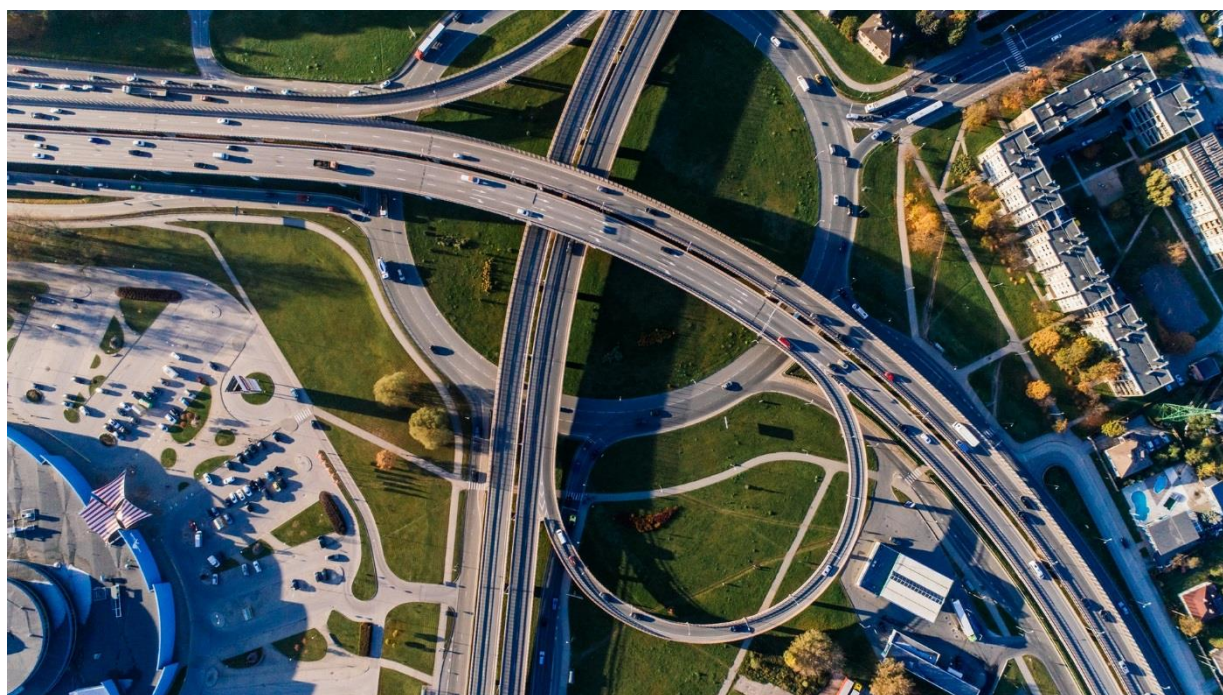


Overview of biofuels policies and markets across the EU-27 and the UK



October 2020



Note to the reader	1
Abbreviations	2
EU-27 and UK overview	3
Member State profiles	
Austria	12
Belgium	14
Bulgaria	16
Croatia	18
Cyprus	20
Czechia	22
Denmark	24
Estonia	26
Finland	28
France	30
Germany	32
Greece	34
Hungary	36
Ireland	38
Italy	40
Latvia	42
Lithuania	44
Luxembourg	46
Malta	48
Netherlands	50
Poland	52
Portugal	54
Romania	56
Slovakia	58
Slovenia	60
Spain	62
Sweden	64
United Kingdom	66

Rationale for the report

As the EU endeavours to set renewed ambitions for its renewable energy and climate policies under the European Green Deal, this report tracks progress of the EU and its Member States in meeting the 2020 objectives when it comes to the transport sector. Specifically, it compiles the national transpositions of the Renewable Energy and the Fuel Quality Directives and provides a detailed overview of 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 2020 by ePURE members and/or officials or biofuels experts in the relevant capitals.
- Data and graphs have been compiled, prepared 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 [NECPs](#) and national legislations.
 - Fuels markets figures were extracted from [national reports under Article 8 of the FQD](#).
 - 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 2019](#) and [registration figures](#).
 - The GHG intensity progress was extracted from the [EEA report Monitoring under the Fuel Quality Directive in 2017 \(2018 reporting\)](#).
 - Other figures and graphs were consolidated based on internal discussions.

Page | 1

Acknowledgements

This report was prepared by Maxime Vion Saint-Supéry and Fabiola De Simone, under the supervision of Victor Bernabeu and Emmanuel Desplechin. Editorial assistance was provided by Craig Winneker. The authors would like to thank all ePURE members and national experts for their support and valuable input.

Legislation:

- **FQD:** Fuel Quality Directive
- **ILUC Directive:** Indirect Land-Use Change Directive
- **RED:** Renewable Energy Directive

Fuels:

- **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 the blending with or replacing motor gasoline from fossil origin such as methanol, ethanol, butanol, ethyl tert-butyl ether (ETBE) or methyl tert-butyl ether (MTBE).
- **ETBE:** Ethyl Tert-Butyl Ether
- **Crop-based biofuels:** Biofuels produced from cereal and other starch-rich crops, sugars and oil crops and from crops grown as main crops primarily for energy purposes
- **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
- **E+:** Petrol or ethanol blends containing more than 10% of ethanol in volume
- **NG:** Natural Gas
- **LPG:** Liquefied Petroleum Gas

Vehicles:

AFV: Alternative Fuelled Vehicle, which includes:

- **BEV:** Battery Electric Vehicle
- **FCEV:** Fuel Cell Electric Vehicle
- **HEV:** Hybrid Electric Vehicle (including full and mild hybrids)
- **Other AFV:** Non-electric alternative Fuelled Vehicles (e.g. LPG-fuelled, Natural gas vehicles, E85 vehicles)
- **PHEV:** Plug-in Hybrid Electric Vehicles

Other abbreviations:

- **GHG:** Greenhouse Gas
- **l:** Litres
- **Ktoe:** Thousand tonnes of oil equivalent
- **MS:** Member States of the European Union
- **N/A:** Not available
- **NECPs:** National Energy and Climate Plans
- **RES-T:** Renewable Energy Share in Transport

Transposition of the RED-FQD as amended by the ILUC Directive

- **Legal basis:** The Renewable Energy Directive 2009/28/EC (RED), the Fuel Quality Directive (FQD) as amended by Directive 2009/30/EC as well as Directive 2015/1513/EC (referred to as the 'ILUC Directive') amending the RED and FQD were transposed by all Member States and the UK except by Spain, which has failed to transpose Article 7a of the FQD.
- **Biofuel targets:**
 - 19 MS and the UK have an overall incorporation target;
 - 13 MS have placed a differentiated obligation in petrol or diesel or both;
 - 6 MS have both an overall biofuels obligation and differentiated obligations in petrol and/or diesel;
 - 20 MS have set an advanced biofuels obligation;
 - 2 MS do not have mandatory biofuels incorporation but rely solely on targets for the reduction of the carbon intensity of transport fuels: Germany and Sweden.
- **GHG reduction targets for transport fuels:** Apart from Spain, which has not fully transposed the FQD, all MS and the UK have transposed a target for the reduction of the GHG intensity of fuel by 2020. This target is usually set at 6%, except in France and Portugal where it is set at 10% and in Sweden, where the obligation is differentiated in petrol (4.2%) and diesel (21%).
- **Crop cap:** The crop cap level is set at 4% in the UK, 5% in Luxembourg and the Netherlands, 6.5% in Germany and 7% in all the other MS.
- **Advanced biofuels targets:**
 - Austria, Estonia, Finland, Lithuania, Portugal, Slovakia and Slovenia have adopted a sub-target for advanced biofuels at 0.5% in energy.
 - Belgium, Croatia, Malta, Poland and Spain have adopted an advanced biofuels target of 0.1% in energy.
 - Bulgaria has set an advanced biofuels target of 0.05% overall in energy and of 1% in diesel in volume.
 - Denmark has adopted a 0.17% advanced biofuels target in energy.
 - France has set a target for advanced biofuels in petrol of 0.7% in energy.
 - Greece has introduced a target for advanced biofuels of 0.2% in volume.

Page | 3

Specific supportive measures to meet the objectives

- **The multiple counting mechanism** is in place in 21 Member States and the UK. The mechanism is not in place in Bulgaria, Germany, Greece, Lithuania and Sweden. The mechanism is partially implemented in Slovakia only for the purposes of EU and national reporting.
- **Tax incentives for biofuels/blends:**
 - None: Belgium, Bulgaria, Cyprus, Estonia, Germany, Greece, Hungary, Italy, Malta, The Netherlands, Poland, Romania, Spain, United Kingdom
 - Lower tax for low biofuels blends: Austria, Denmark, France, Slovakia, Sweden
 - Lower tax for high biofuels blends: Czechia, Denmark, France, Latvia, Lithuania, Sweden
 - Taxation based on the energy/CO₂ content: Finland
 - No excise duty/exempted from certain taxes (components): Croatia, Ireland, Latvia, Luxembourg, Portugal, Slovenia

2020 national biofuels targets

	Type	Minimum overall biofuel target (%)	Advanced biofuel target (%)	Biofuel in petrol (%)	Biofuel in diesel (%)	Reduction of GHG intensity of fuels (%)
Austria	Energy	5.75 (8.45 ¹)	0.5	3.4	6.3	-6
Belgium	Energy	9.55	0.1	6.5	6.5	-6
Bulgaria	Volume	-	1 (in diesel)	9	6	-6
	Energy	-	0.05	-	-	
Croatia	Energy	8.81	0.1	-	-	-6
Cyprus	Energy	5	-	-	-	-6
Czechia	Volume	-	-	4.1	6	-6
Denmark	Energy	7.6	0.17	5	-	-6
Estonia	Energy	10 ²	0.5	-	-	-6
Finland	Energy	20	0.5	-	-	-6
France	Energy	-	0.7 (in petrol)	8.2	8	-10
Germany	Energy	-	0.05	-	-	-6
Greece	Energy	-	-	3.3	-	-6
	Volume	-	0.2	-	7 ³	
Hungary	Energy	8.2	-	6.2 ⁴	-	-6
Ireland	Volume	11	0.25	-	-	-6
Italy	Energy	9	0.9	-	-	-6
Latvia	Volume	-	-	9.5 ⁴ and 5 ⁵	6.5-7 ⁶	-6
Lithuania	Volume	-	0.5	10	7	-6
Luxembourg	Energy	7.7 ⁷	-	-	-	-6
Malta	Energy	10	0.1	-	-	-6
Netherlands	Energy	16.4	1	-	-	-6
Poland	Energy	8.5	0.1	3.2	4.9	-6
Portugal	Volume	10	0.5	-	-	-10
Romania	Volume	-	-	8	6.5	-6
Slovakia	Energy	7.6	0.5	-	-	-6
	Volume	-	-	9	6.9	
Slovenia	Energy	10	0.5	-	-	-6
Spain	Energy	8.5	0.1 ⁸	-	-	-
Sweden		-	-	-	-	-4.2 for petrol -21 for diesel
UK	Volume	9.75	-	-	-	-6

¹ Starting October 2020

² Blending obligations should not apply to RON 98 petrol fuel

³ National obligation of 135 Ml of biodiesel (2020) distributed between fuel suppliers

⁴ For RON 95 petrol

⁵ For RON 98 petrol

⁶ With exception in winter

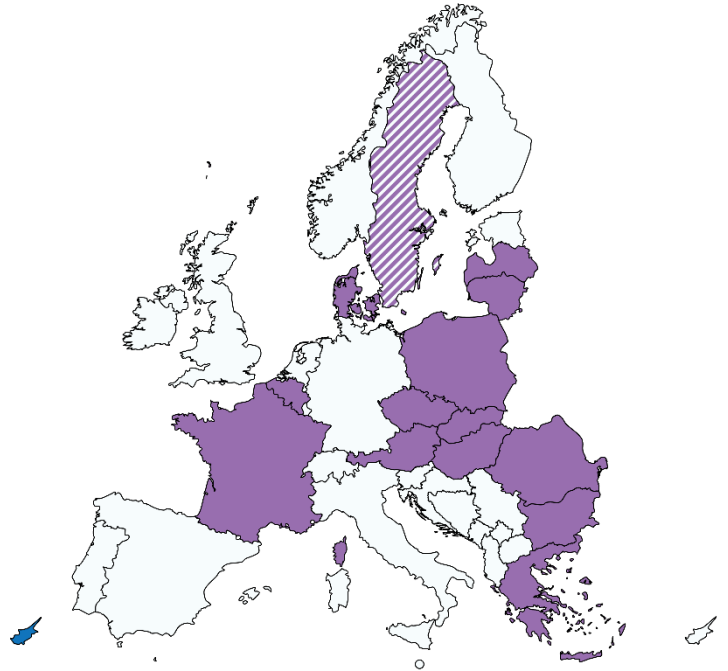
⁷ 7.7% before double counting, 9.7% after double counting. Advanced biofuels must represent at least 50% of the biofuels mix after double counting.

⁸ Indicative target

MS with an overall biofuels target (19)



MS with separate biofuels targets (13)



MS with an advanced biofuels target (20)



National implementation of double counting for biofuels (23)

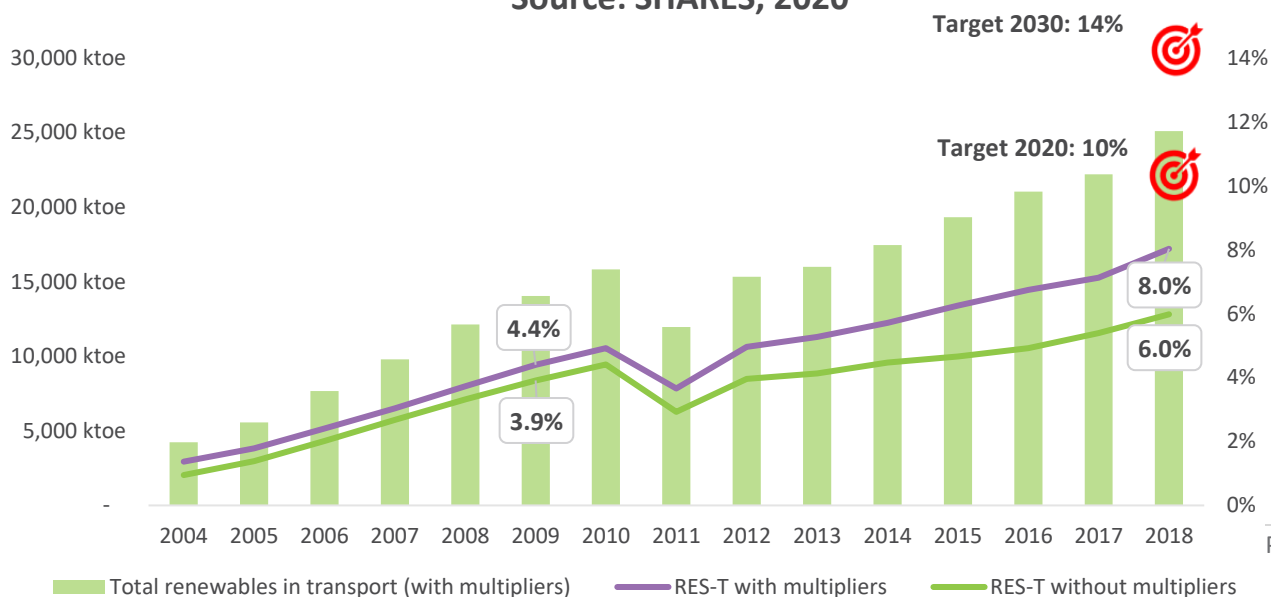


Assessment of the EU's progress in reaching the 2020 energy and climate objectives

- Achieving the 10% renewable energy share in transport (RES-T) target:** The RES-T including multipliers impact has been steadily increasing since 2004 from 1.4% (about 4,200 ktoe) to 8.0% in 2018 (about 25,000 ktoe). However, since the Renewable Energy Directive entered in force in 2009, most of this increase has come from artificial quantities created by using multipliers. Additional efforts are urgently required by MS to meet the 10% 2020 target.

2018 RES-T with and without multipliers

Source: SHARES, 2020

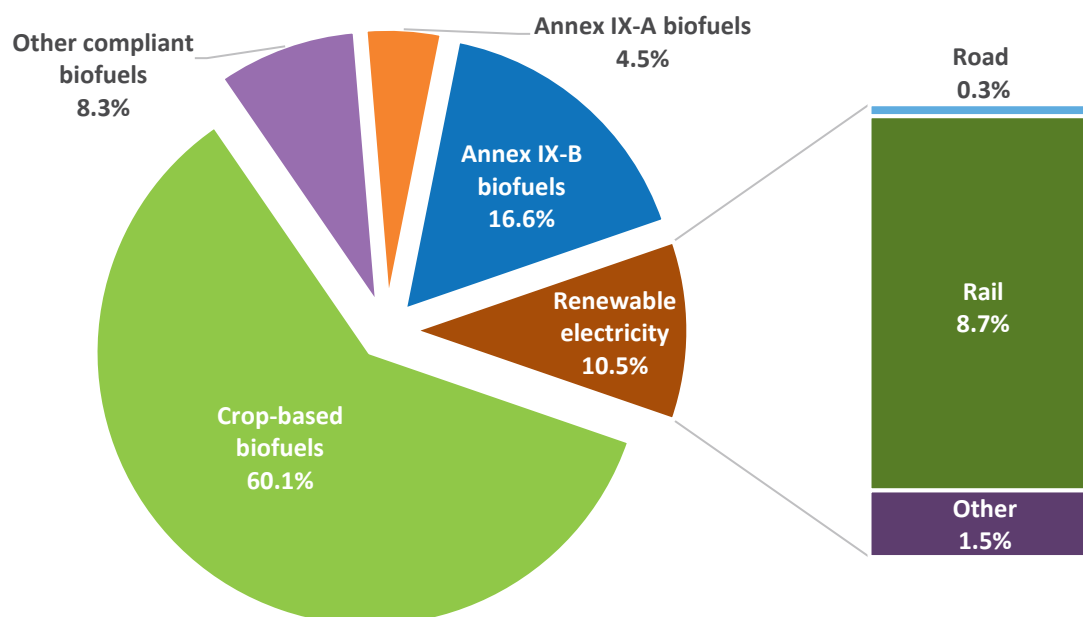


Page | 6

- The RES-T in 2018 was 8.0% on a RED methodology basis and 6.0% without multipliers:** Biofuels represented the main contributor, accounting for over 89.5% of renewables. Crop-based biofuels alone represented 60.1%. Renewable electricity accounted for over 10.5% including 8.7% in rail.

2018 Absolute share of the total renewable energy in transport

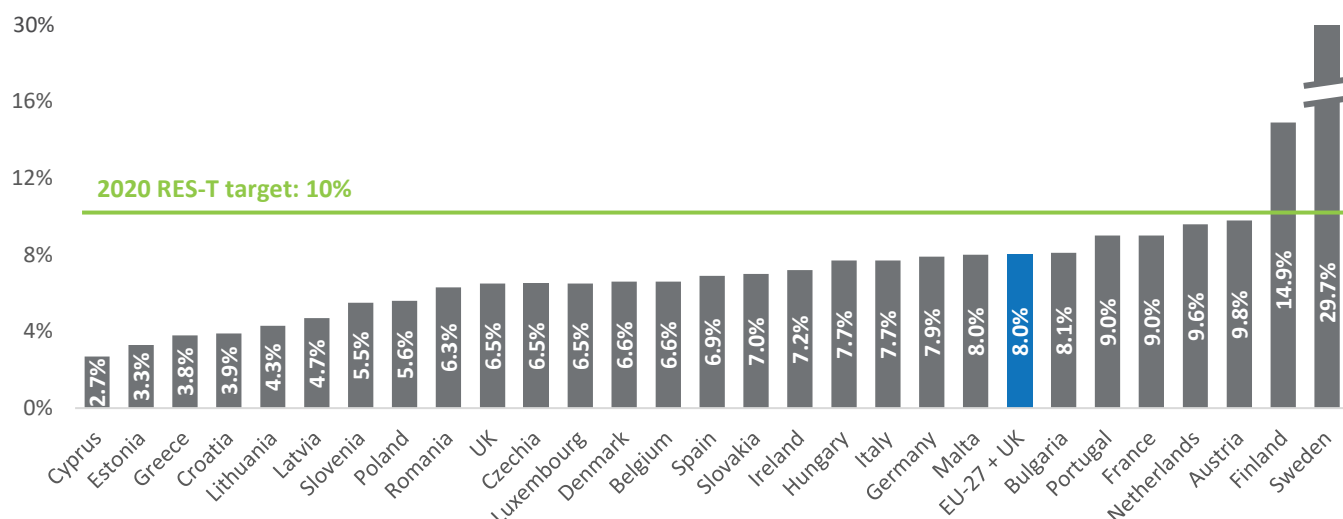
Source: SHARES, 2020



- In 2018, with multipliers, only 2 Member States have achieved the 2020 10% RES-T target. Finland and Sweden have already achieved the 2020 target and 4 other MS are close to achieving the target: Austria, France, the Netherlands and Portugal. 6 MS remain under 5%: Cyprus, Estonia, Greece, Latvia and Lithuania.

2018 RES-T per MS with multipliers

Source: EC SHARES, 2020

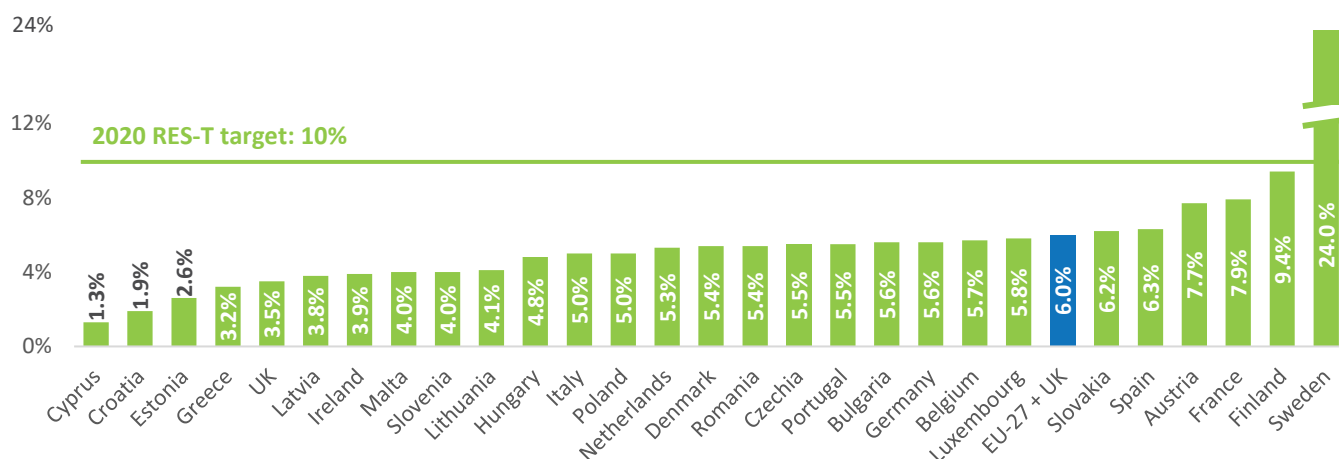


- In 2018, without multipliers, only Sweden has achieved a 10% RES-T. Finland's 14.9% RES-T with multipliers only represents 9.4% 'real' renewables in transport. Most MS are well below the 10%: they still rely massively on fossil to fuel their transport sector.

