-based biofuels	682.6 ktoe – 2.5%
Annex IX-A biofuels	471.3 ktoe – 1.7%
Annex IX-B biofuels	396 ktoe – 1.4%
Other compliant biofuels	0 ktoe – 0%
Ren. electricity - Road	11.3 ktoe – 0.04%
Ren. electricity - Rail	99.4 ktoe – 0.4%
Ren. electricity - Other	7.2 ktoe – 0.03%
Total	27,529 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

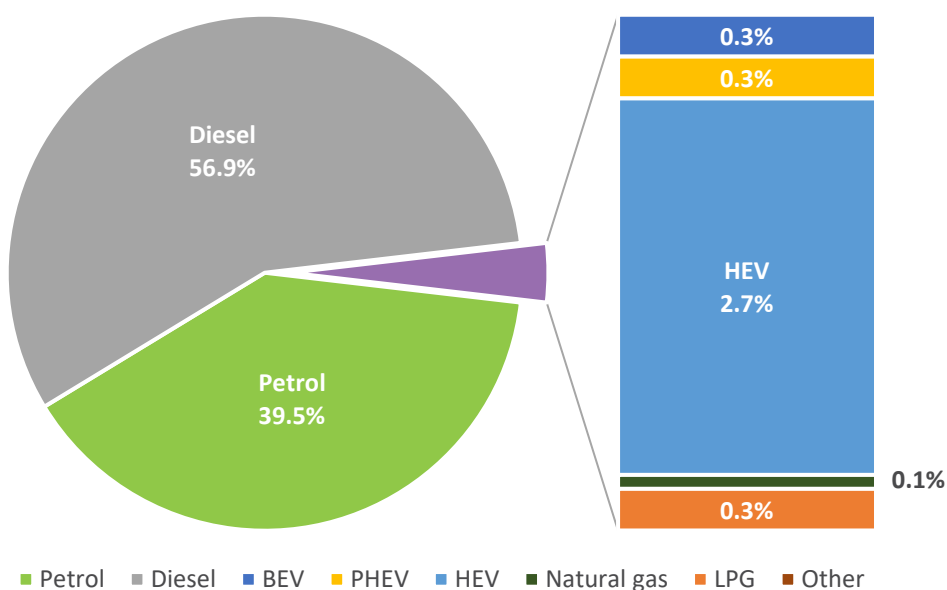


Page | 87

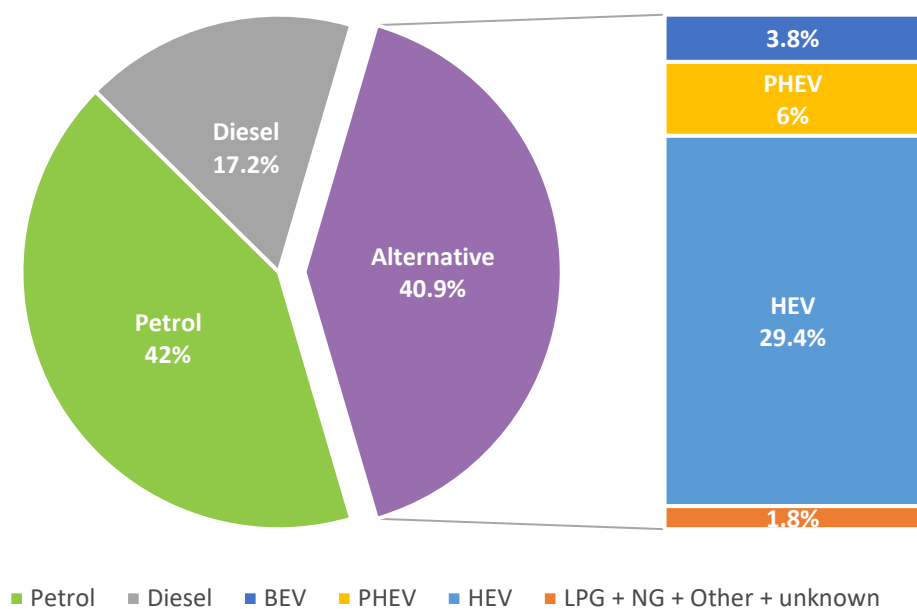
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023



Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023



Member State Overview

Sweden transposed most of the transport-related provisions of RED II. The country received a letter of formal notice for failure to communicate the complete transposition of the Directive on 23 July 2021 and a reasoned opinion for partial transposition in July 2022. The [infringement case](#) is still active. Sweden has set targets for the GHG reduction of fuels, to a 28% reduction for petrol and a 66% reduction for diesel by 2030, frozen in 2023 because of high fuel prices. Sweden's RES-T in 2021 was 22.8% without multipliers and 30.4% with multipliers.

Legal basis

- [Act \(2017:1201\) on the reduction of greenhouse gas emissions from certain fossil fuels](#) – implementing the GHG reduction targets for petrol and diesel.
- [Act \(2010:598\) on sustainability criteria for biofuels and biofuels \(amended in 2022\)](#) – setting additional sustainability criteria for no-go areas for agricultural biomass.
- [Bill \(2020/21:185\) Sustainability criteria - implementation of the revised renewables directive](#) – implementing sustainability criteria as in RED II Art. 29.

Biofuels policy and decarbonisation targets

- **Crop-based biofuels:**
 - No explicit targets or active measures to limit crop-based biofuels.
 - High-ILUC-risk biofuels cannot be counted towards the 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.
- **Multiple counting:** not implemented.
- **Sustainability criteria:** as in RED II Art. 29 re. GHG reduction targets and no-go areas for agricultural biomass.

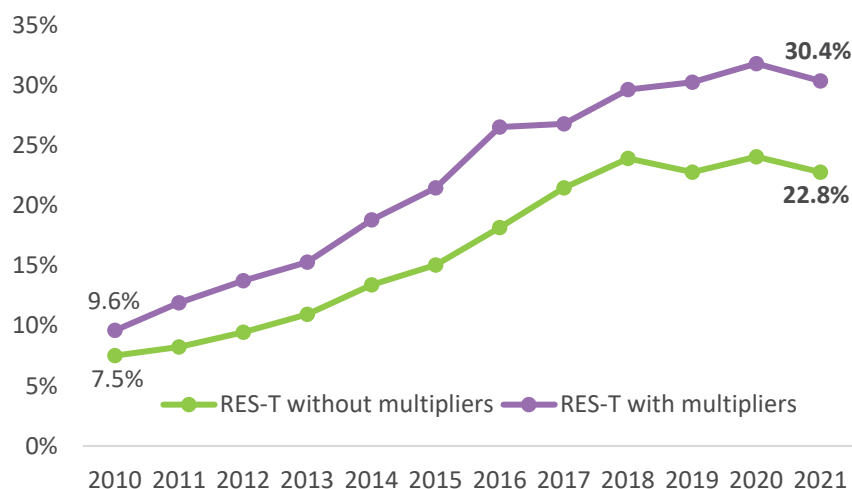
Page | 89

Measures to ensure compliance

- **GHG reduction targets** (excl. RCFs):

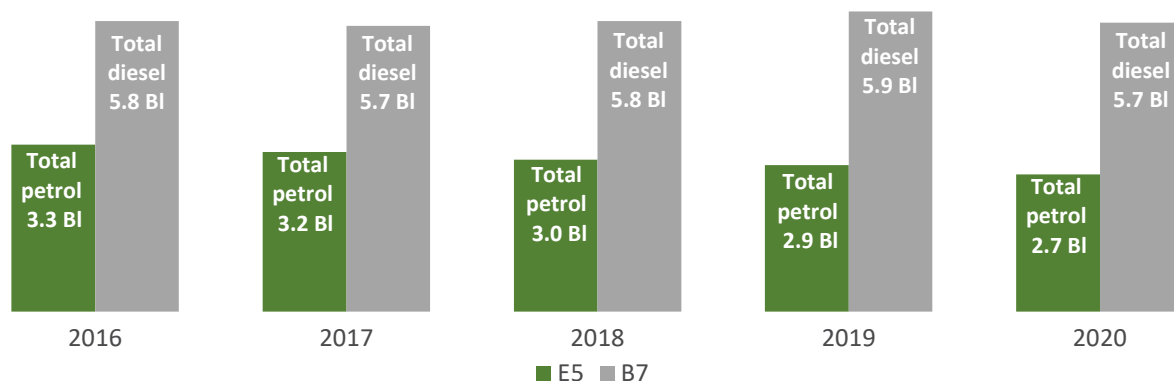
○ 2022: 7.8% for petrol, 30.5% for diesel	○ 2027: 22% for petrol, 54% for diesel
○ 2023: 7.8% for petrol, 30.5% for diesel	○ 2028: 24% for petrol, 58% for diesel
○ 2024: 12.5% for petrol, 40% for diesel	○ 2029: 26% for petrol, 62% for diesel
○ 2025: 15.5% for petrol, 45% for diesel	○ 2030: 28% for petrol, 66% for diesel
○ 2026: 19% for petrol, 50% for diesel	
- **Penalties:** Fuel suppliers failing to fulfil their GHG obligations must pay a penalty per kgCO_{2eq} of SEK 5 (0.48€) for petrol and SEK 4 (0.39€) for diesel. Suppliers selling fossil fuels with no biofuels content must pay a fee of SEK 0.39/l of petrol (0.038€) and SEK 2.69/l of diesel (0.26€). 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.
- **Tax incentive** (Approved by Commission until 2026: blended biofuels (Ethanol part in E85 and ED95; RME or FAME in high blending; HVO or biodiesel in high blending) are exempted from energy and CO₂ tax.
- **Attempts to relax GHG reduction targets:** In 2022, the government agreed to freeze annual increases to the emissions reduction targets in 2023 to cope with fuel price inflation. Government further discusses to decrease GHG reduction targets for 2024-2026.