Page | 7

2018 RES-T per MS without multipliers

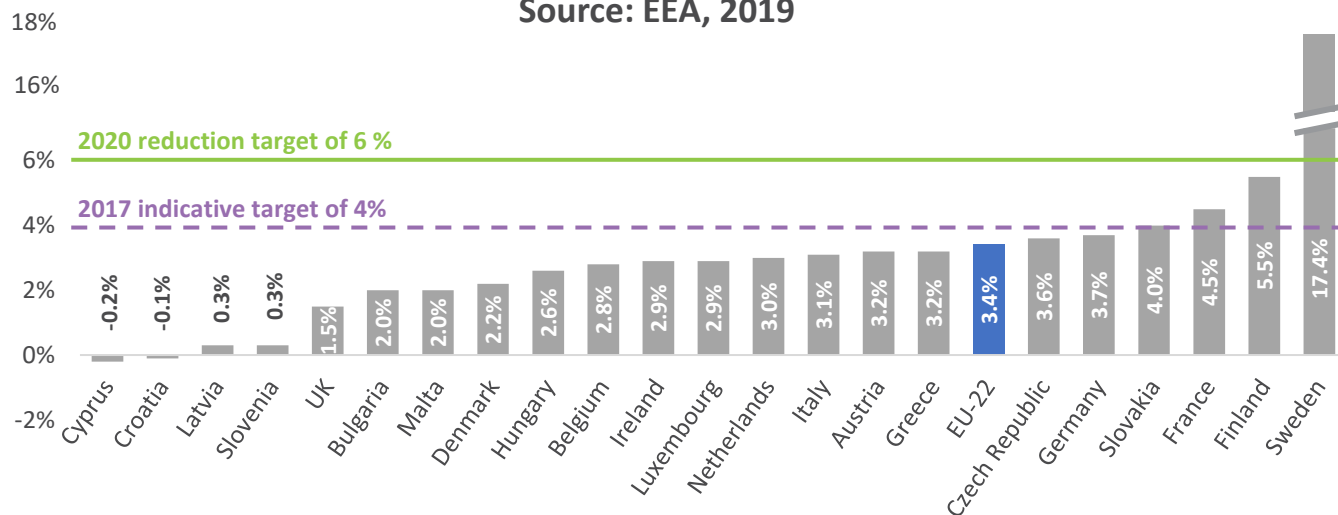
Source: EC SHARES, 2020



- Reducing the GHG intensity of transport fuels:** Article 7a of the Fuel Quality Directive sets a target for all MS to reduce the GHG intensity of their fuels by at least 6% by 2020, compared to a 2010 baseline, with an indicative target of 4% for 2017. In 2017, based on the reporting of 22 MS, the EU achieved a 3.4% reduction with only 4 MS reaching the 2017 indicative target: Sweden, Finland, France and Slovakia. Assuming a constant reduction rate between 2010 and 2020, the projected reduction in 2020 would be 4.7%.

2010-2017 GHG intensity reduction in the EU (excluding ILUC) (%)

Source: EEA, 2019



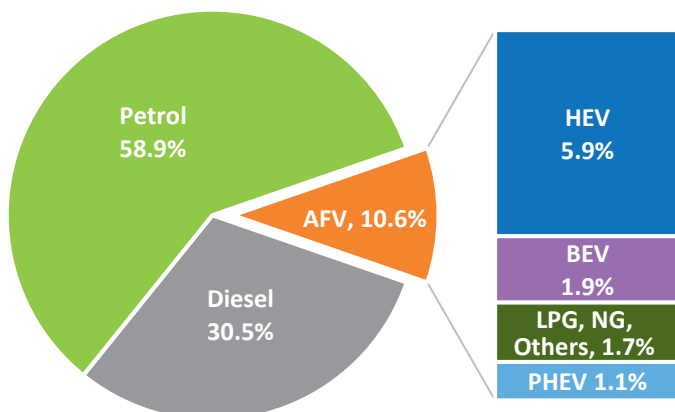
Market data for biofuels and passenger cars

- State of the EU passenger cars market:**
 - In 2019, 58.9% of all new passenger cars sold in EU 28 ran on petrol and 34% on diesel. The share of alternative-fuelled vehicles (AFV) reached 10.6%, out of which hybrid electric vehicles (HEV) accounted for 5.9% while battery electric vehicles (BEV) and plug-in electric vehicles (PHEV) accounted for 1.9% and 1.1% respectively.
 - In 2018, 54 % of all EU passenger cars ran on petrol whereas diesel accounted for 41.9% of the fleet. The share of AFV reached 4.1% in 2018 with LPG and NG vehicles reaching 2.8% of the total fleet, followed by HEV, 0.7%, BEV, 0.2%, and PHEV, 0.1%.

Page | 8

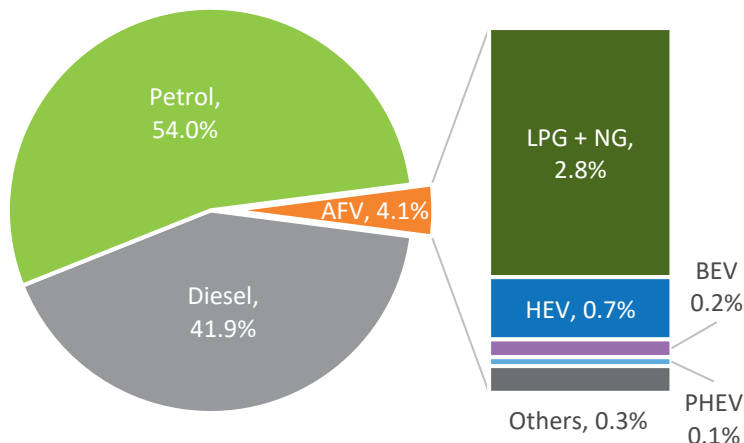
Sales by fuel type in 2019

Source: ACEA, 2020



EU fleet by fuel type in 2018

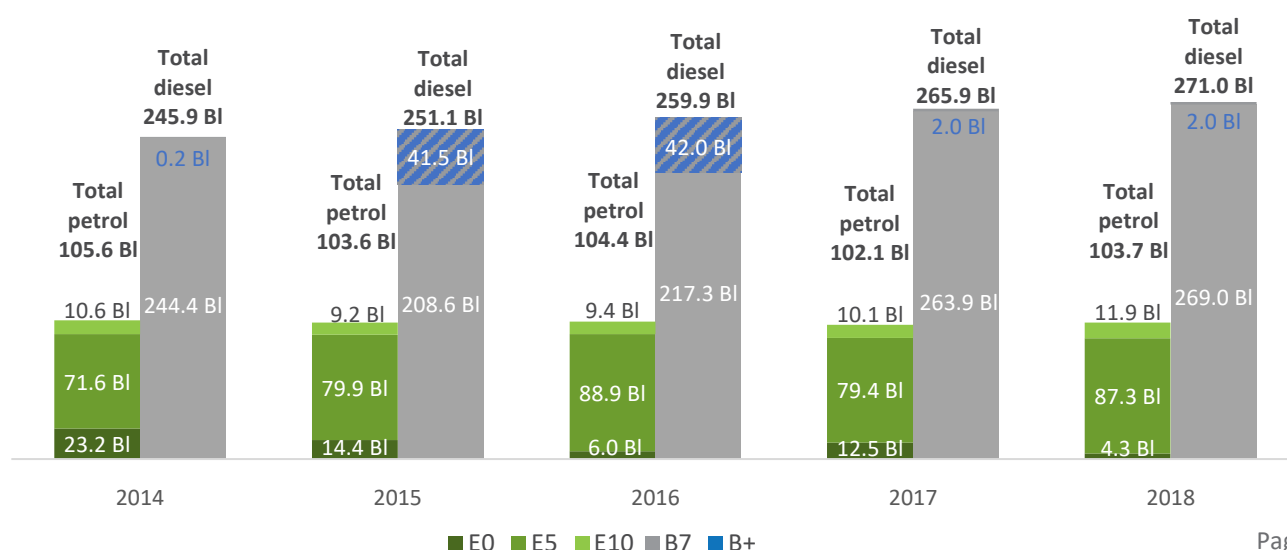
Source: ACEA, 2020



Petrol and diesel market shares:

- Compared to 2017 levels, the 2018 consumption of unleaded E0 petrol fell drastically to a market share of 4.1%. E5 still represents most of the European petrol market, reaching an 84.3% market share in 2018 while unleaded petrol E10 saw its market share reduced from 15.7% in 2017 to 11.4% in 2018. E+ i.e. E85 market share remains stable but marginal since 2013 of about 0.2%.
- The diesel market is almost exclusively composed of B7 with a 99.2% market share in 2018 whereas higher blends (B+) market share accounts for about 0.8% of the market. B0 diesel is no longer sold on the European market since 2016.

EU fuels market – Source: FQD Article 8 reports



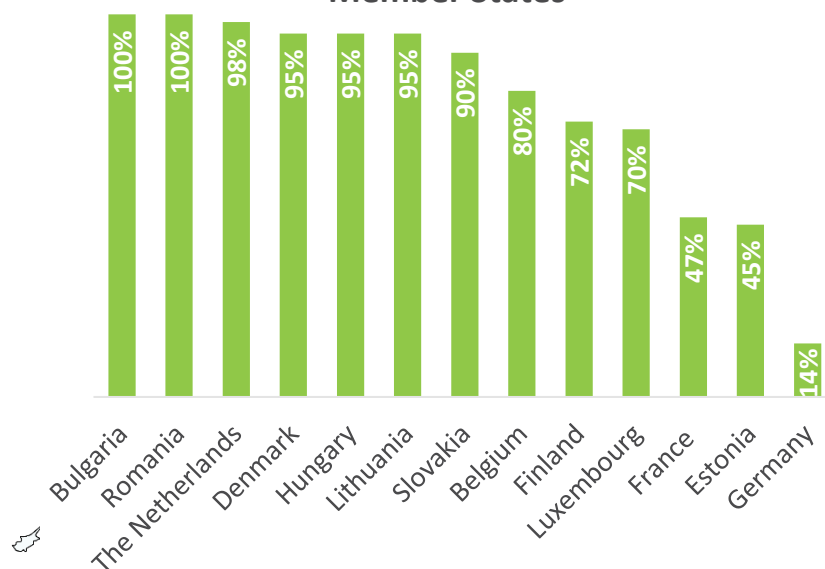
B0: 1.3 Bl, 2014; 995 MI, 2015; 621.7 MI, 2016.

B+: 2015/2016 not representative of the EU market due to inconsistencies in the reporting from France: B7 was reported as B+.

E+: 119 MI, 2014; 102.2 MI, 2015; 101.1 MI, 2016; 117.9 MI, 2017; 187.0 MI, 2018.

- E10 availability in Europe:** E10 is currently available in 14 Member States: Belgium, Bulgaria, Denmark, Germany, Estonia, France, Latvia, Lithuania, Luxembourg, Hungary, the Netherlands, Romania, Slovakia and Finland.

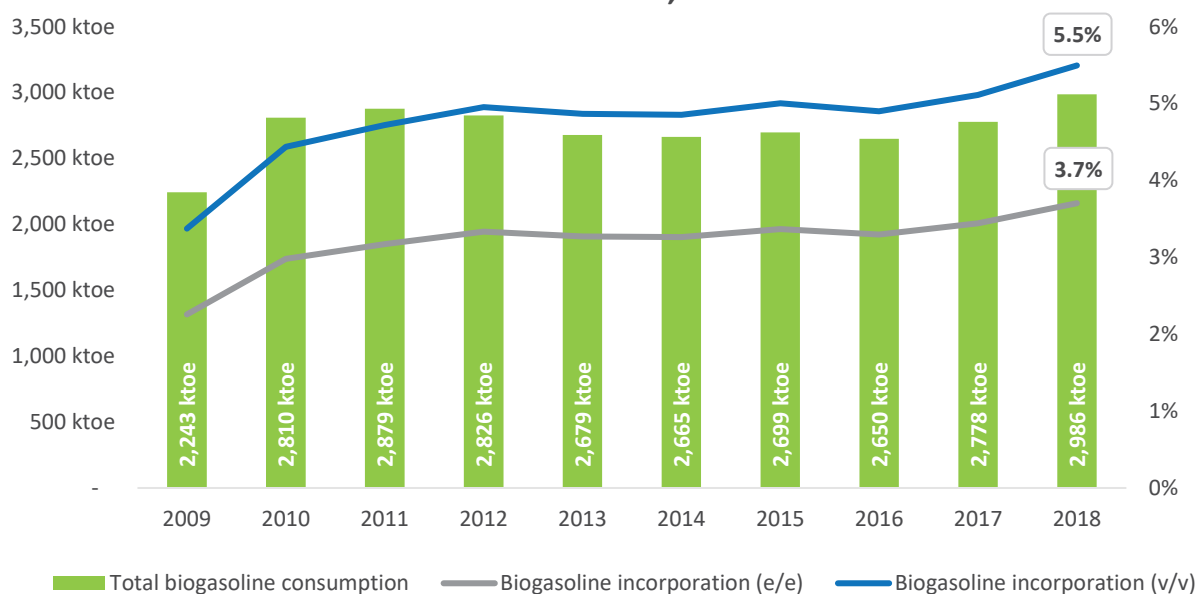
E10 petrol market shares in selected Member States



- Biogasoline consumption and incorporation rates:** In 2018, around 3,000 ktoe of biogasoline (including methanol, ethanol, ETBE or MTBE) were consumed in the EU fuel market. The incorporation rate of biogasoline has increased since 2009 to reach a historic high of 5.5% in volume and 3.7% in energy in 2018.

EU 28 biogasoline consumption and incorporation rates

Source: Eurostat, 2020

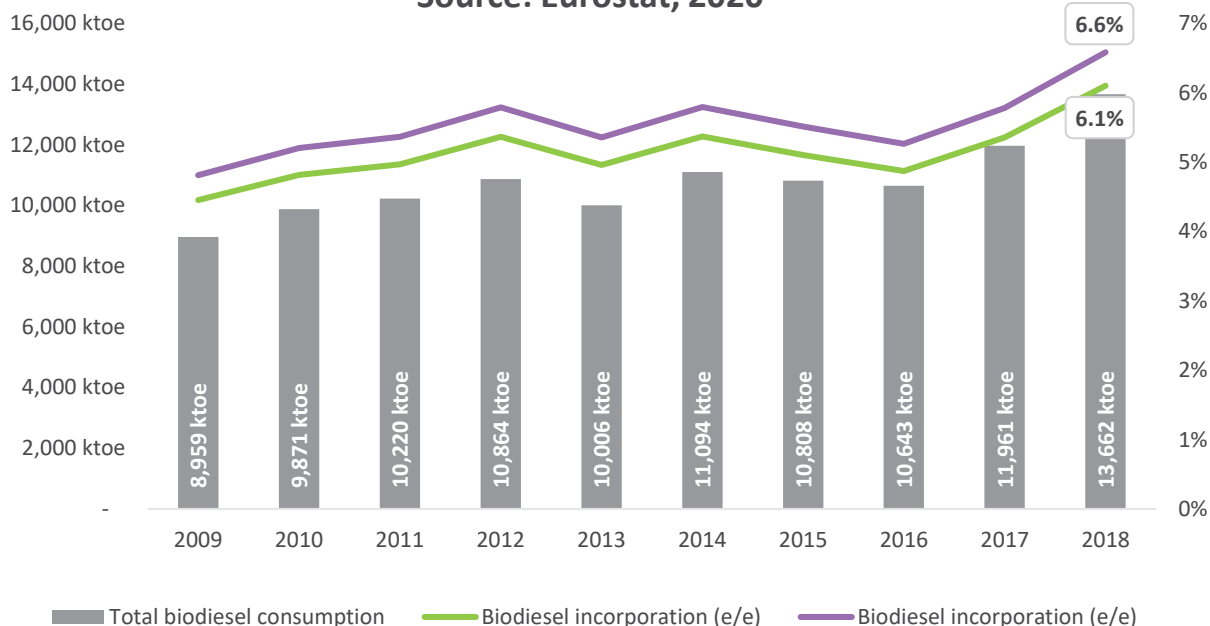


Page | 10

- Biodiesel consumption and incorporation rates:** The total consumption of biodiesel reached about 13,700 ktoe in 2018. The incorporation of biodiesel has significantly increased since 2016 up to a historic high of 6.6% in volume and 6.1% in energy in 2018.

EU 28 biodiesel consumption and incorporation rates

Source: Eurostat, 2020





Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	9.8% (2018)
Renewable mandates with multipliers	Overall: 5.75% in energy, set to increase to 8.45% as of Oct. 2020 Dedicated sub-target for advanced biofuels: 0.5% in energy Petrol: 3.4% in energy Diesel: 6.3% in energy	Annex IX-A: 0% in energy (2018)
Crop cap	7%	5.2% (2018)
FQD – GHG emissions reduction target for fuels	6%	3.2% (2017)

Specifics to ensure compliance

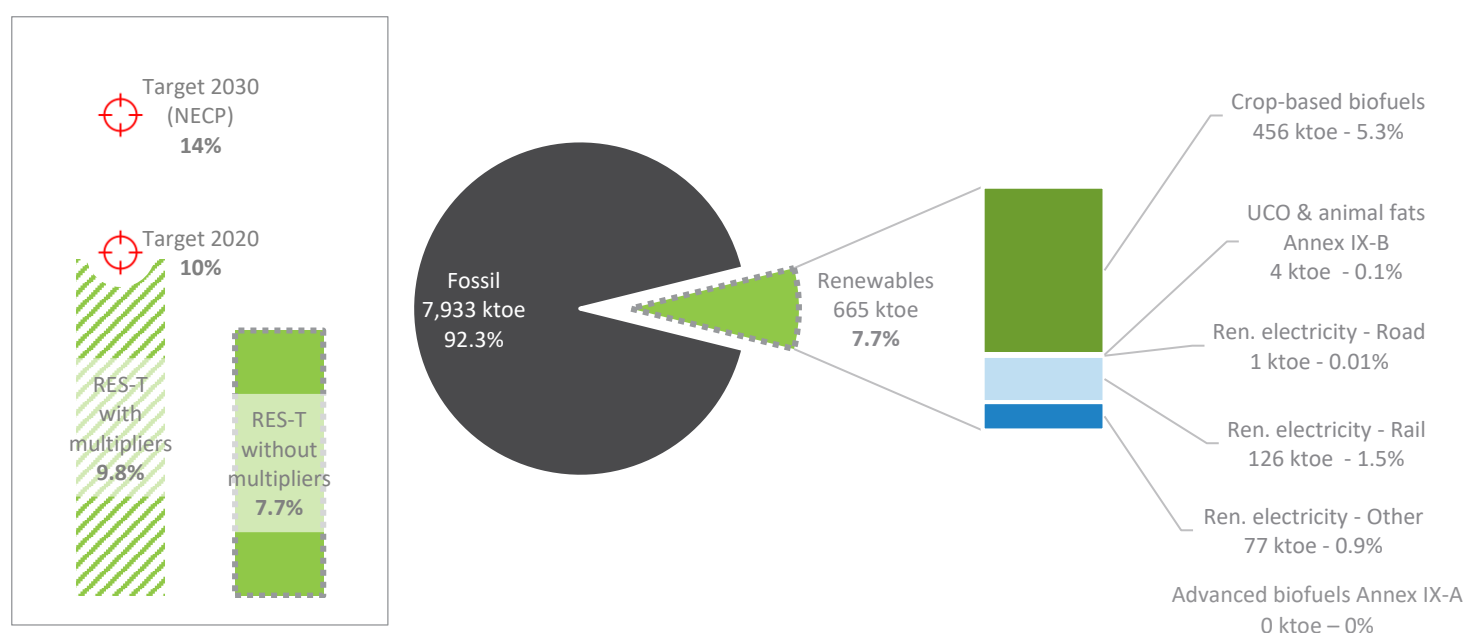
- Double counting: In place for RED I Annex IX feedstocks. However, decisions are made on a 'case by case' basis as per qualifying feedstocks to prevent fraudulent reporting of raw materials as waste quantities and to ensure those have not been artificially increased via process alteration.
- Penalties: A penalty of €43/GJ (about €1,800/toe) of gasoline and €19/GJ (about €795/toe) of diesel not substituted to be paid by fuel suppliers.
- Tax incentive: 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.

Post-2020

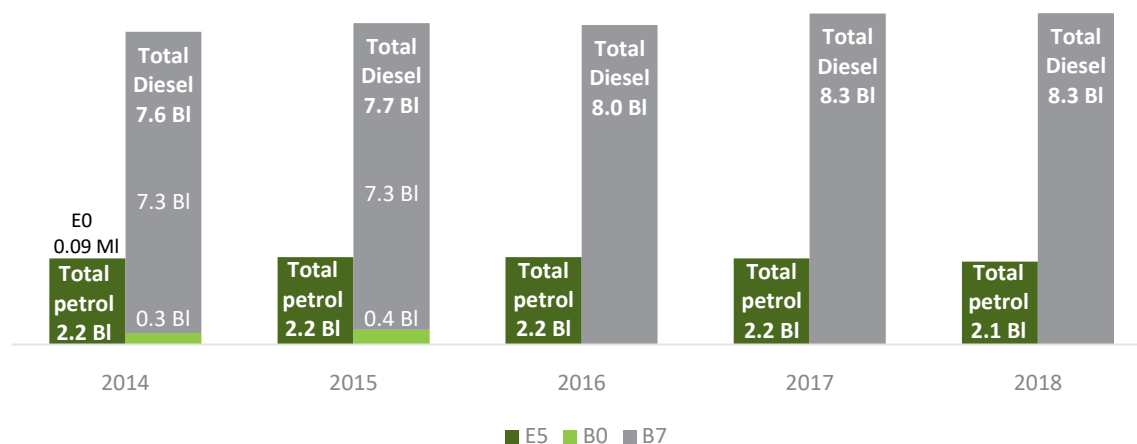
Page | 12

Austria foresees a minimum objective of 14% RES-T by 2030 by using biofuels and increasing the share of e-mobility. The proportion of bioethanol in petrol, which is currently 5%, will be increased to 7-10%.