Renewables in transport in 2021 – Source: Eurostat, SHARES 2023



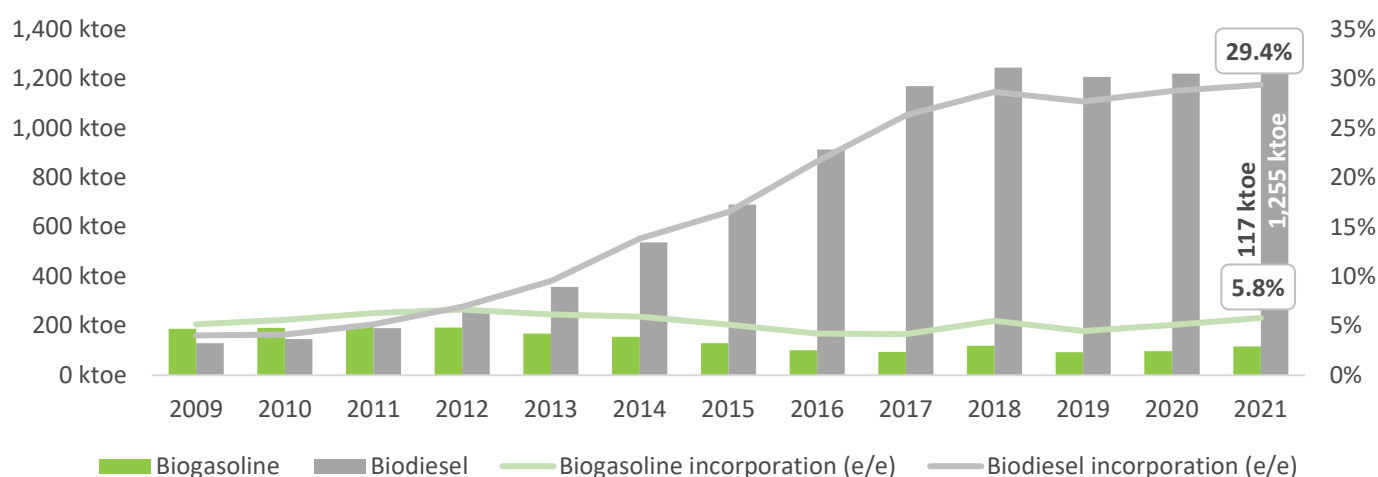
Energy source	Quantity
Fossil	4,987 ktoe – 74.6%
Renewables	1,696 ktoe – 25.4%
Crop-based biofuels	435.3 ktoe – 6.5%
Annex IX-A biofuels	332.2 ktoe – 5%
Annex IX-B biofuels	300.6 ktoe – 4.5%
Other compliant biofuels	383.8 ktoe – 5.7%
Ren. electricity - Road	87.8 ktoe – 1.3%
Ren. electricity - Rail	156.7 ktoe – 2.3%
Ren. electricity - Other	0 ktoe – 0%
Total	6,683 ktoe