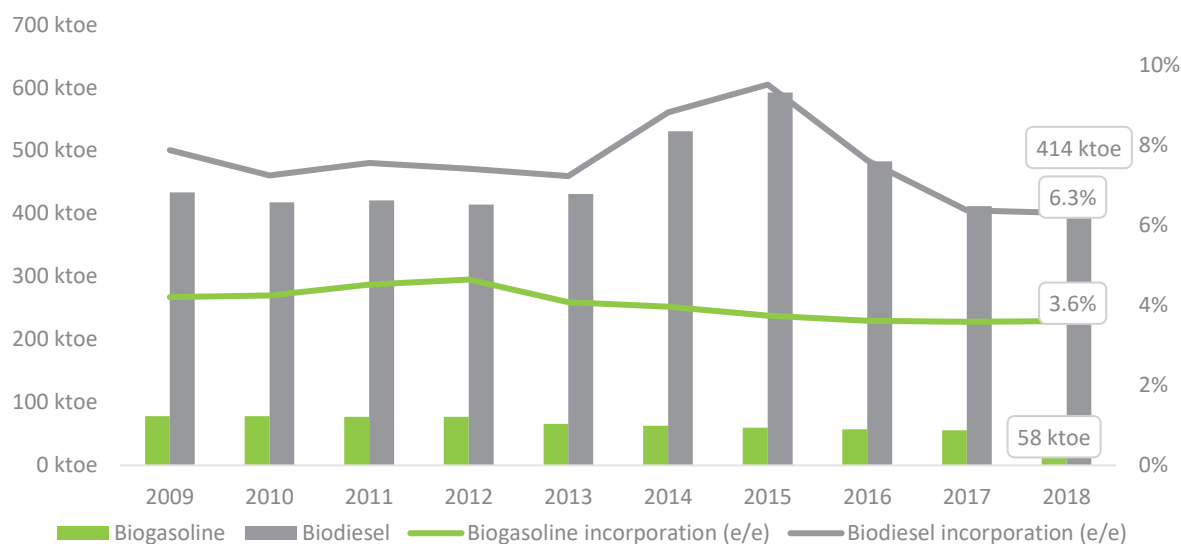
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



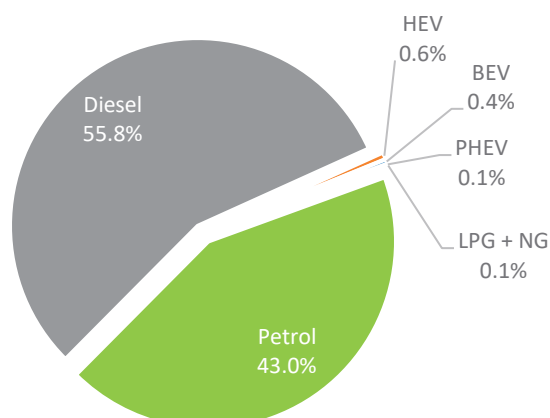
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



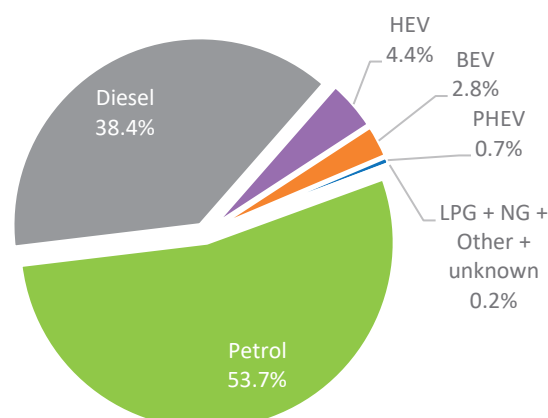
Page | 13

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	6.6% (2018)
Renewable mandates with multipliers	Overall biofuel target: 9.55% including 0.1% advanced in energy Petrol: 6.5% in energy Diesel: 6.5% in energy	Annex IX-A: 0.2% in energy (2018)
Crop cap	7%	4.9% (2018)
FQD – GHG emissions reduction target for fuels	6%	2.8% (2017)

Specifics to ensure compliance

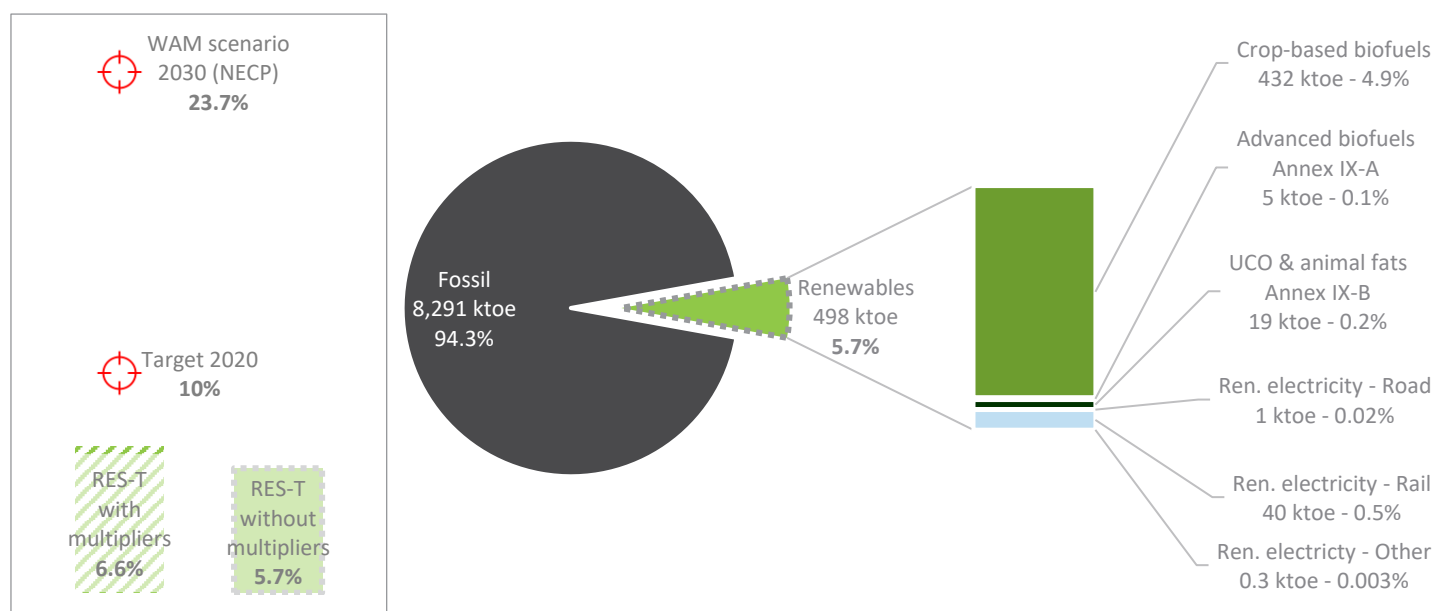
- Double counting: In place for Annex IX-A and B.
- Penalties for fuels suppliers not meeting the renewable mandates: €900/1,000l of missing biofuels, with a maximum of €10,000. In the event of a repeat offence, the fine can be doubled.
- Tax incentive: No longer applicable.

Post-2020

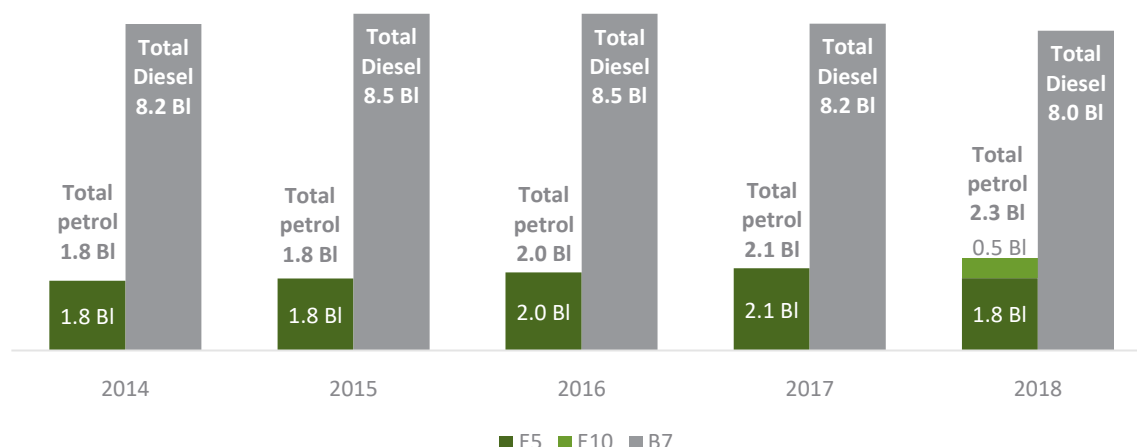
Belgium foresees to reach 23.7% RES-T by 2030. The blending objectives are set at 7% for crop-based biofuels, 1.75% and 1.7% (without double counting) for Annex IX-A and B biofuels respectively.

Page | 14

Renewables in transport – 2018 – Source: EC, SHARES 2020

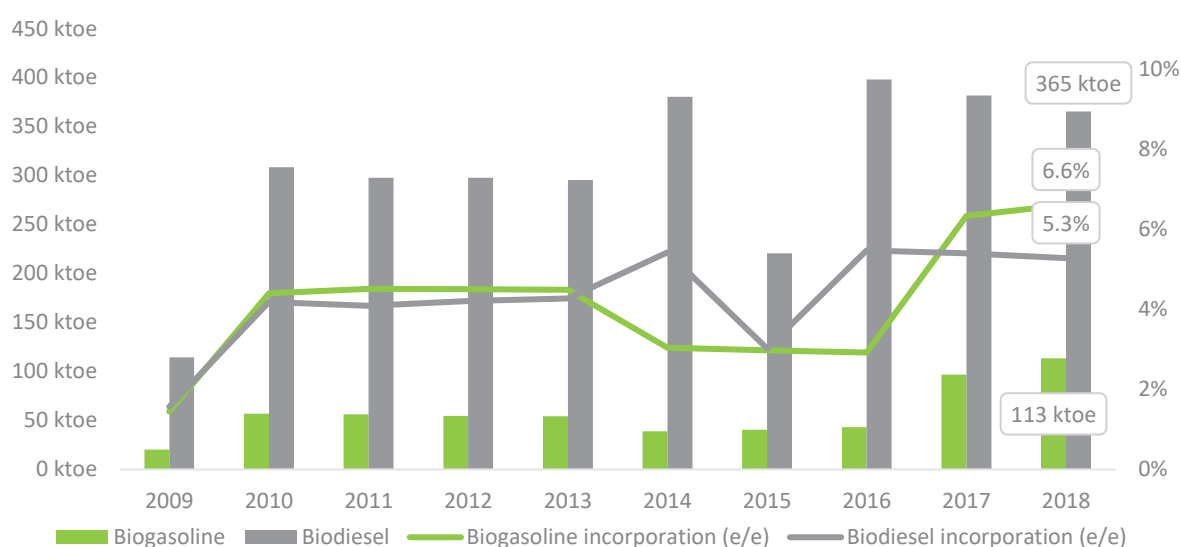


Fuels market – Source: EEA, FQD Article 8 reports



2019 petrol market shares: 95E10, 80%; 98E5, 20% (source: personal communication with ePURE members)

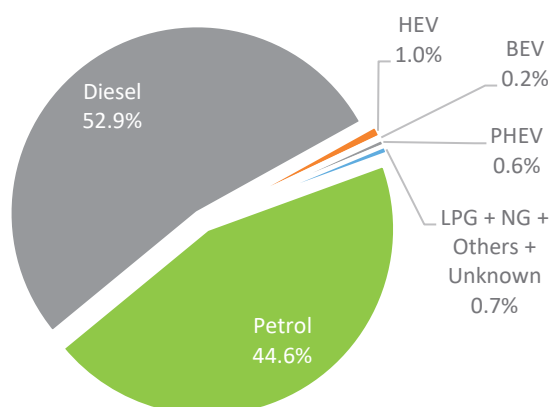
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



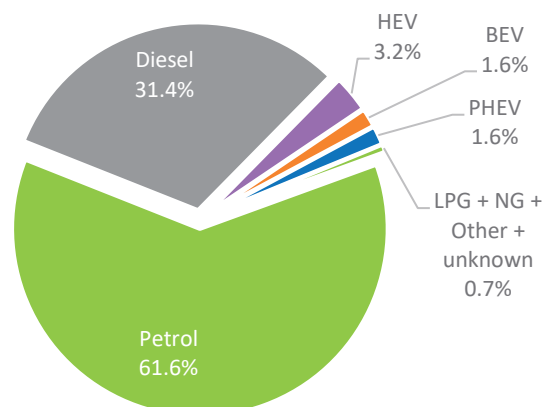
Page | 15

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	8.1% (2018)
Renewable mandates with multipliers	Dedicated sub-target for advanced biofuels: 0.05% in energy Petrol: 9% in volume Diesel: 6% in volume incl. 1% advanced	Annex IX-A: 0.8% in energy (2018)
Crop cap	7%	3.3% (2018)
FQD – GHG emissions reduction target for fuels	6%	2% (2017)

Specifics to ensure compliance

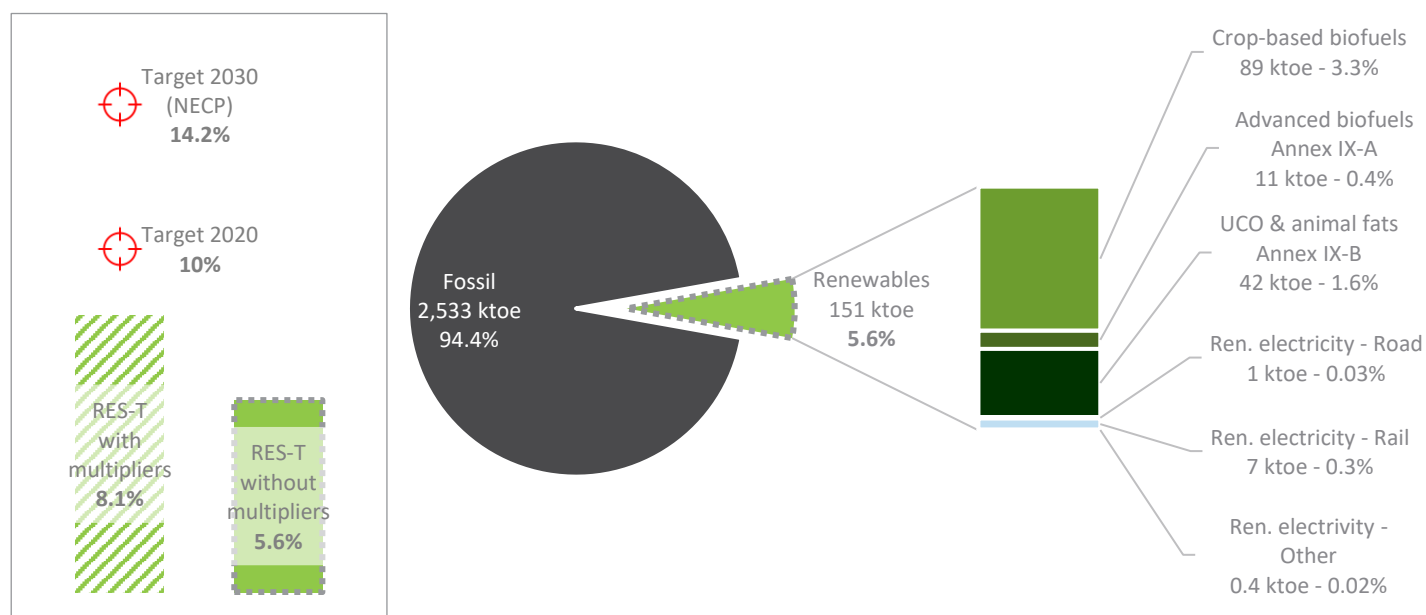
- Double counting: Not applicable.
- Penalties for fuel suppliers failing to comply with blending obligations: BGN 200,000 (≈€102,000). A fuel distributor selling fuels in violation of the blending obligations may be sanctioned by a financial penalty of BGN 50,000 (≈€25,500) or a pecuniary sanction of BGN 100,000 (≈€51,000) in the first month of the infraction.

Post-2020

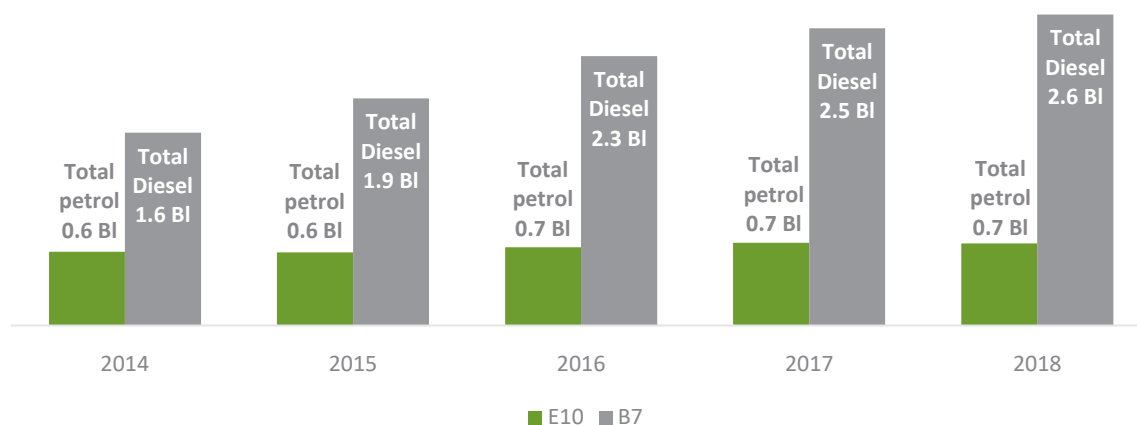
Bulgaria aims at a 14.2% RES-T in 2030 with biofuels consumption reaching 2,589 GWh (222.6 ktoe), of which 1,095 GWh (94 ktoe) advanced biofuels to reach 3.5% in the energy mix. The crop-based biofuels cap will be set at 7% in 2030 while biofuels from Annex IX-B feedstock will be limited to a maximum of 1.7%.

Page | 16

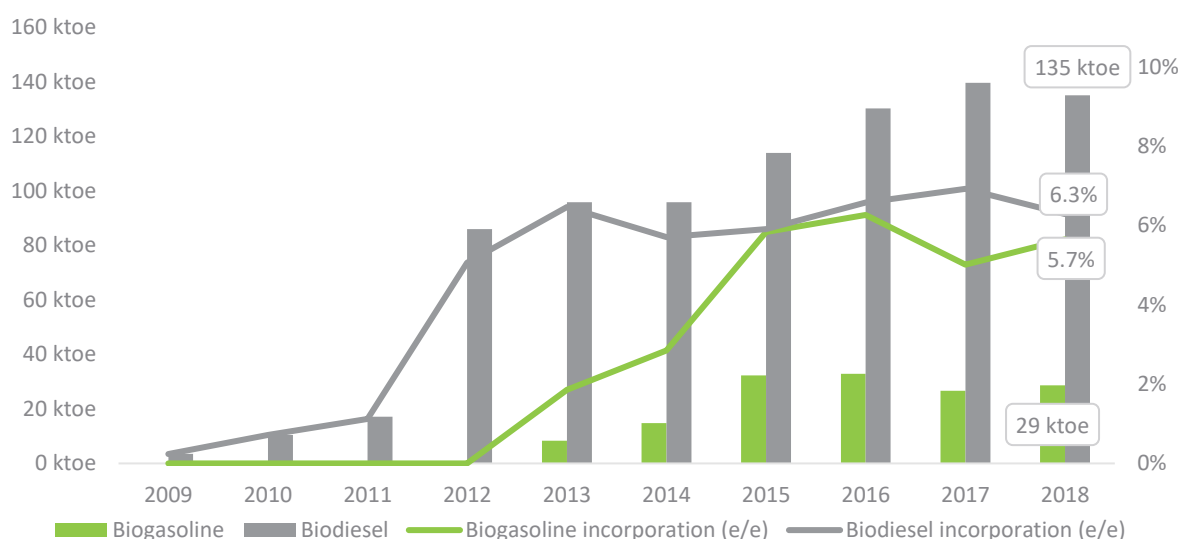
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



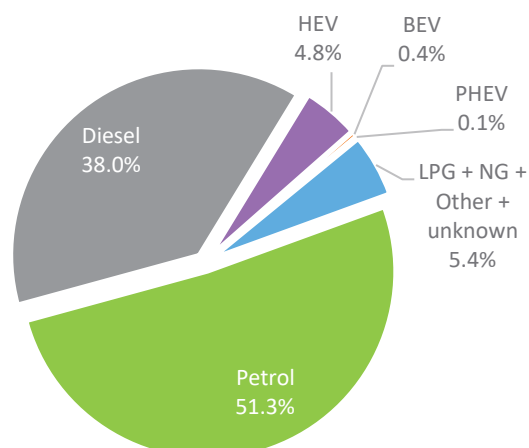
Page | 17

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018

No data

Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	3.9% (2018)
Renewable mandates with multipliers	Overall: 8.81% in energy Dedicated sub-target for advanced biofuels: 0.1% in energy	Annex IX-A: 2.6% in energy (2018)
Crop cap	7%	0% (2018)
FQD – GHG emissions reduction target for fuels	6%	-0.1% (2017)

Specifics to ensure compliance

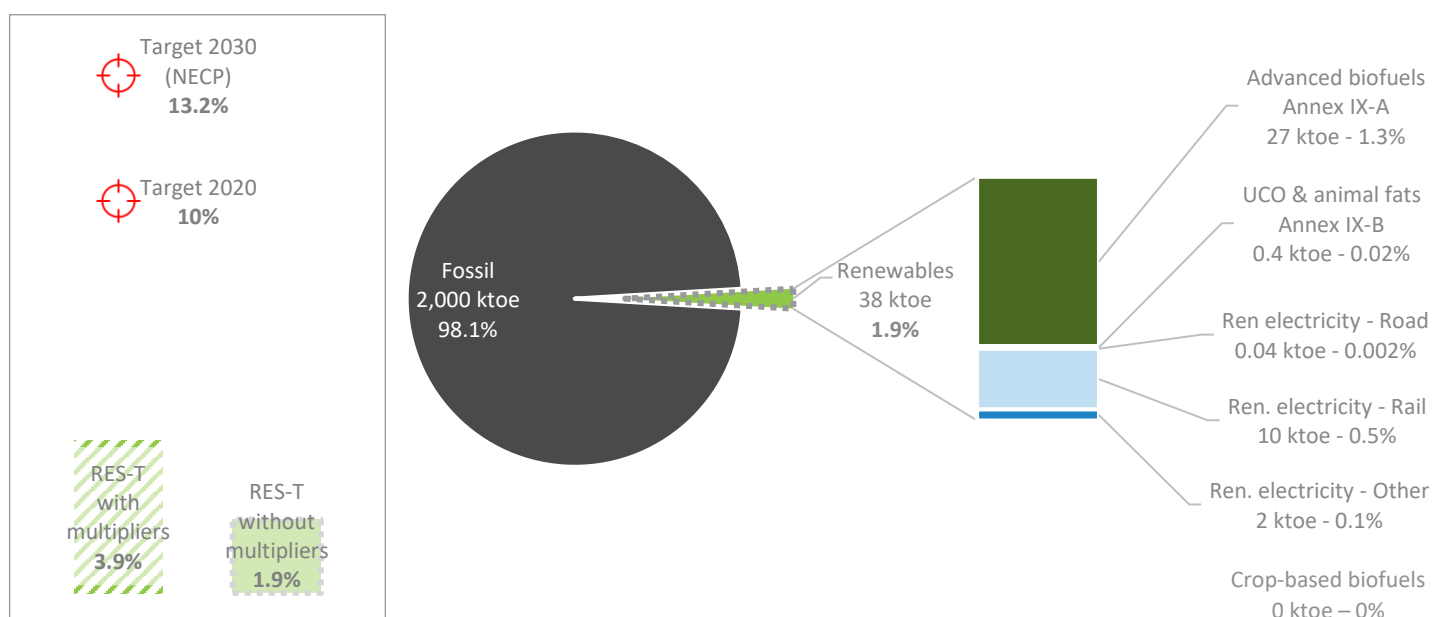
- Double counting: In place for biofuels produced from waste, residues, non-food cellulosic material and ligno-cellulosic material.
- Penalties for fuel suppliers failing to fulfil their blending obligations are calculated based on the quantity missing.
- Tax incentive: Excise duty exemptions for biofuels equal to HRK 3,860/1,000L (≈€520/1,000l) for unleaded petrol and HRK 2,445/1,000L (≈€330/1,000l) for diesel.