Fuels market – Source: EEA, FQD Article 8 reporting

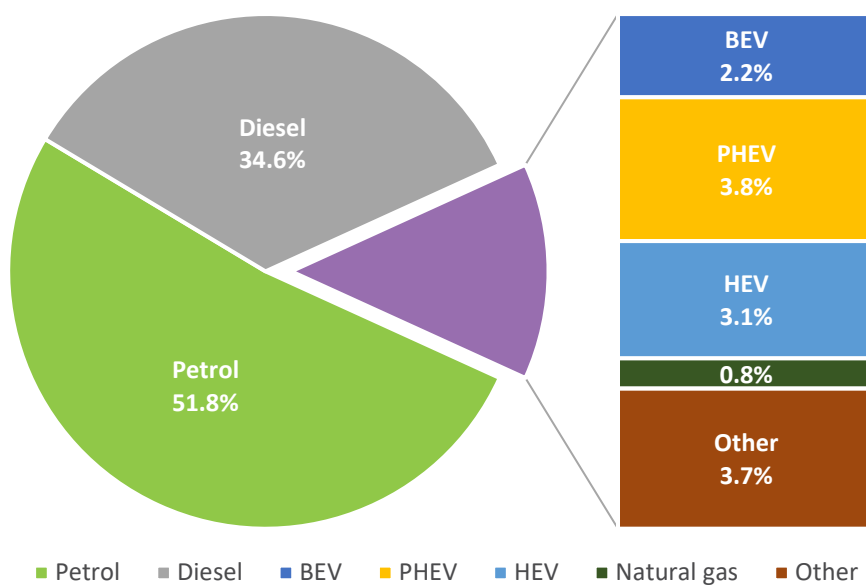


Page | 90

Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2023

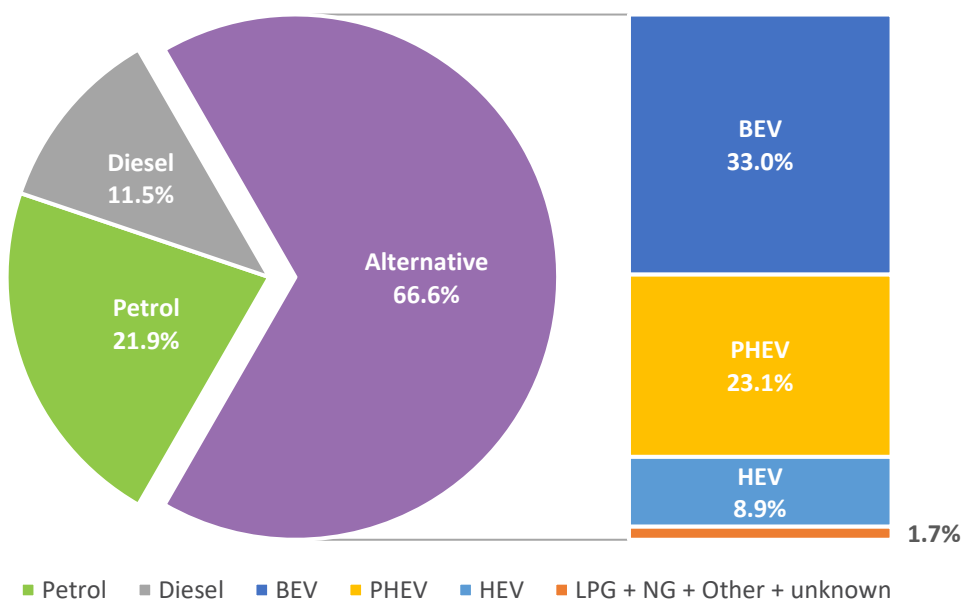


Passenger car fleet in 2021 – Source: ACEA 2023



Passenger car registrations in 2022 – Source: ACEA 2023

Page | 91



ePURE represents the interests of European renewable ethanol producers to the EU institutions, industry stakeholders, the media, academia, and the general public.

Based in Brussels, ePURE speaks for 39 member companies (including 21 producing members), with about 50 plants in 16 EU Member States, accounting for about 85% of EU renewable ethanol production.

The organisation, established in 2010, promotes the beneficial uses of ethanol throughout Europe.

Disclaimer

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