Post-2020

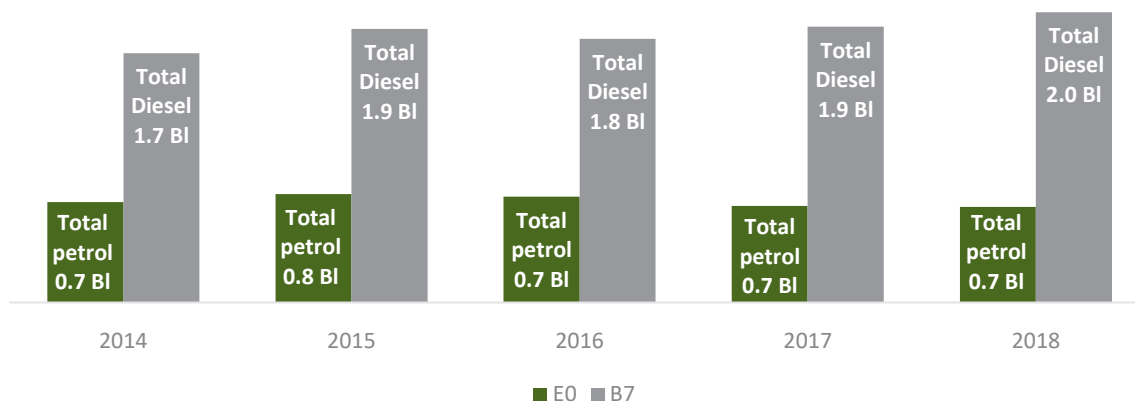
Croatia plans to increase the RES-T to 13.2% in 2030 with biofuels accounting for 85% of the RES-T at 132.7 ktoe. Advanced biofuels are expected to contribute up to 6% of the total energy consumption in transport in 2030 whereas conventional biofuels and UCO will contribute over 2% and 3% respectively.

Page | 18

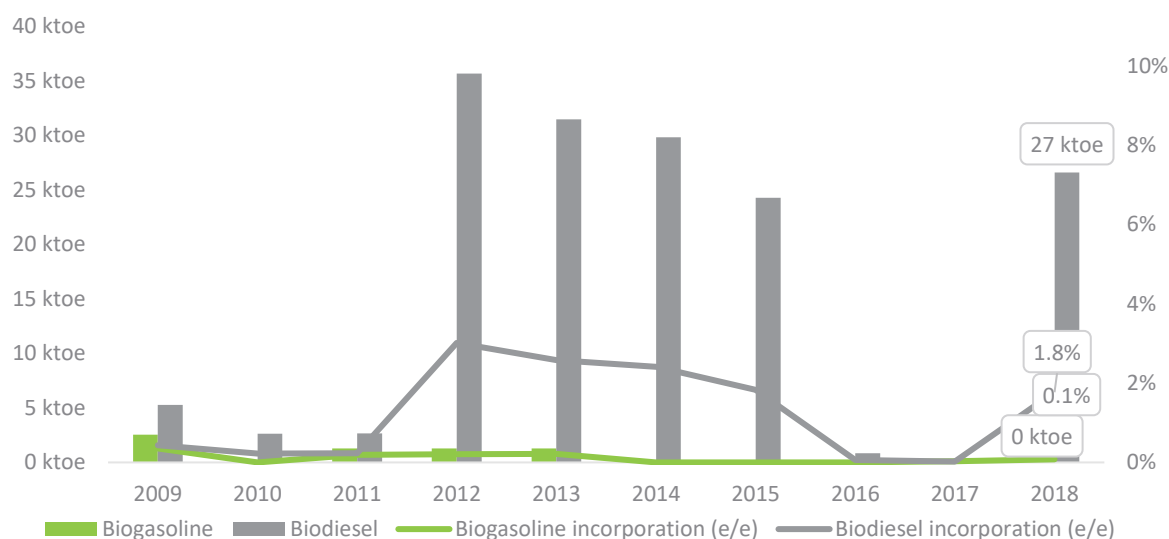
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



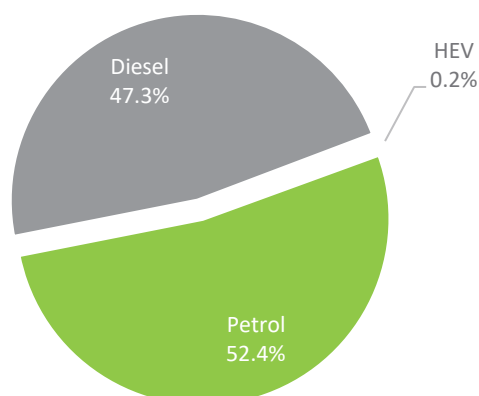
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



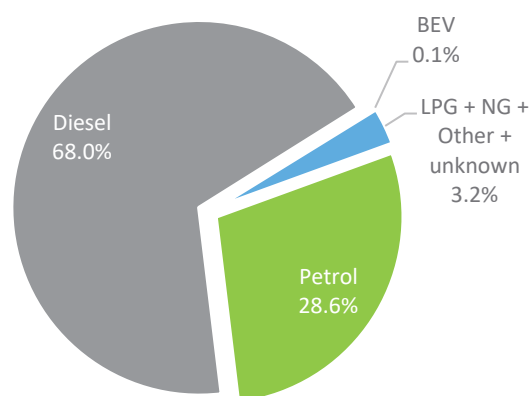
Page | 19

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	2.7% (2018)
Renewable mandates with multipliers	Overall: 5% in energy	Annex IX-A: 0% in energy (2018)
Crop cap	7%	0% (2018)
FQD – GHG emissions reduction target for fuels	6%	-0.2% (2017)

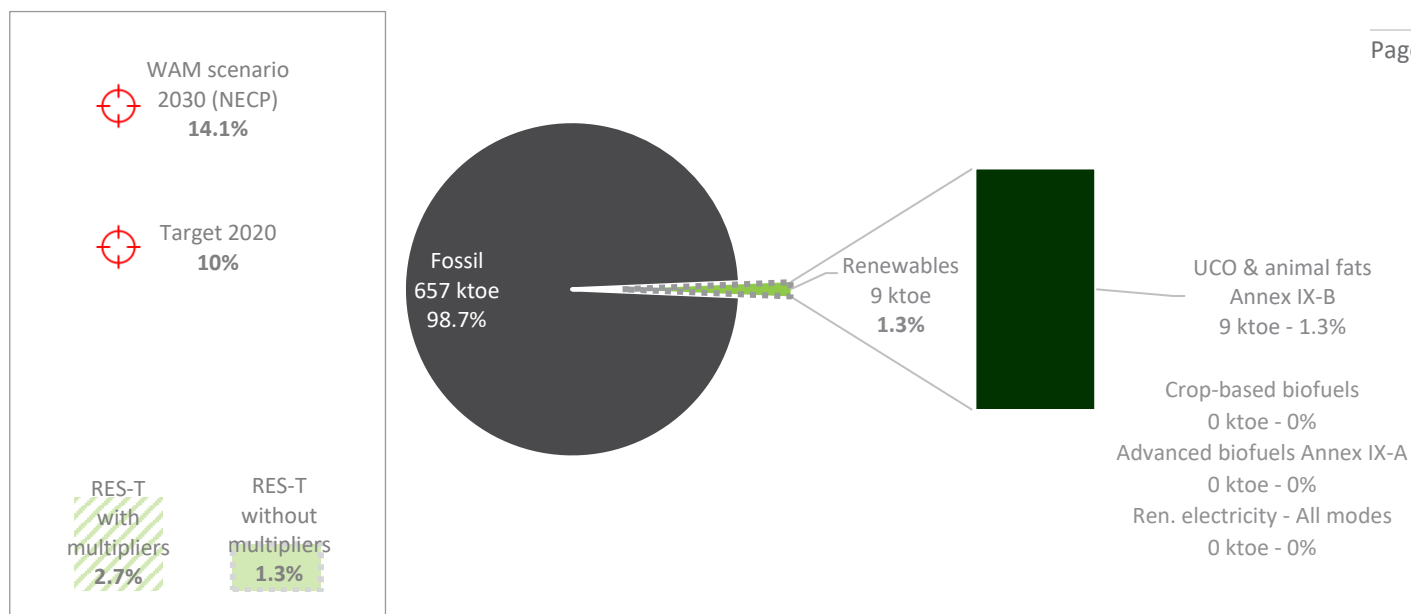
Specifics to ensure compliance

- Double counting: In place for biofuels from the RED Annex IX-A list of feedstocks.

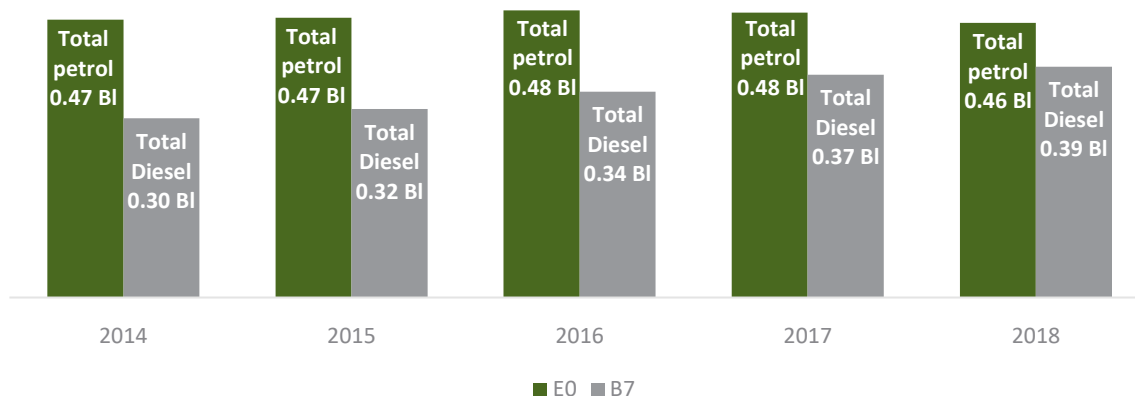
Post-2020

Cyprus plans to increase the RES-T to 14.8% in 2030. Biofuels consumption is expected to reach 1.35 PJ (32.2 ktOE) in 2030. Cyprus has increased its biofuels obligation to 7.3%, in energy, beyond 2020.

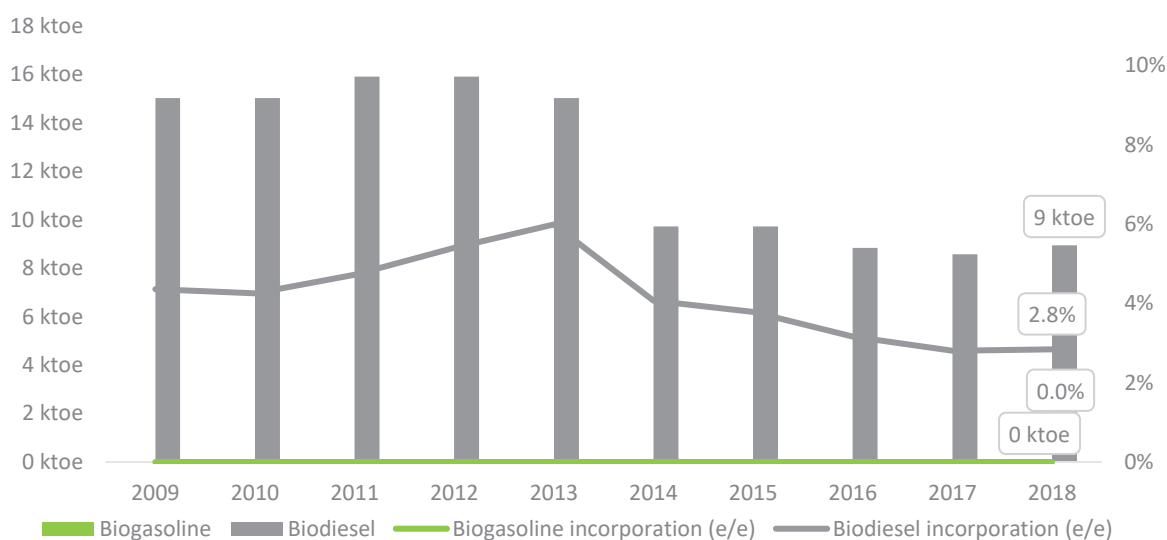
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



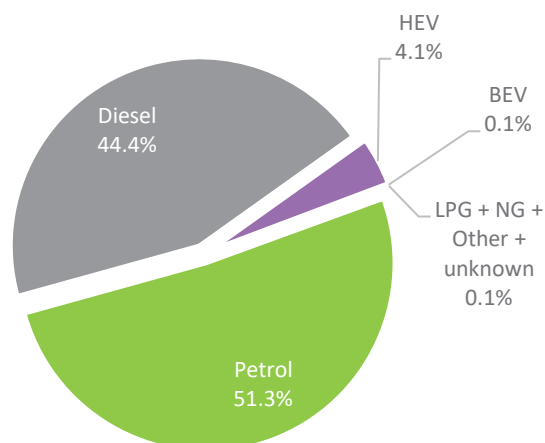
Page | 21

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018

No data

Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	6.5% (2018)
Renewable mandates with multipliers	Petrol: 4.1% in volume Diesel: 6% in volume	Annex IX-A: 0% in energy (2018)
Crop cap	7%	4.8% (2018)
FQD – GHG emissions reduction target for fuels	6%	3.6% (2017)

Specifics to ensure compliance

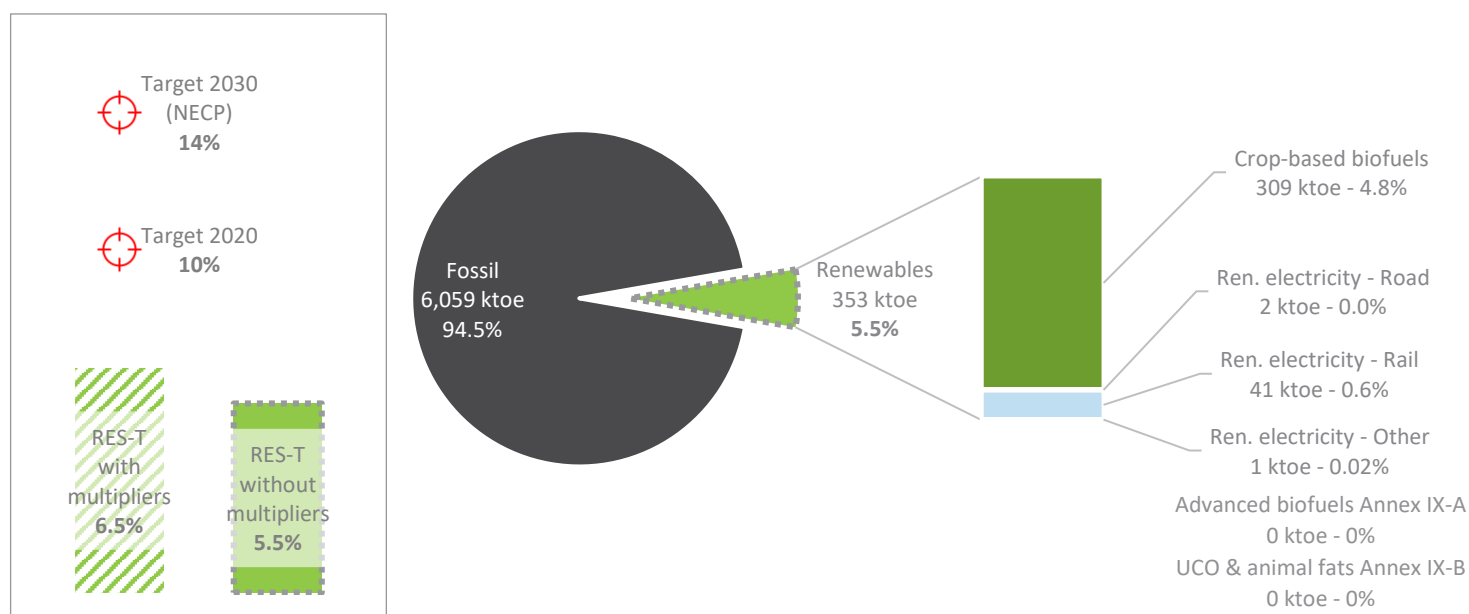
- Double counting: In place for biofuels from Annex IX-B feedstocks and advanced biofuels.
- Penalties for fuel suppliers failing to fulfil their blending obligations in the form of a buy-out price of CZK 40 (≈€1.53) per litre of biofuel missing. An additional penalty of CZK 10 (≈€0.38) per additional kg of CO_{2eq} emitted must be paid if the 6% GHG emissions reduction target is not achieved.
- Tax incentive: Regular petrol and diesel taxed at a rate of CZK 12,840/1,000l (≈€492/1,000l) and CZK 10,950/1,000l (≈€419/1,000l) with or without low amount of biofuels. Tax on the high biofuel blend B30 is reduced to CZK 8,515/1,000l (≈€326/1,000l). Pure biofuels such as FAME and pure vegetable oil are taxed at a rate of CZK 2,190/1,000l (≈€84/1,000l) and CZK 1,610/1,000l (≈€62/1,000l) respectively.

Page | 22

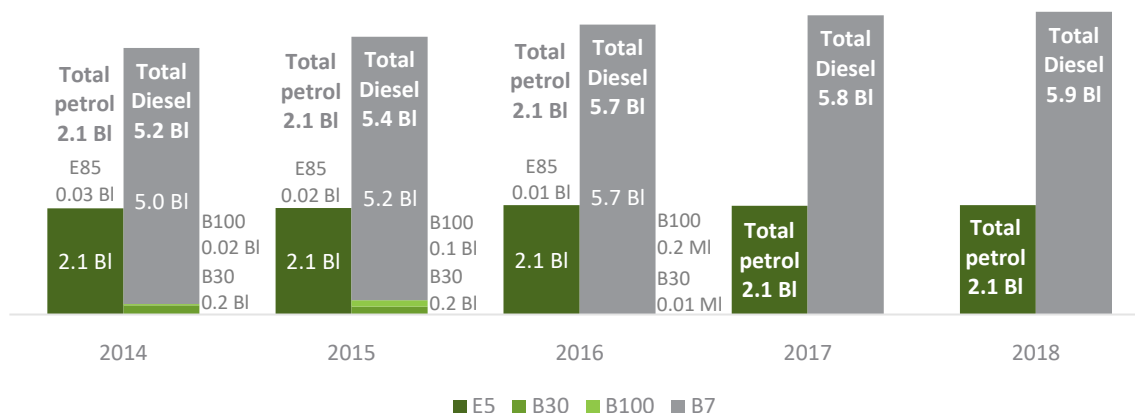
Post-2020

Czechia plans to reach a 14% RES-T by 2030. Biofuels consumption in transport is expected to reach 20.4 PJ or 487 ktoe for conventional biofuels (vs. 309 ktoe in 2018), 13.1 PJ or 313 ktoe for biofuels under Annex IX-A (vs. 0 ktoe in 2018) and 4.9 PJ or 117 ktoe for biofuels under Annex IX-B (vs. 0 ktoe in 2018).

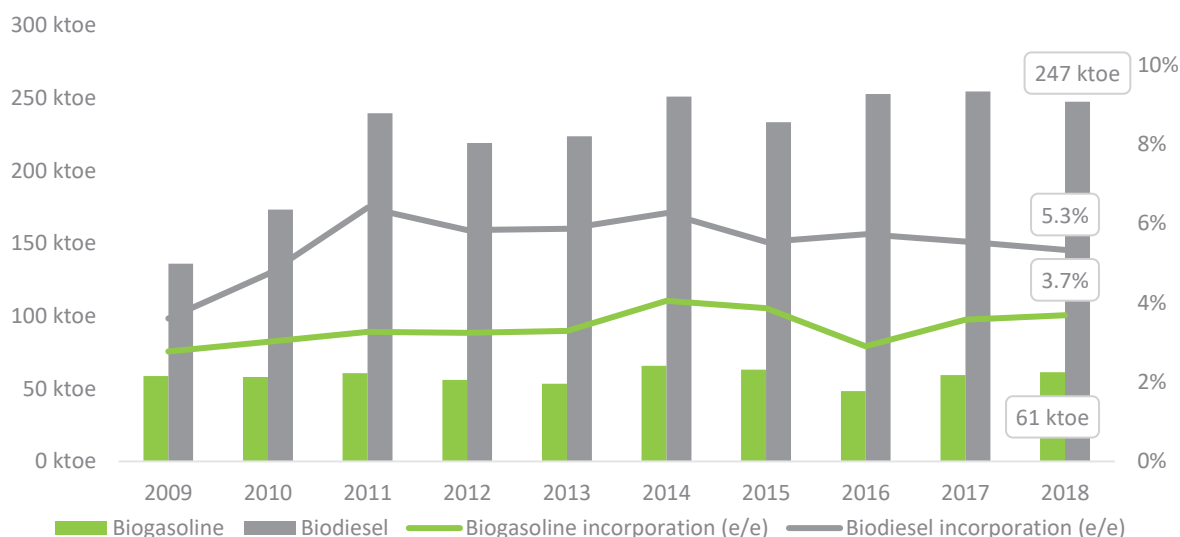
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



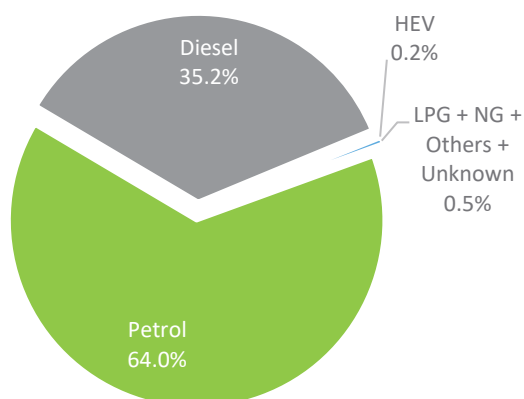
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



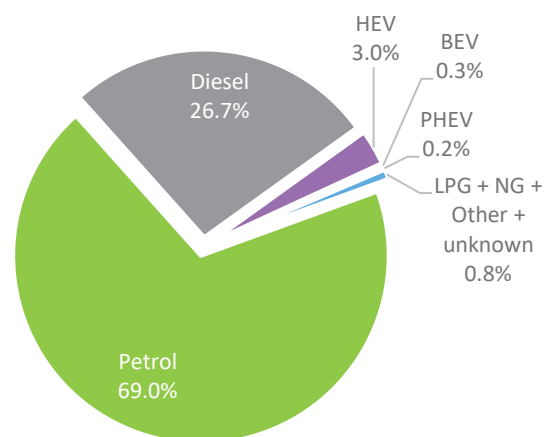
Page | 23

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RES-T target	10%	6.6% (2018)
Renewable mandates with multipliers	Overall: 7.6%, in energy Dedicated sub-target for advanced biofuels: 0.17% in energy Petrol: 5% in energy	Annex IX-A: 0.4% in energy (2018)
Crop cap	7%	4.4% (2018)
FQD – GHG emissions reduction target for fuels	6%	2.2% (2017)

Specifics to ensure compliance

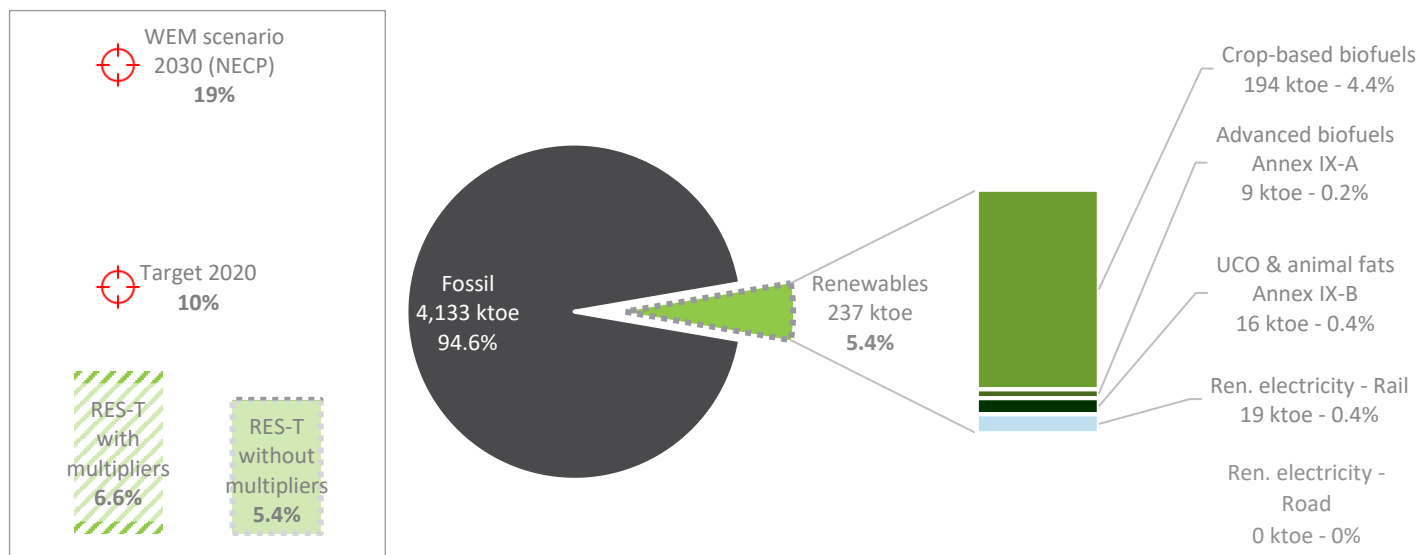
- Double counting: In place for a list of feedstocks which includes straw, bagasse, husks, bellows, the non-edible part of corncoobs, nutshells, animal manure, raw glycerine, sulphate pitch and animal fat cat. 1 and 2. used cooking oil is not eligible.
- Penalties for fuel supplier failing to fulfil the quotas: fines.
- Tax incentives: Lower taxation rate for fuels containing a minimum biofuels content. For petrol, the tax is lowered from 438.2 to 430.7 øre/l (€cts 58.8 to 57.8/l) for a content above 4.8%. For diesel the tax is lowered from 278.4 to 276.9 øre/l (€cts 37.4 to 37.1/l) for a content above 6.8%. The CO₂ tax is lower for fuels containing biofuels: for petrol, the tax is lowered from 40.8 to 38.8 øre/l (€cts 5.5 to 5.21/l) for a content above 4.8%. For diesel the tax is lowered from 45.1 to 42 øre/l (€cts 7.9 to 5.6/l) for a content above 6.8%.

Page | 24

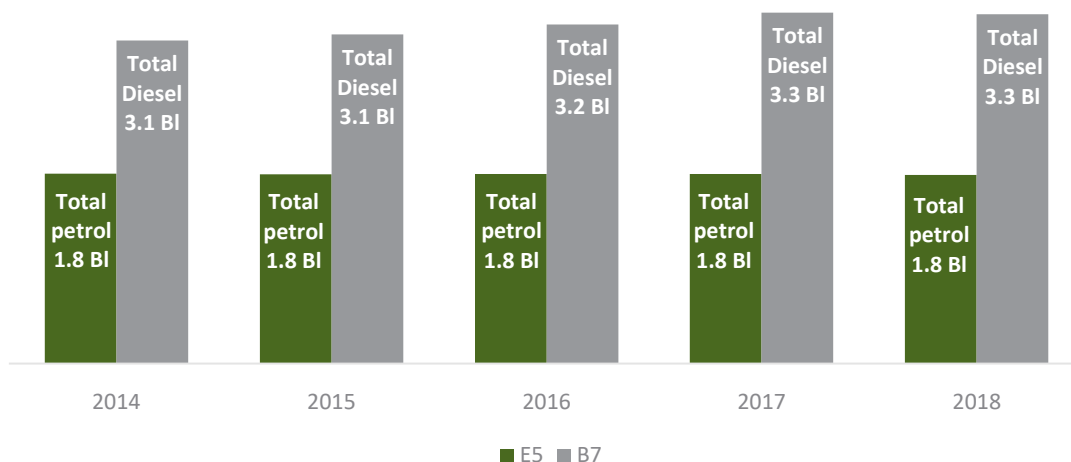
Post-2020

As of Sep. 2020, the Danish Parliament is negotiating the transition of the transport sector towards 2030 and beyond. The current blending mandate of 7.6% will return to the pre-2020 level of 5.75% if no new regulation is agreed, but could also be replaced by a CO₂-abatement target for diesel and gasoline vehicles. According to its NECP projections, Denmark estimates that it will reach 19% RES-T in 2030 with existing measures. Crop-based biofuels are expected to be stable over the period 2017-2030 around 5% of the energy mix and decrease to 4% by 2040. Advanced biofuels are expected to increase from 0% in 2017 to 2% in 2030/2040.

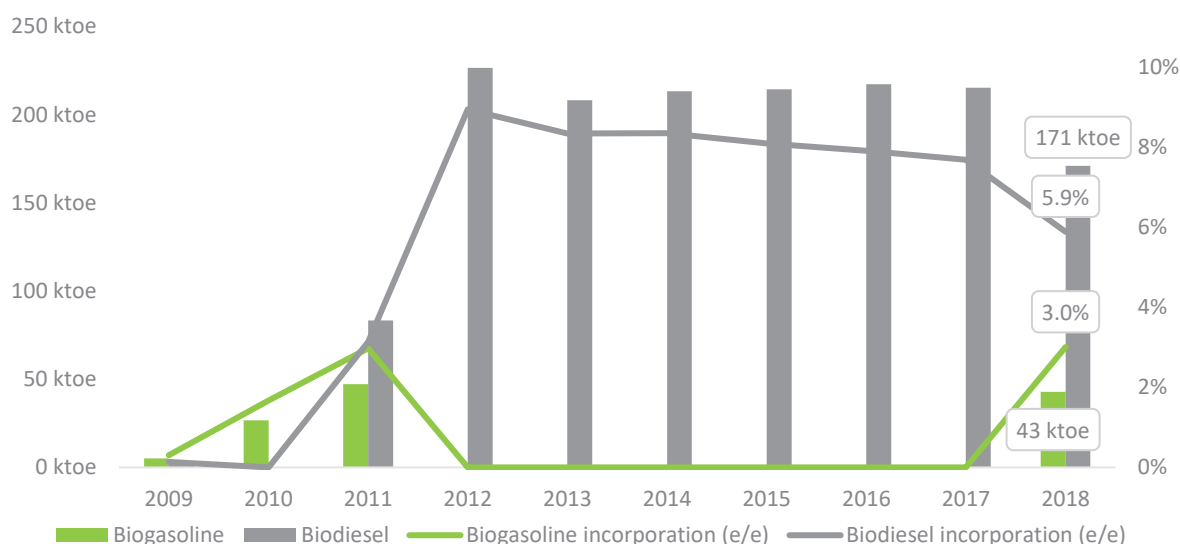
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



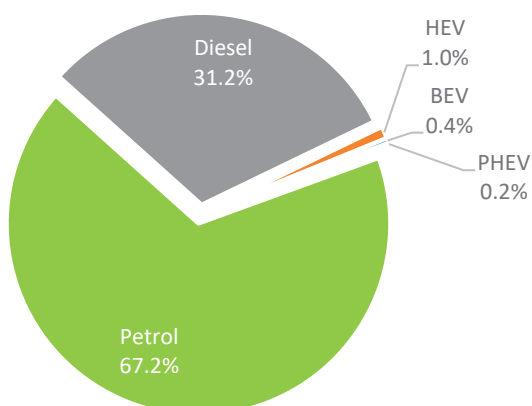
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



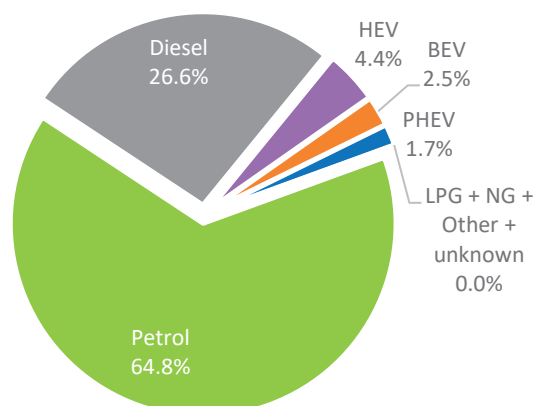
Page | 25

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
Red - RES-T target	10%	3.3% (2018)
Renewable mandates with multipliers	Overall: 10% in energy Dedicated sub-target for advanced biofuels: 0.5% in energy Blending obligations do not apply to RON 98 petrol fuel	Annex IX-A: 0.8% in energy (2018)
Crop cap	7%	2.1% (2018)
FQD – GHG emissions reduction target for fuels	6%	N/A

Specifics to ensure compliance

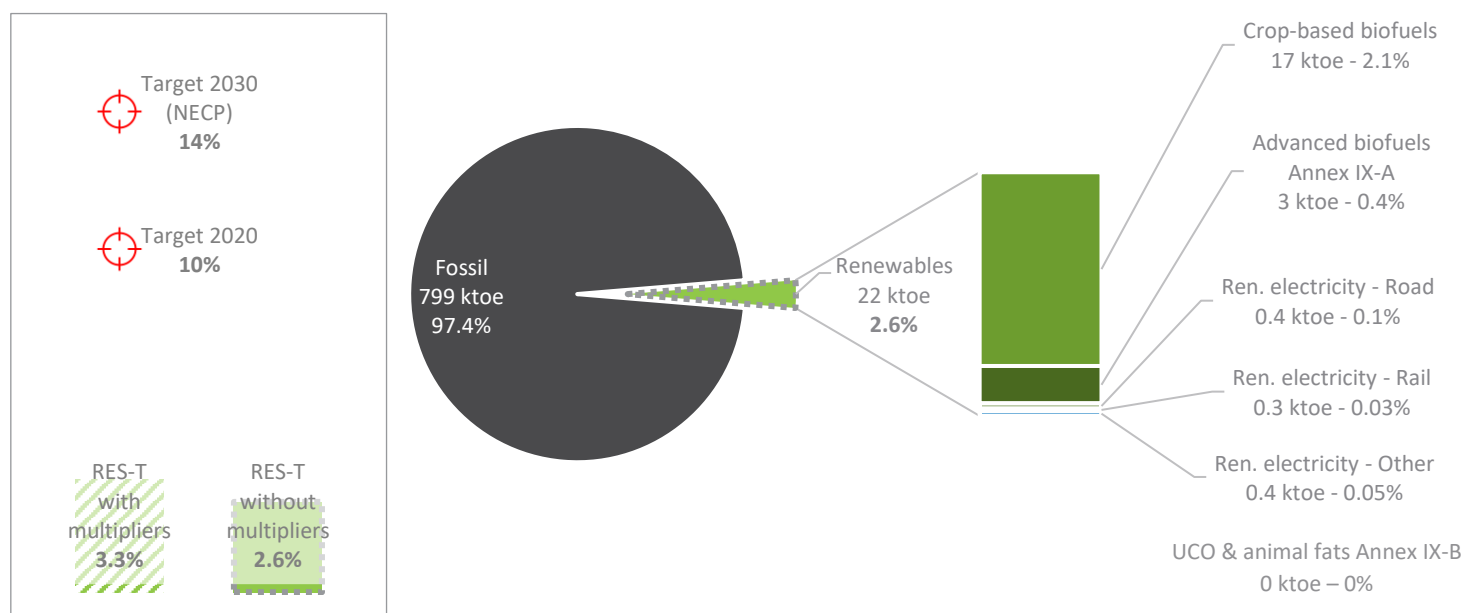
- Double counting: In place for biofuels produced from the RED Annex IX list of feedstocks.
- Penalties for fuel suppliers failing to comply with the blending obligation: 300 so-called fine units (€1,200) or in the case of a legal person, a fine up to €10,000,000.

Post-2020

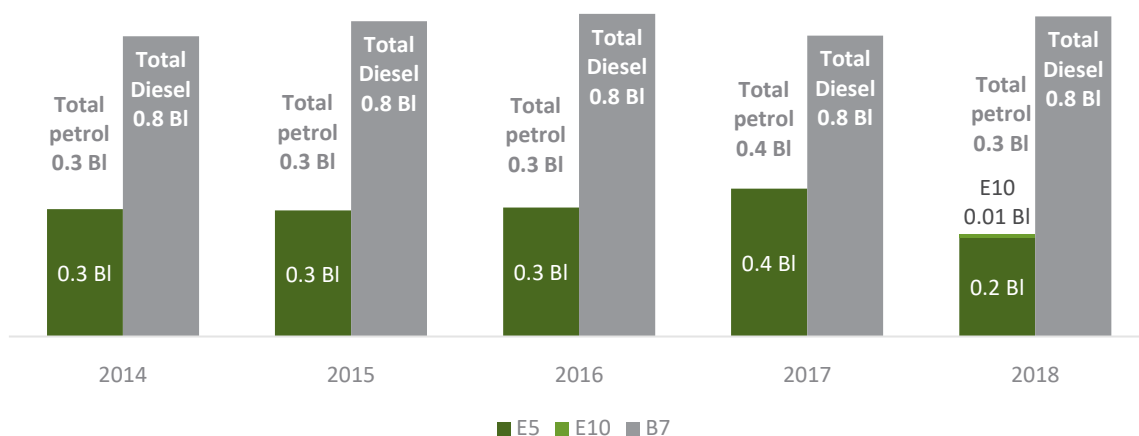
Estonia targets a 14% RES-T in 2030, which will be set by law and come into force as of 1 July 2021. The country is working to reduce the consumption of conventional biofuels to 5 GWh (ca 0,43 ktoe) by 2025 while increasing the consumption of advanced biofuels to 395 GWh (340 ktoe) by 2030.

Page | 26

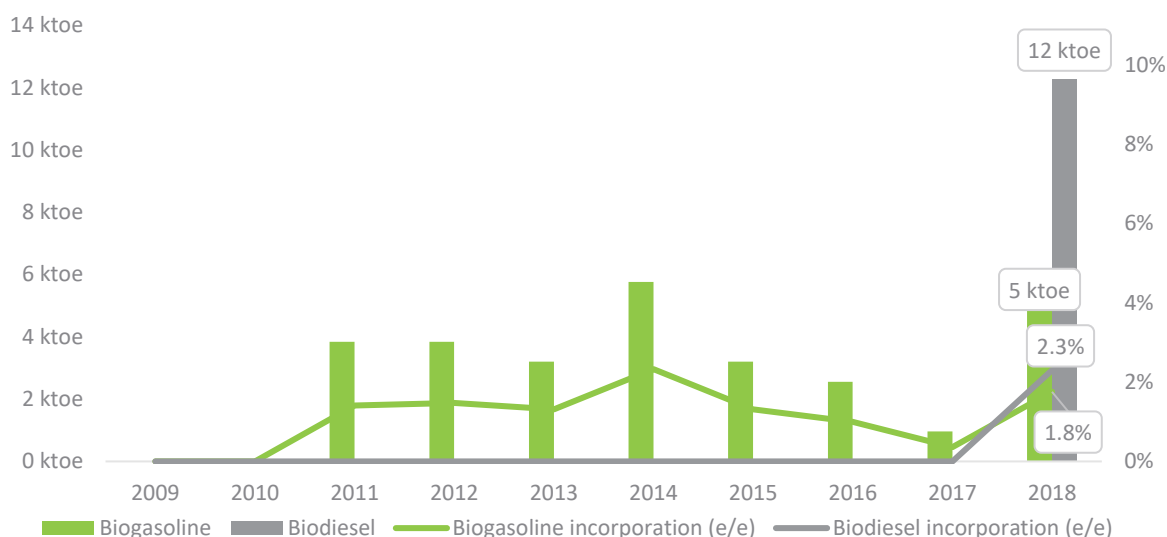
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



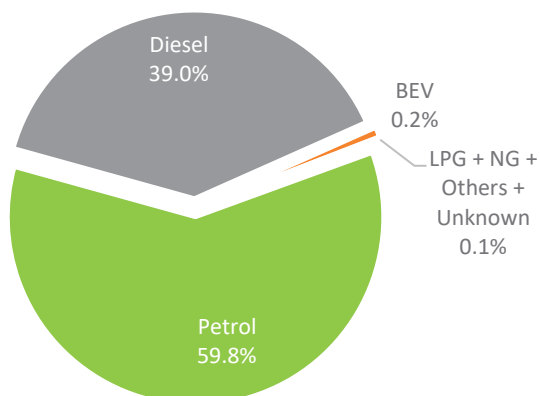
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



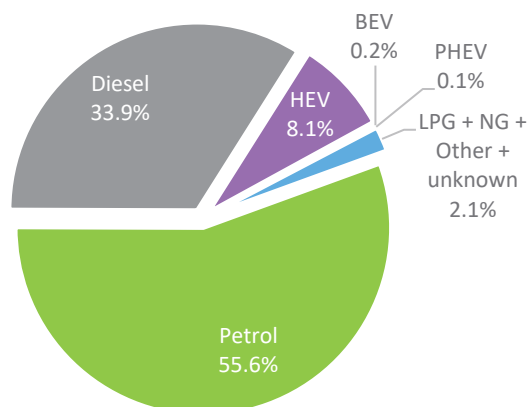
Page | 27

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	14.9% (2018)
Renewable mandates with multipliers	Overall: 20% in energy Dedicated sub-target for advanced biofuels: 0.5% in energy	Annex IX-A: 9.4% in energy (2018)
Crop cap	7%	4.1% (2018)
FQD – GHG emissions reduction target for fuels	6%	5.5% (2017)

Specifics to ensure compliance

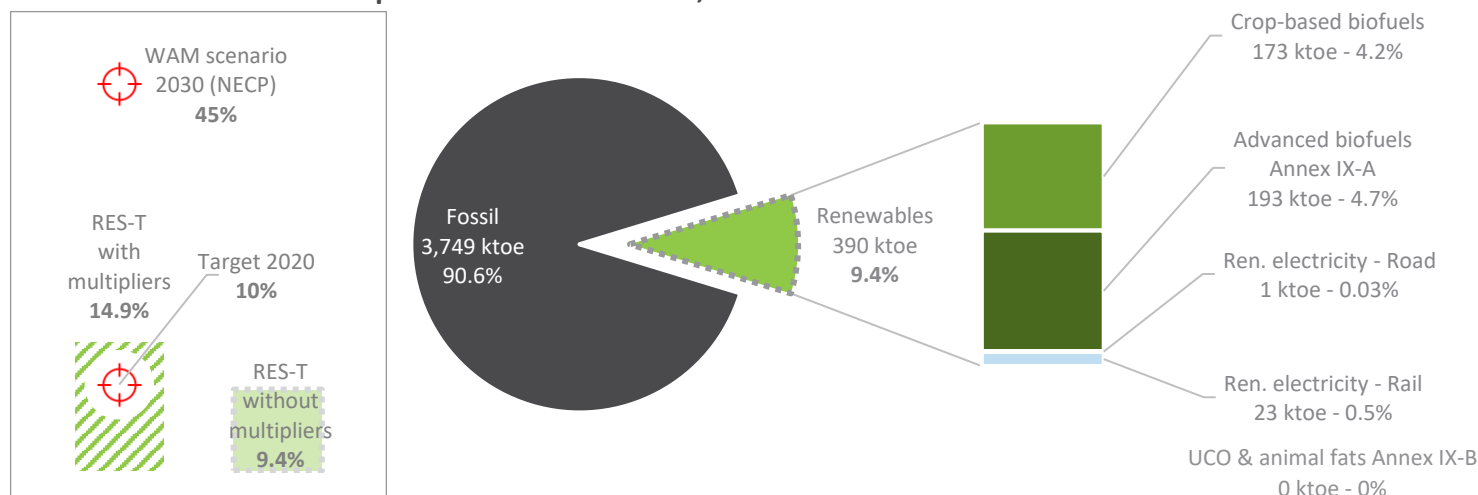
- Double counting: In place for biofuels produced from Annex IX feedstocks.
- Penalties for fuel suppliers failing to fulfil the renewable mandates: €0.04/MJ (≈€1,675/toe) of biofuel missing and €0.03/MJ (≈1,260/toe) of advanced biofuel missing.
- Tax incentive: Petrol and diesel blends released on the market have minimum tax rates of €ct 35.9/l and €ct 33/l respectively. In addition, liquid fuels are taxed based on their energy content and their CO₂ intensity:
 - Conventional and advanced ethanol are taxed at a rate of €ct 43.03/l and €ct 35.98/l respectively, whereas motor gasoline is taxed at €ct 75.96/l.
 - Conventional and advanced biodiesel are taxed at a rate of €ct 43.30/l and €ct 32.04/l respectively, whereas diesel is taxed at €ct 59.48/l.
 - Since August 2020 a different tax class has been created for paraffinic fuels, with different tax level depending on the feedstock. The tax for paraffinic fuels from fossil feedstock is €ct 51.20/l, from crops (HVO) €ct 39.6/l and from wastes and residues €ct 28/l.

Page | 28

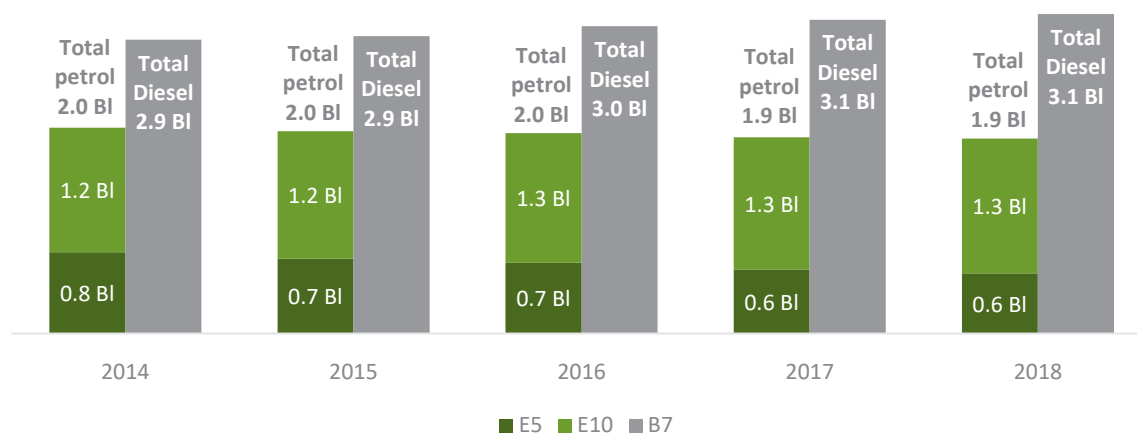
Post-2020

Finland plans to increase the RES-T to 45% in 2030 with liquid biofuels accounting for 10 TWh (about 860 ktoe). Double counting will no longer be in place after 2020: biofuels obligations will drop from 20% in 2020 to 18% in 2021 before increasing again by 1.5% every year up to 30% in 2030. Target for Annex IX-A biofuels is set to increase by 2% every two years from 2% in 2021 to 10% in 2030 according to the law whereas the NECP sets the same 2030 target for Annex IX-A and B.

Renewables in transport – 2018 – Source: EC, SHARES 2020

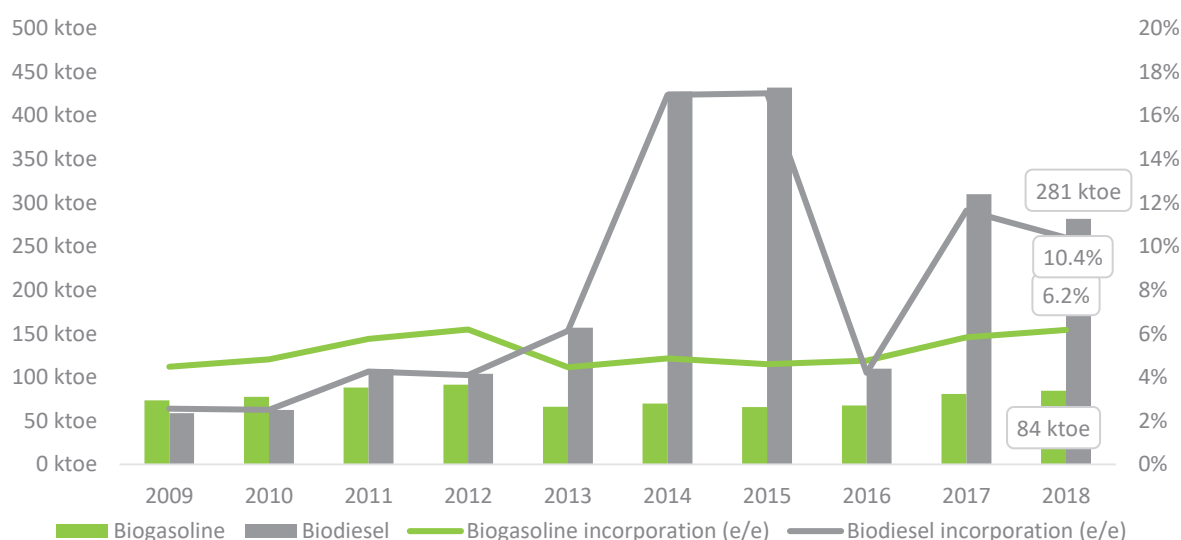


Fuels market – Source: EEA, FQD Article 8 reports



2019 petrol market shares: 95E10, 71.5%; 98E5, 28.5% (source: personal communication with ePURE members)

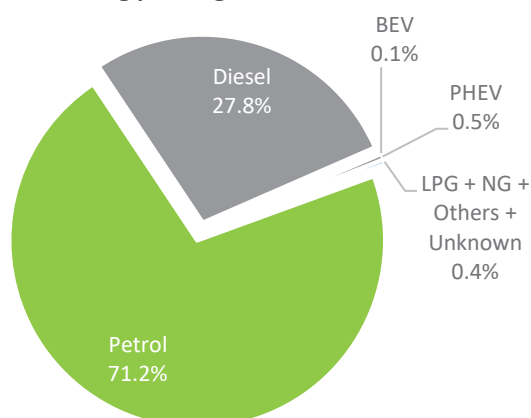
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



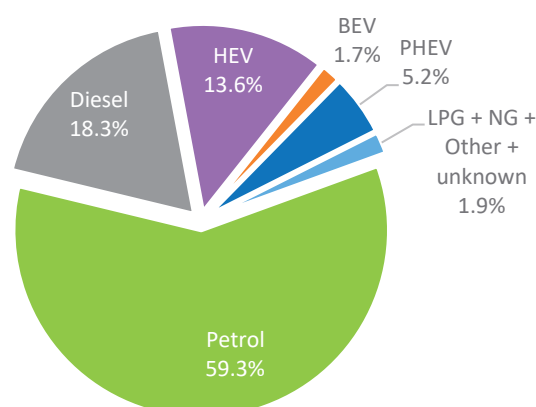
Page | 29

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	9% (2018)
Renewable mandates with multipliers	Dedicated sub-target for advanced biofuels: 1.6% petrol, 1% diesel (PPE 2018) Petrol: 8.2% including 0.7% advanced in energy Diesel: 8% in energy	Annex IX-A: 0.1% in energy (2018)
Crop cap	7%	6.8% (2018)
Other specifics caps	<ul style="list-style-type: none"> PFAD included in the crop cap Sugar based residues (45% of their energy content) and starch residues can also be counted in a separate cap of 0.8% in 2021 Tall oil and tall oil pitch have an additional specific cap of 0.6% Multiple counting of Annex IX-B is capped at 0.9% 	
FQD – GHG emissions reduction target for fuels	10%	4.5% (2017)

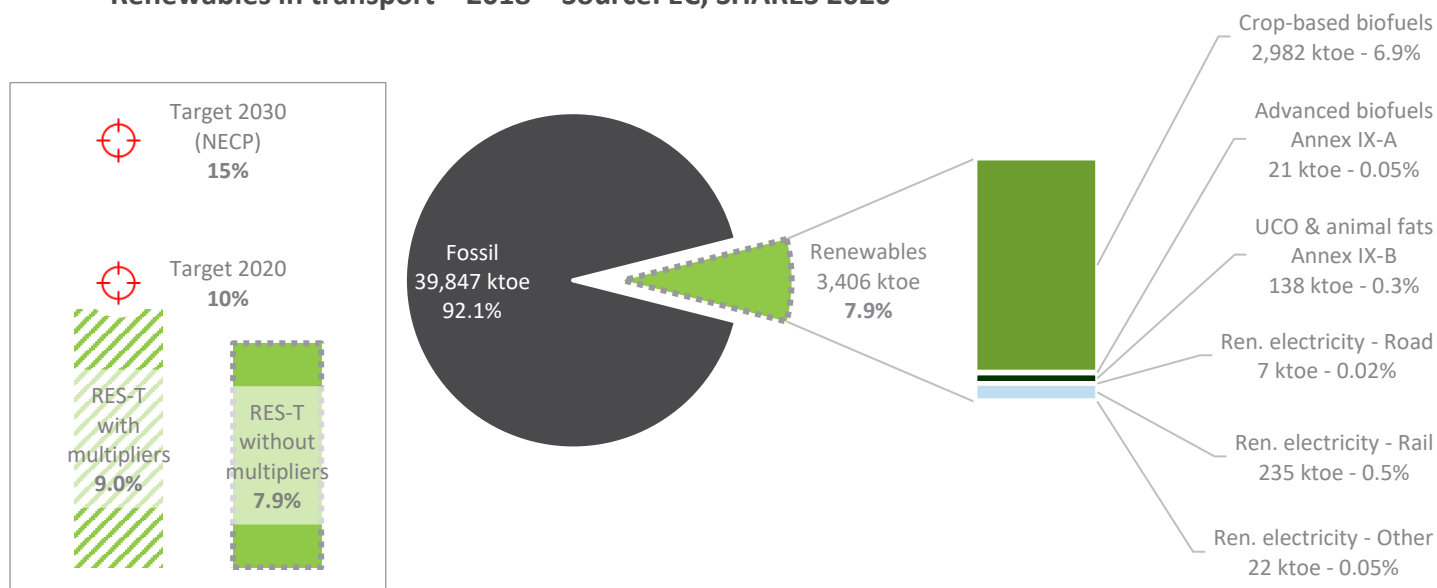
Specifics to ensure compliance

- Double counting: Annex IX-A up to $0.45\% \times 2 = 0.9\%$, tall oil and tall oil pitch excluded, and Annex IX-B up to $0.45\% \times 2 = 0.9\%$ with a separate cap of $0.1\% \times 2 = 0.2\%$ in petrol.
- Penalties: a tax (TIRIB) of €98/hl to be paid by suppliers not complying with the renewable mandates.
- Tax incentive: At the time of writing, the 2021 tax on the consumption of petroleum products (TICPE) is set at €cts 68.29/hl for 95E5/98E5, at €cts 66.29/hl for 95E10 and at €cts 11.83/hl for E85.

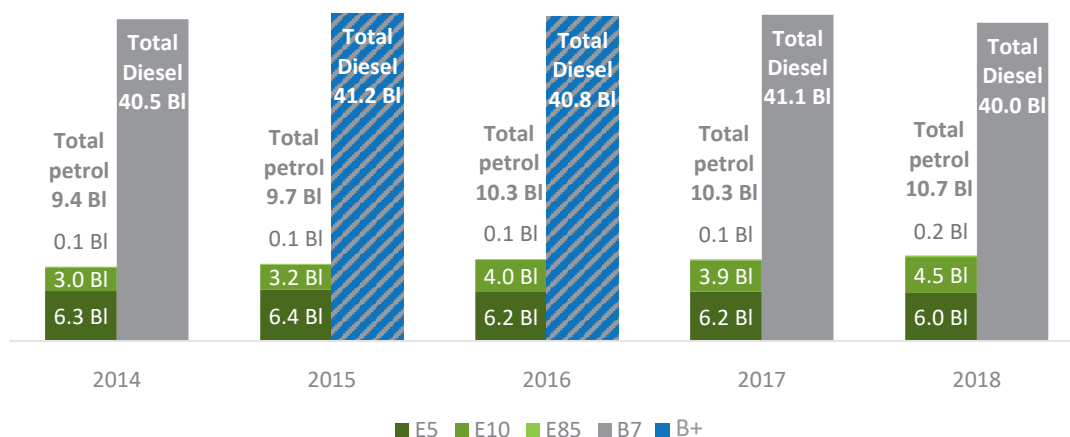
Post-2020

France plans to increase the RES-T to 15% in 2030. The 2020 blending obligations in petrol and diesel (8.2% and 8% in energy respectively) and the crop cap of 7% will be maintained in 2021, while the separate cap for sugar based and starch residues will be increased to 0.8%. The blending objective of advanced biofuels is 3.8% in petrol and 2.8% in diesel by 2028 (including double counting for Annex IX biofuels and 1.2 multiplier for use in aviation).

Renewables in transport – 2018 – Source: EC, SHARES 2020

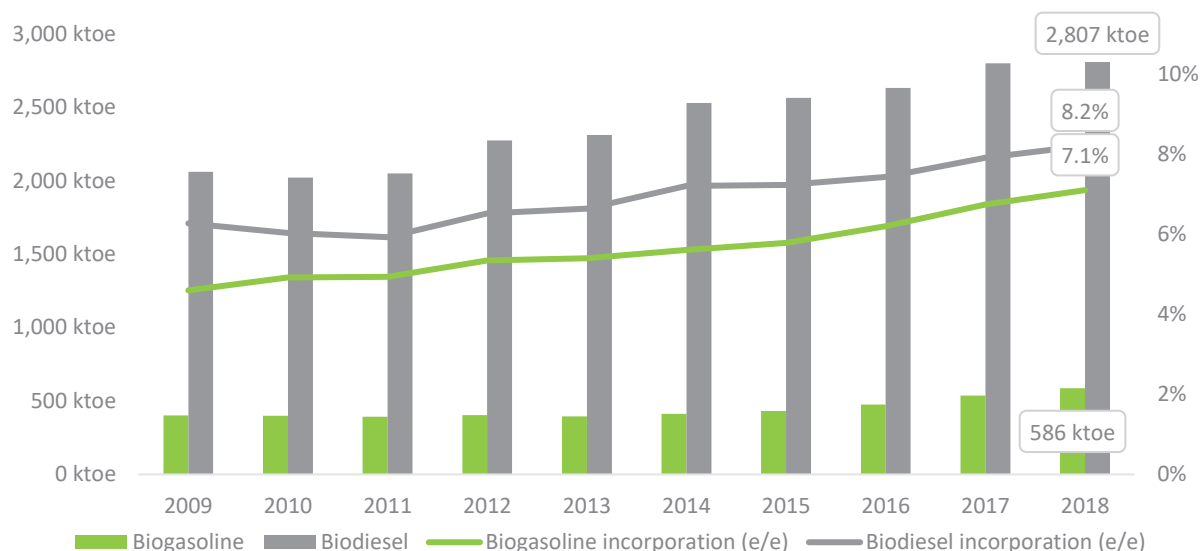


Fuels market – Source: EEA, FQD Article 8 reports



2019 petrol market shares: 95E5+98E5, 49.4%; 95E10, 47.6%; E85, 3% (source SNPAA, 2020)
B7 was reported as B+ in 2015 and 2016.

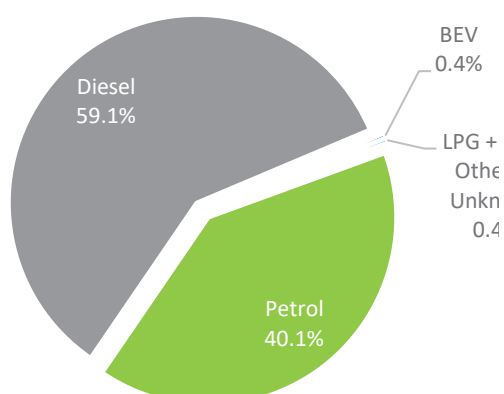
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



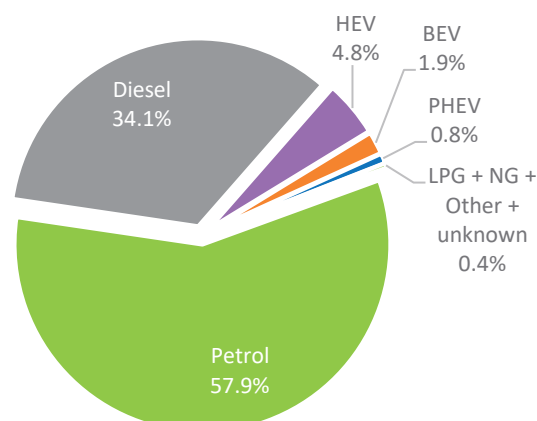
Page | 31

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED – RES-T target	10%	7.9% (2018)
Renewable mandates with multipliers	Dedicated sub-target for advanced biofuels: 0.05% in energy	Annex IX-A: 0.02% in energy (2018)
Crop cap	6.5%	3.2% (2018)
FQD – GHG emissions reduction target for fuels	6%	3.7% (2017)

Specifics to ensure compliance

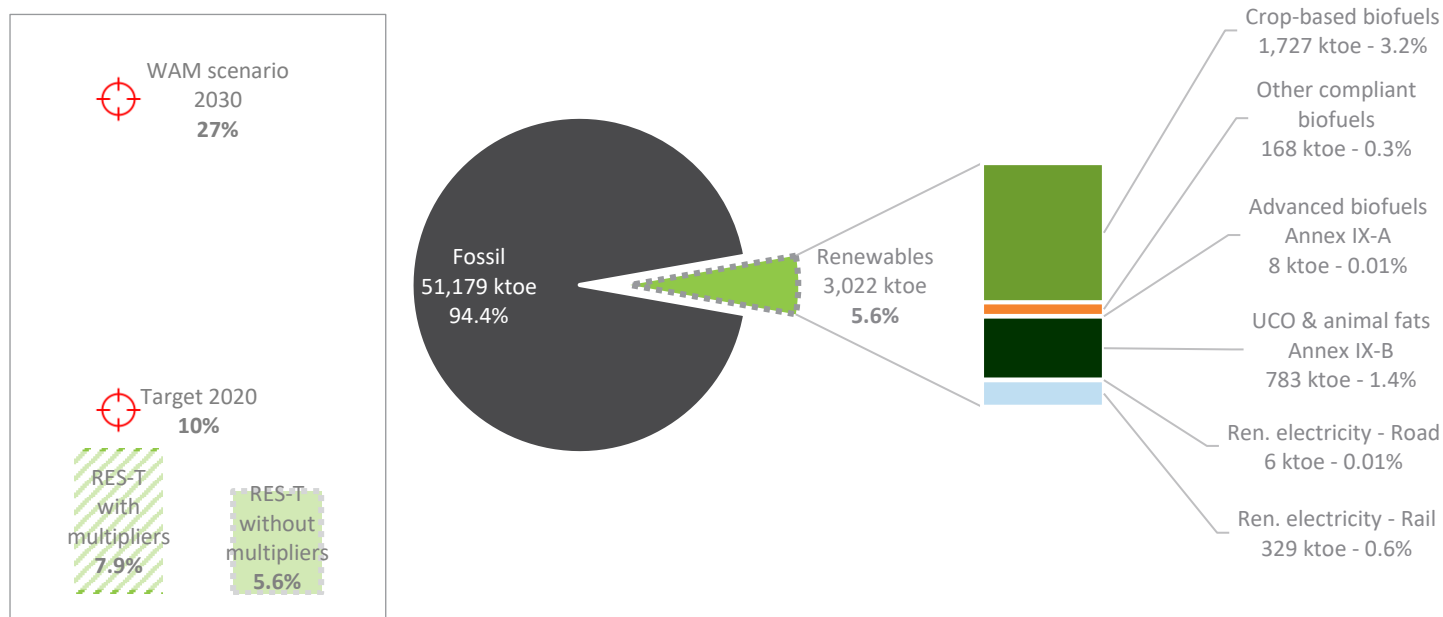
- Double counting: Not applied since the shift from renewable mandates to a GHG reduction quota in 2015.
- Penalties for fuel suppliers failing to fulfil the GHG reduction quota obligation: €470 per tCO_{2eq} reduction missing.

Post-2020

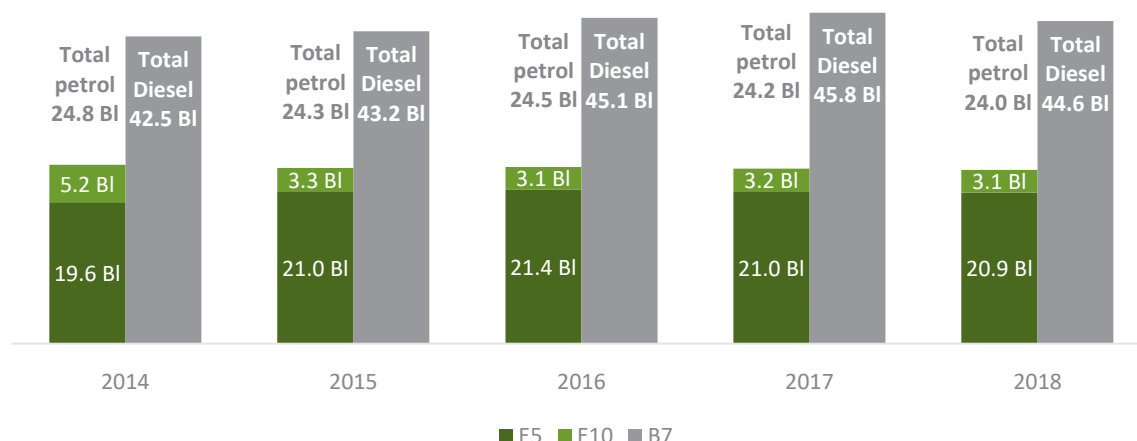
Germany plans to reach 27% RES-T by 2030 with additional measures, equivalent to 11.6% without multipliers. The consumption of biogenic petrol is expected to reach 1.6% of the 2030 transport mix, while biodiesel (incl. HVO) and renewable electricity in transport are expected to reach 3.3% and 5.5% respectively. Crop-based biofuels are expected to be capped at 5.3% in 2030, while the advanced biofuels target is set to increase to 0.1% in 2021, 0.2% in 2023, and 0.5% in 2025.

Page | 32

Renewables in transport – 2018 – Source: EC, SHARES 2020

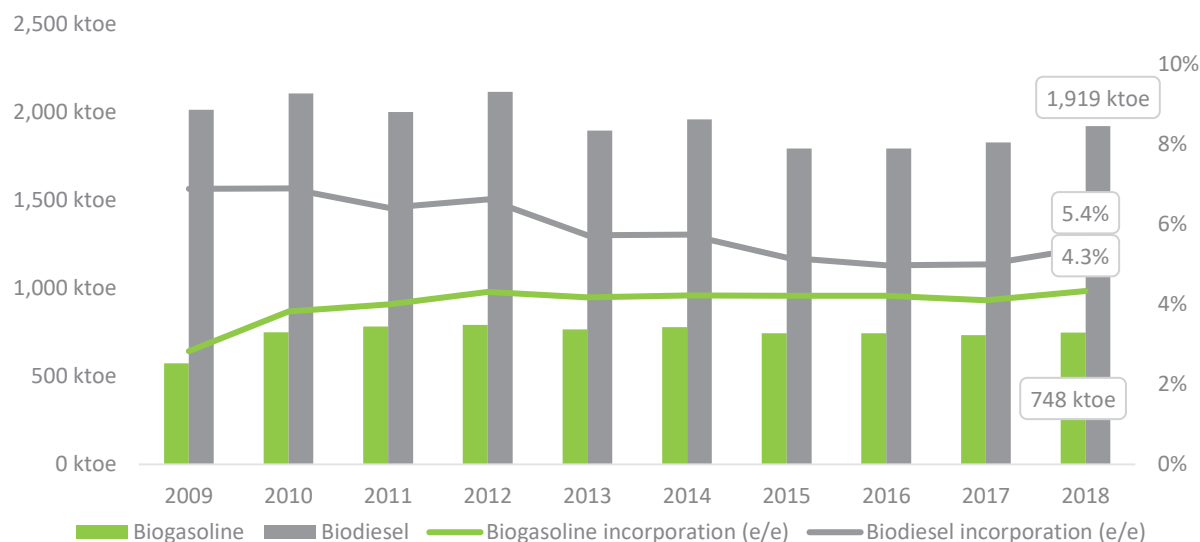


Fuels market – Source: EEA, FQD Article 8 reports



2019 petrol market shares: 95E5, 81.7%; 98E5, 4.6%; 95E10, 13.7% (source: BAFA)

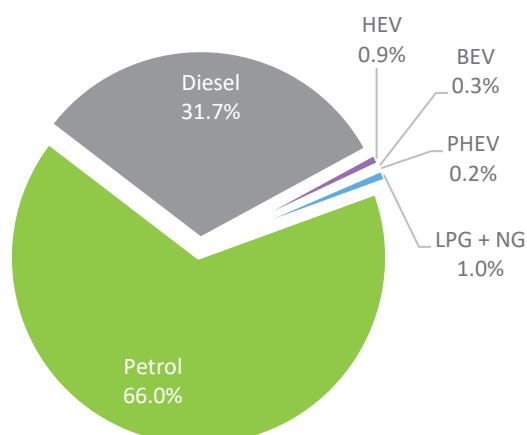
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



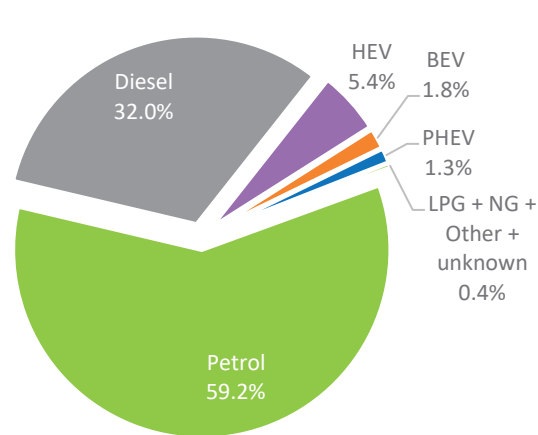
Page | 33

Vehicles market – Sources: KBA 2020 & ACEA 2020

Existing passenger cars fleet – 2019



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	3.8% (2018)
Renewable mandates with multipliers	Dedicated sub-target for advanced biofuels: 0.2% in volume Petrol: 3.3% ethanol and bio-ethers, in energy Diesel: 7% in volume. National quota of 135 Ml of biodiesel to be distributed	Annex IX-A: 0% in energy (2018)
Crop cap	7% (2020)	2.5% (2018)
FQD – GHG emissions reduction target for fuels	6%	3.2% (2017)

Specifics to ensure compliance

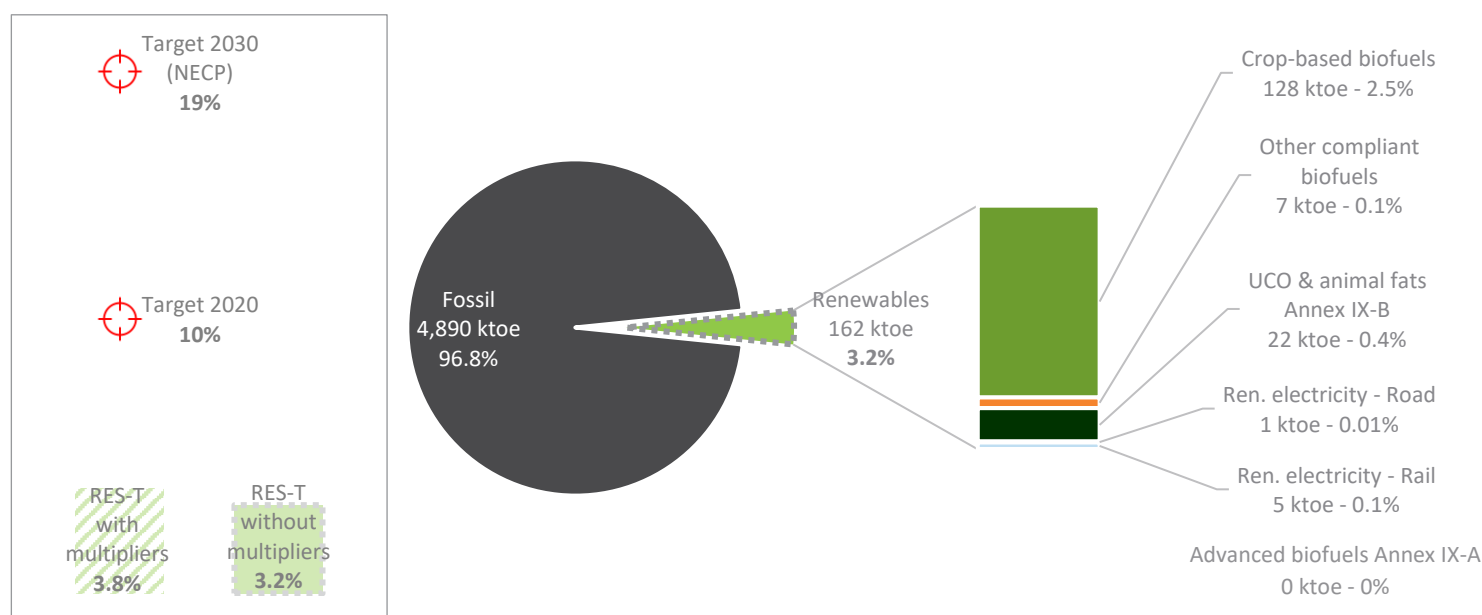
- Distribution scheme: Every year the Ministry of Environment and Energy determines the amount of biofuels to be distributed by fuel suppliers and assign quotas to each of them.
- Double counting: No longer applicable.
- Penalties for fuel suppliers failing to fulfil their quota: from €5,000 to €1,500,000.

Post-2020

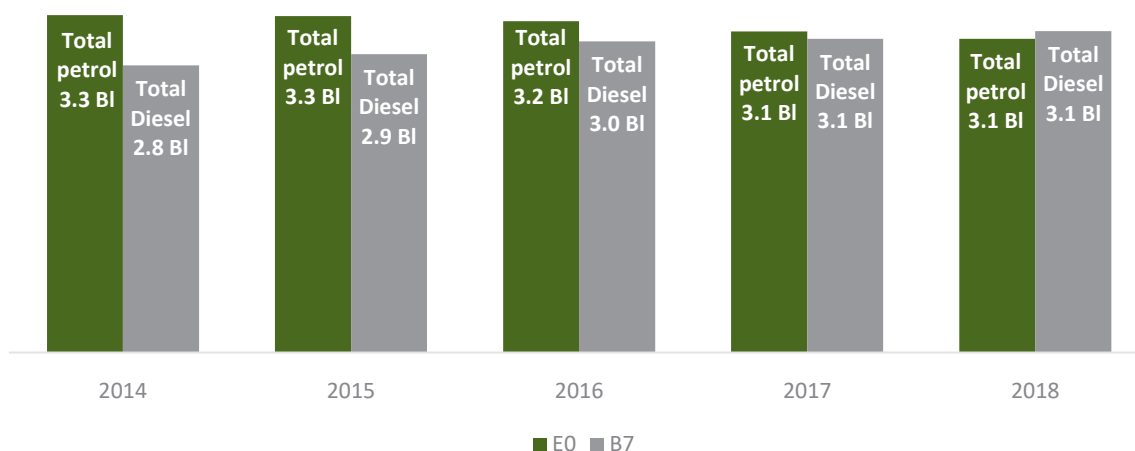
Greece plans to increase the RES-T to 19% in 2030 (10% without multipliers) with biofuels accounting for 80% of the RES-T or about 371 ktoe (vs. 157 ktoe in 2018). Contribution from biofuels from Annex IX-A feedstocks is expected to reach 197 ktoe in 2030 (vs. 0 ktoe in 2018). Greece also considers raising further its blending obligations.

Page | 34

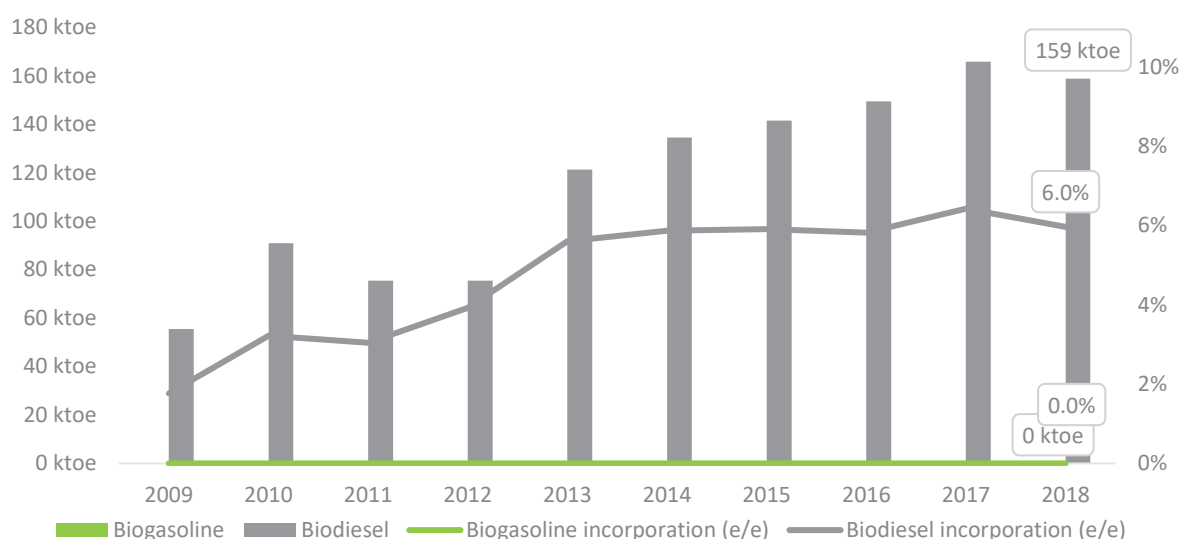
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



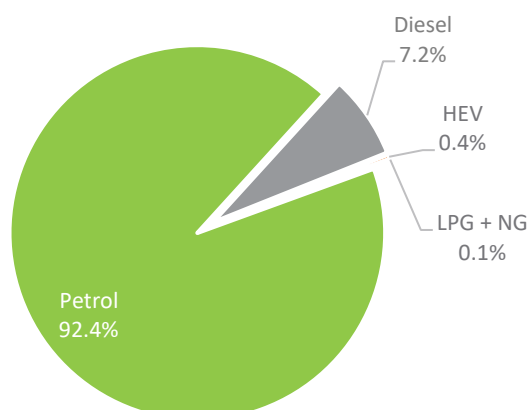
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



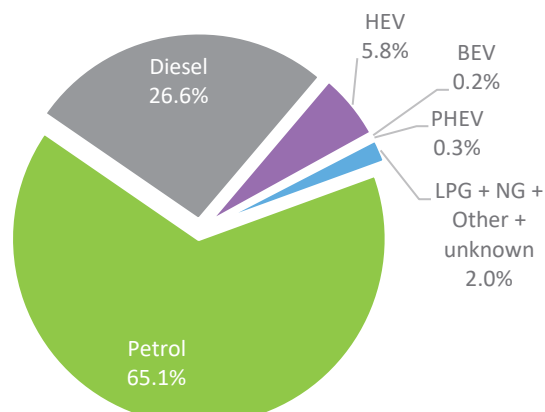
Page | 35

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	7.7% (2018)
Renewable mandates with multipliers	Overall 8.2% in energy 95 octane petrol: 6.2%, in energy	Annex IX-A: 0% in energy (2018)
Crop cap	7%	2.1% (2018)
FQD – GHG emissions reduction target for fuels	6%	2.6% (2017)

Specifics to ensure compliance

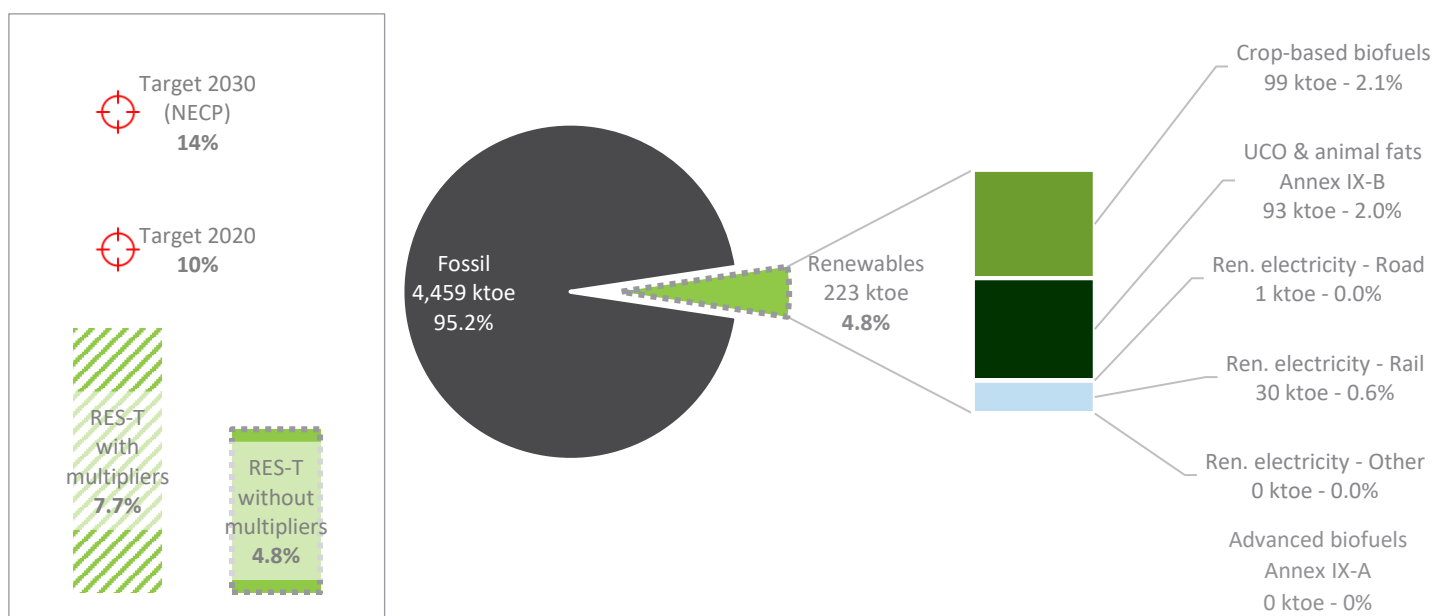
- Double counting: In place for biofuels made from RED Annex IX feedstock.
- Penalties for fuel suppliers failing to fulfil the renewable mandates: HUF 35 per missing MJ (or about €4,170/toe).

Post-2020

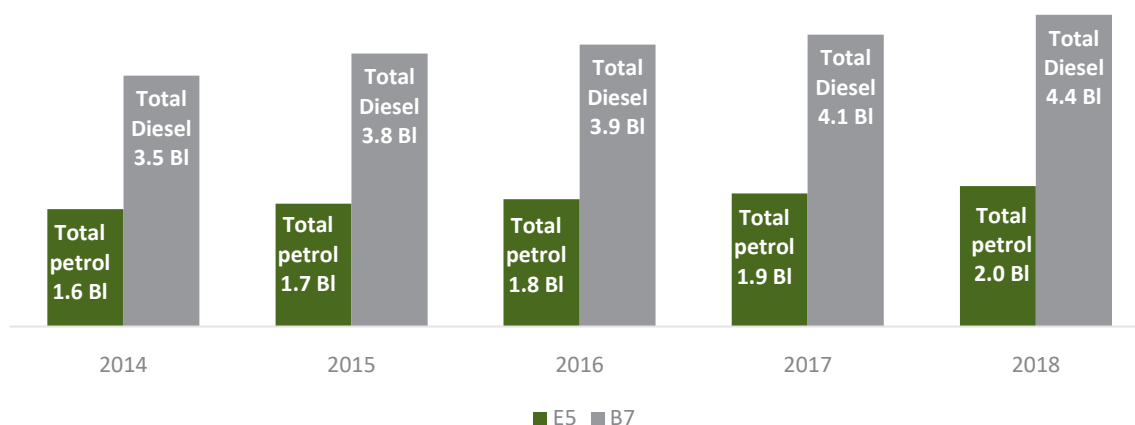
Hungary has set a 2030 RES-T target of 14%, which will be achieved by increasing the share of crop-based biofuels to 7% and advanced biofuels to 3.5% (with multipliers).

Renewables in transport – 2018 – Source: EC, SHARES 2020

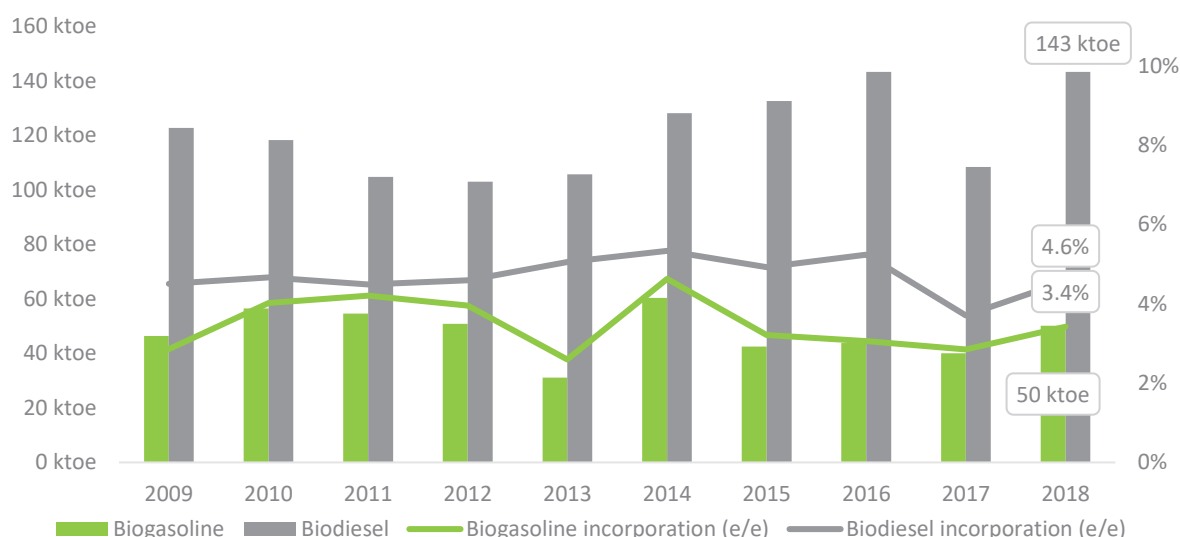
Page | 36



Fuels market – Source: EEA, FQD Article 8 reports



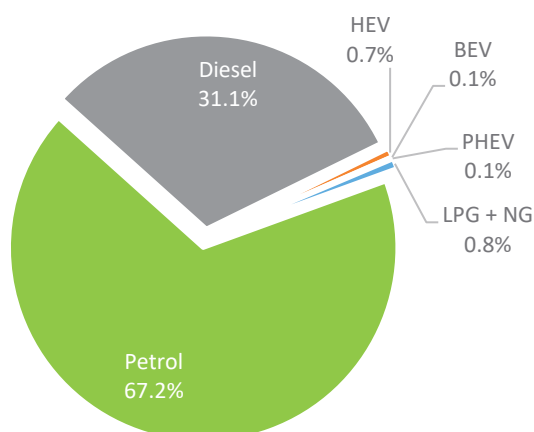
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



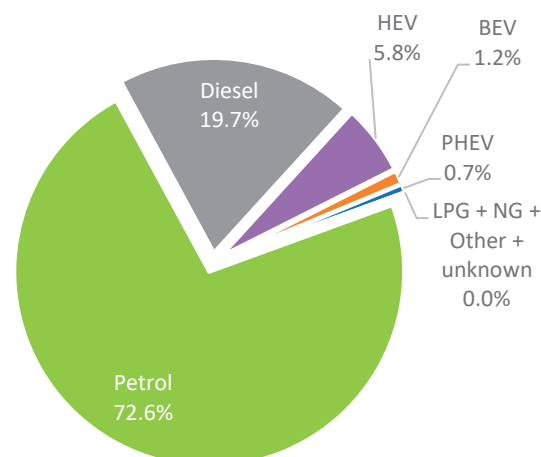
Page | 37

Vehicles market – Source: KBA 2020, ACEA 2020

Existing passenger cars fleet – 2019



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	7.2% (2018)
Renewable mandates with multipliers	Overall: 11% in volume Dedicated sub-target for advanced biofuels: 0.25% in volume	Annex IX-A: 0% in energy (2018)
Crop cap	7%	0.6% (2018)
FQD – GHG emissions reduction target for fuels	6%	2.9% (2017)

Specifics to ensure compliance

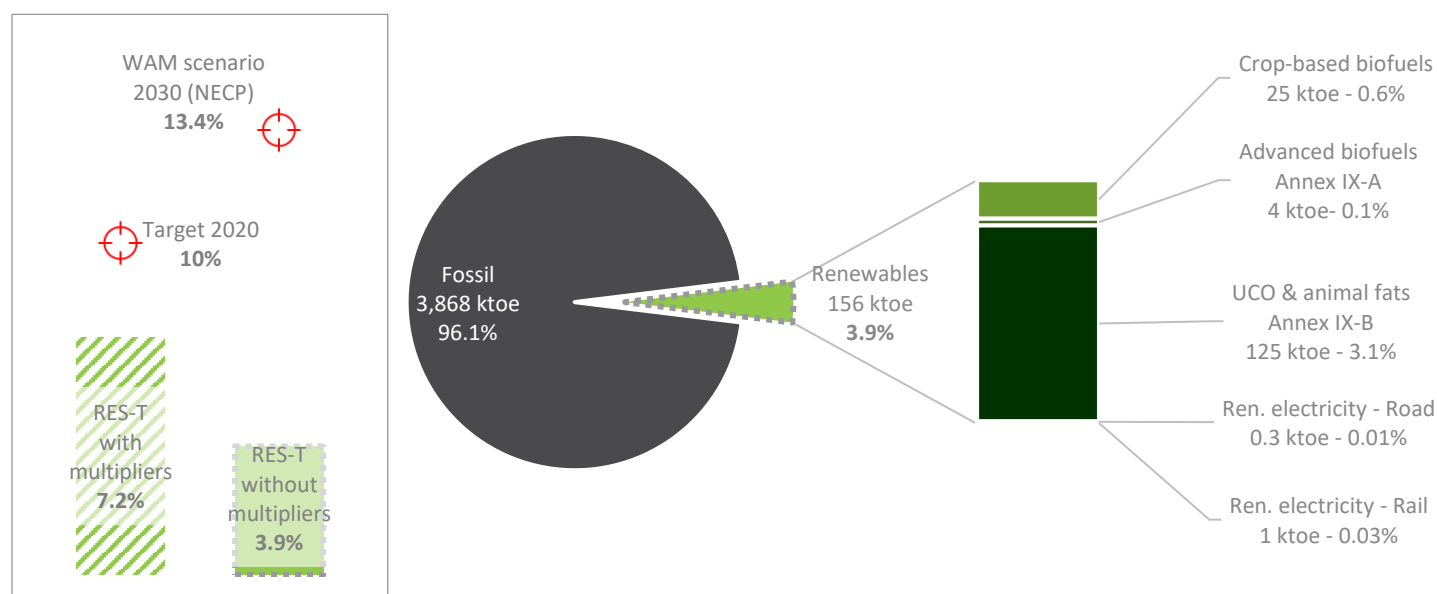
- Double counting: In place under a system of certificates with 1 certificate per litre of biofuels and 2 certificates per litre of biofuels produced from waste, residue, non-food cellulosic material, ligno-cellulosic material or algae.
- Penalties for fuel suppliers failing to fulfil their mandates: buy-out price of €0.45 per missing certificate.
- Tax incentive: 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.

Post-2020

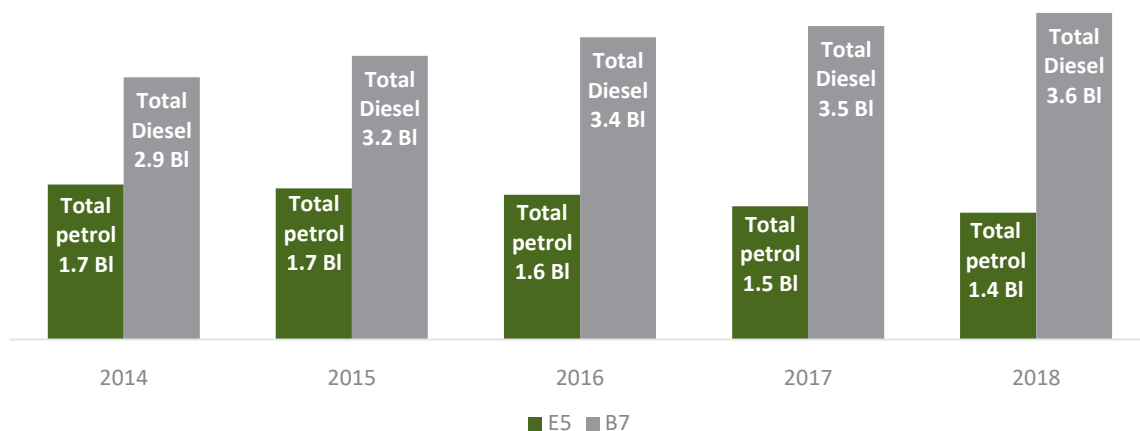
With the additional measures listed in its NECP, Ireland plans to increase the RES-T to 13.4% in 2030. Biofuels consumption in transport is expected to reach 275.3 ktoe in 2030 (+121.1 vs. 2018). Ethanol consumption is expected to reach 41.1 ktoe (+13.8 ktoe vs. 2018) with 0.4 ktoe from Annex IX-A feedstock (+0.4ktoe vs. 2018). Biodiesel consumption is expected to increase to 234.2 ktoe (+107.2 ktoe vs. 2018) with 126.5 ktoe from Annex IX-A feedstock (+126.5 ktoe vs. 2018) and 78.5 ktoe from Annex IX-B feedstock (+48.5 ktoe vs. 2018). Ireland foresees the raise of the blend proportion of biofuels in petrol and diesel to 10% and 12% respectively.

Page | 38

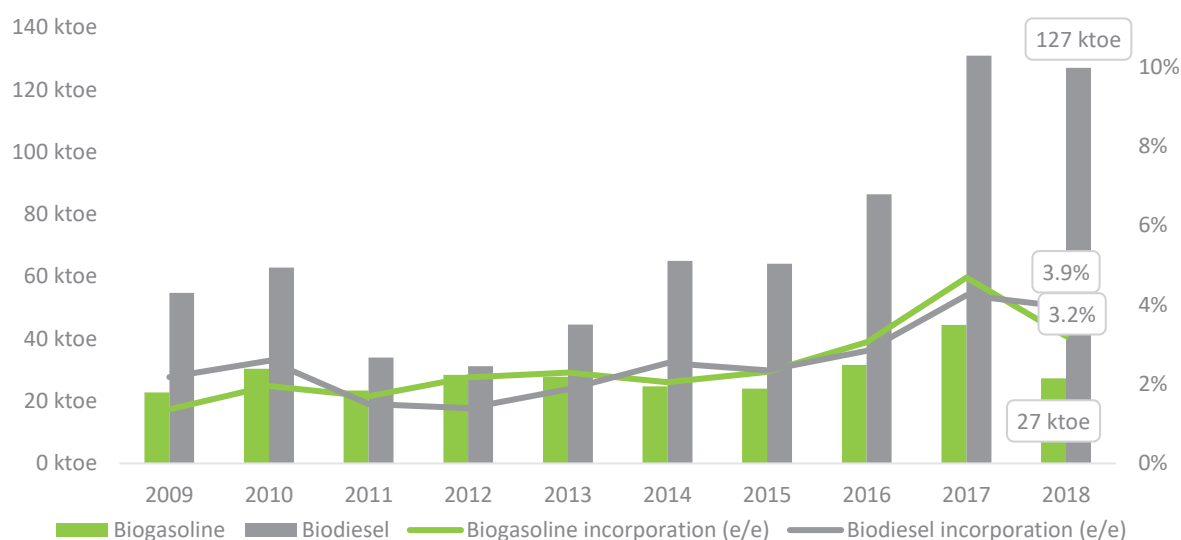
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



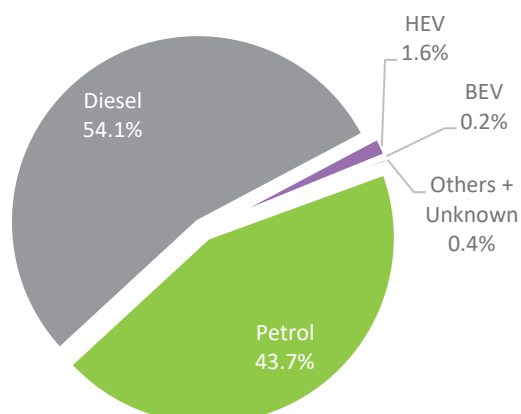
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



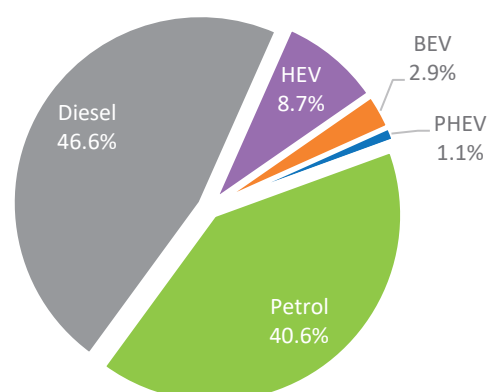
Page | 39

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	7.7% (2018)
Renewable mandates with multipliers	Overall: 9% in energy Dedicated sub-target for advanced biofuels: 0.9% in energy (of which 75% biomethane and 25% other advanced)	Annex IX-A: 0.4% in energy (2018)
Crop cap	7%	0.6% (2018)
FQD – GHG emissions reduction target for fuels	6%	3.1% (2017)

Specifics to ensure compliance

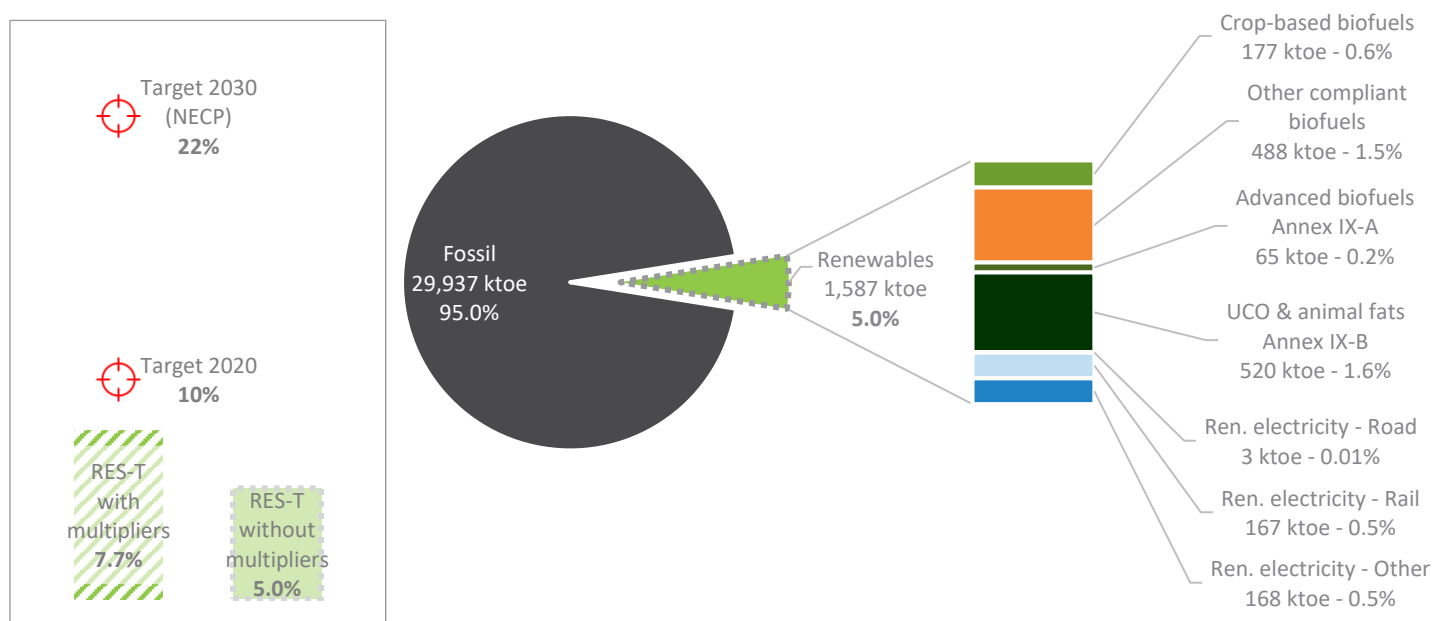
- Double counting and incentive: In place for Annex IX-A and B. Advanced biofuels producers are entitled to receive a premium of €375 per certificate of advanced biofuels.
- Penalties: As from 2020, fuels suppliers not complying with at least 95% of the renewable mandates have to pay a penalty of €750 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.

Post-2020

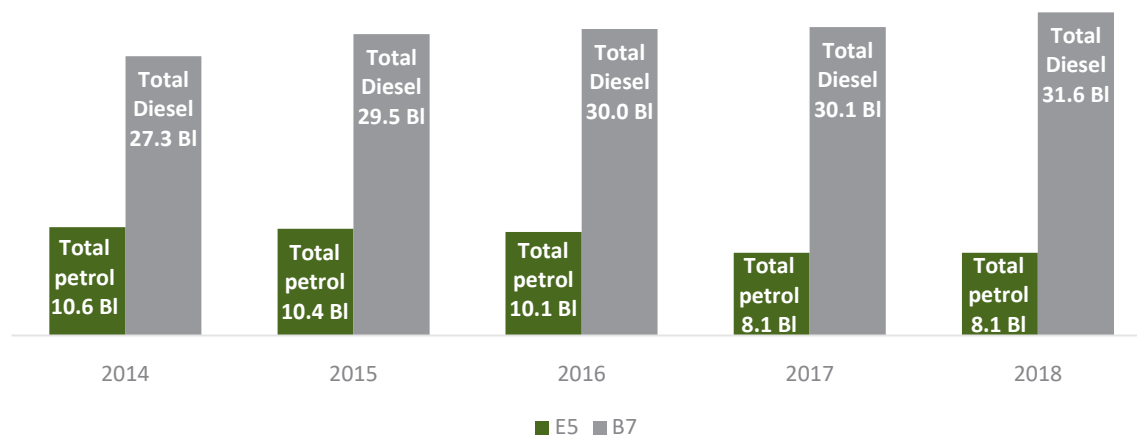
Italy plans to increase the RES-T to 22% (with multipliers) by 2030. The country foresees to decrease crop-based biofuels to 3% by 2030, with the possibility to consider stricter limits for high ILUC risk biofuels. Annex IX-A and Annex IX-B 2030 objectives are set respectively at 8% and max 5% (both with double counting).

Page | 40

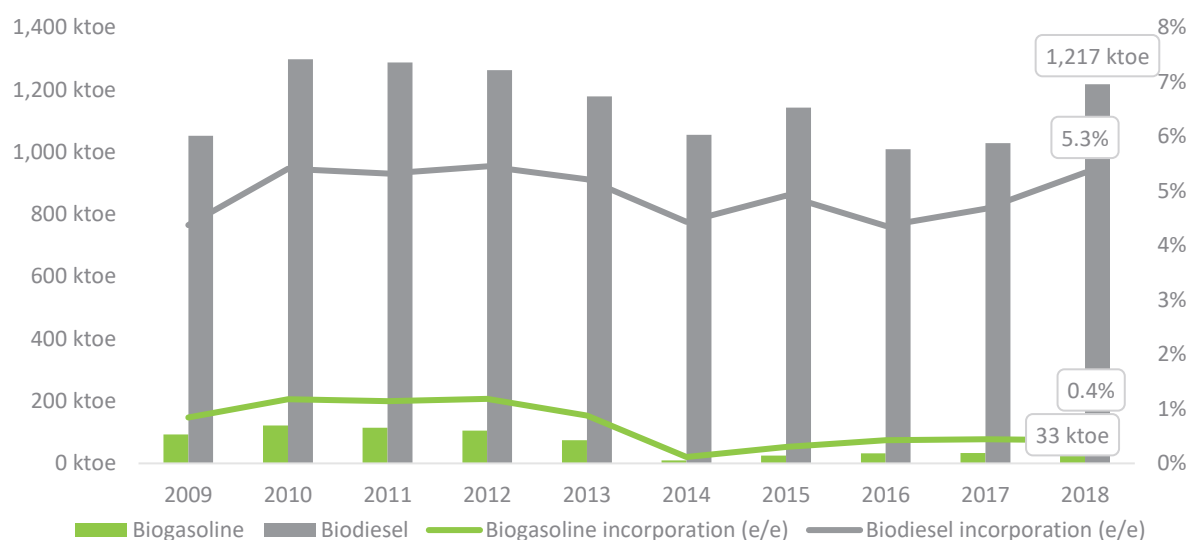
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



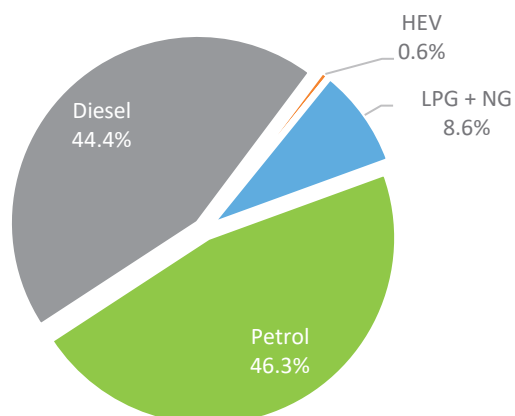
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



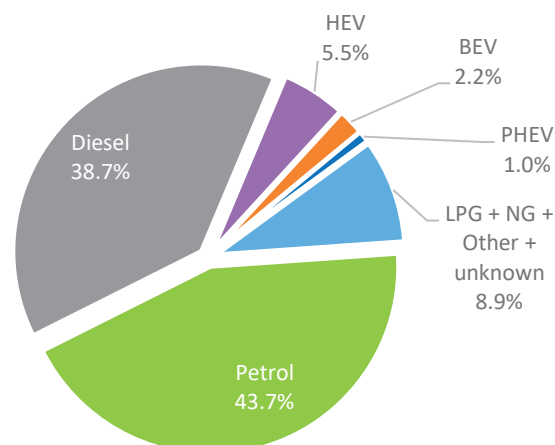
Page | 41

Passenger cars market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	4.7% (2018)
Renewable mandates with multipliers	Petrol: 9.5% for 95 octane and less than 5% for 98 octane in volume Diesel: 6.5%-7% in volume, with exception in winter	Annex IX-A: 0% in energy (2018)
Crop cap	7%	3.4% (2018)
FQD – GHG emissions reduction target for fuels	6%	0.3% (2017)

Specifics to ensure compliance

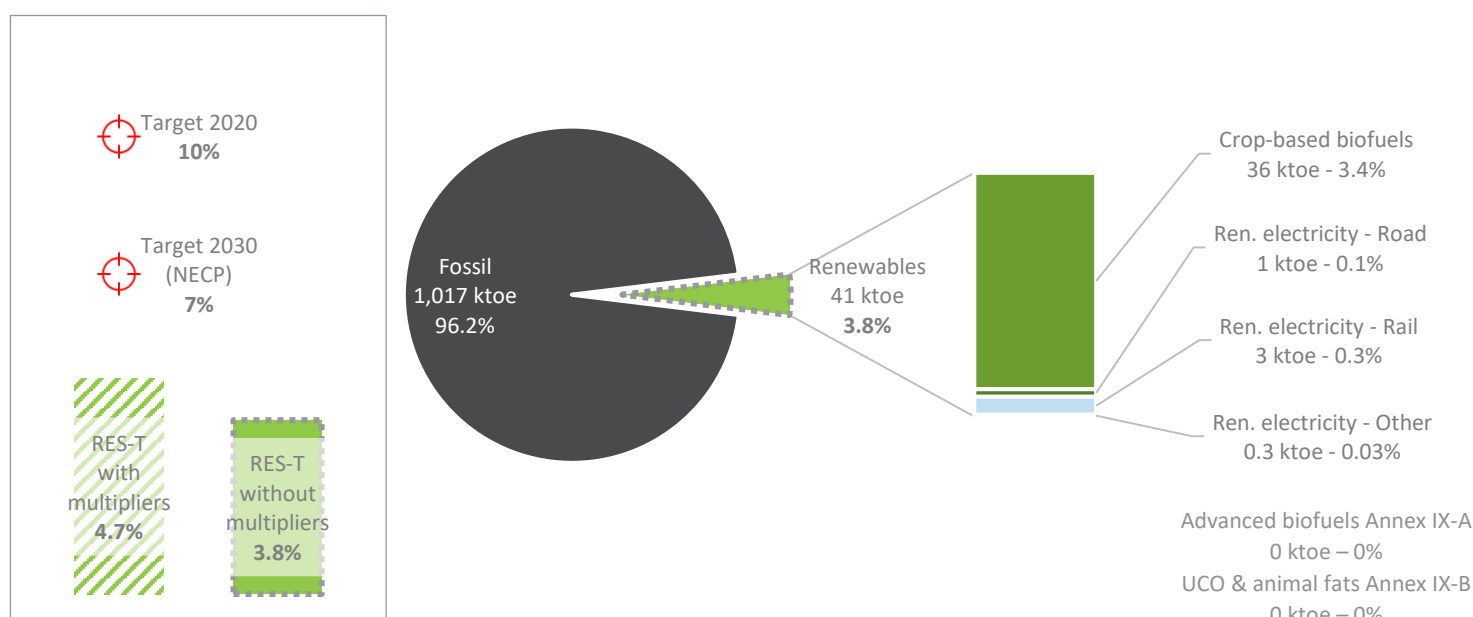
- Double counting: In place for feedstocks of the RED Annex IX-A.
- Tax incentive: Tax reductions and exemption in place for high biofuel blends:
 - Pure biodiesel is exempted from the normal rate of €414/1,000l applied on diesel.
 - Unleaded petrol blend containing 70%-85% ethanol is taxed at 30% of the normal rate of €509/1,000l.

Post-2020

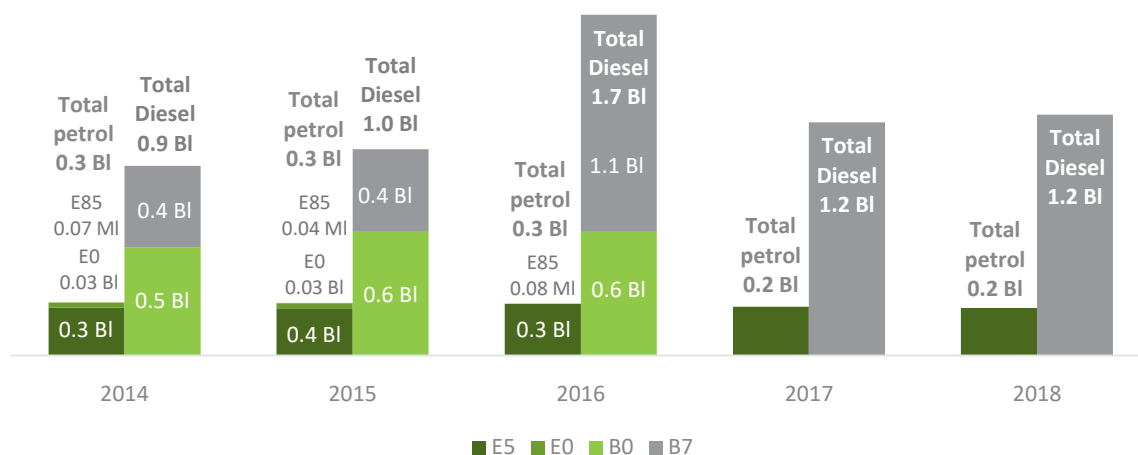
Latvia has set a 7% RES-T for 2030 and plans on reaching 9.6%. The role of crop-based biofuels post-2021 is yet to be defined. Latvia targets a share of 0.2% for advanced biofuels and biogas in the transport gross final energy consumption by 2022 and 3.5% by 2030.

Page | 42

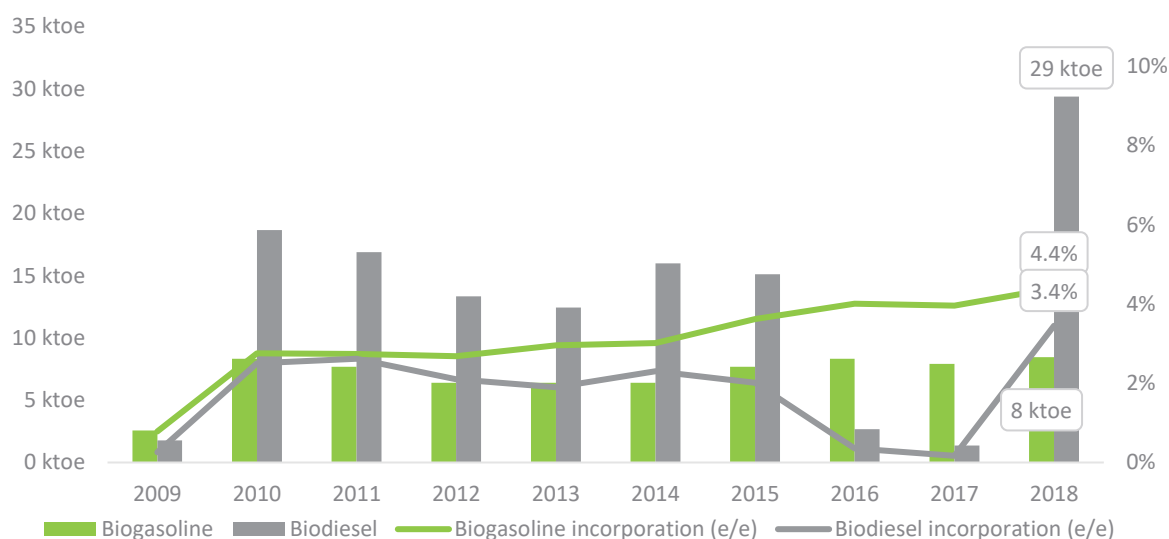
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



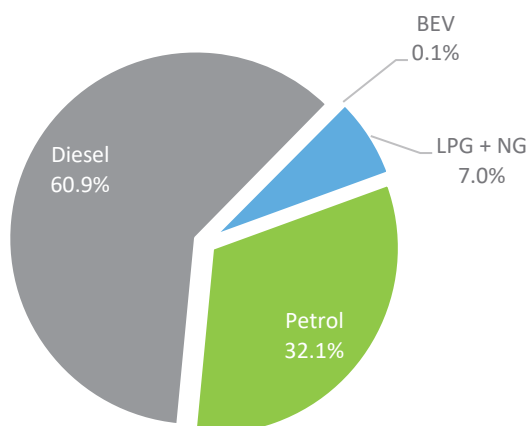
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



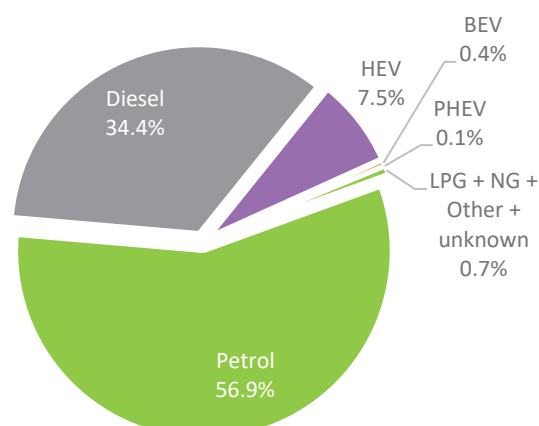
Page | 43

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	4.3% (2018)
Renewable mandates with multipliers	Dedicated sub-target for advanced biofuels: 0.5 % in volume Petrol: 10% in volume, optional for 98 octane petrol Diesel: 7% in volume	Annex IX-A: 0% in energy (2018)
Crop cap	7%	6.8% (2018)
FQD – GHG emissions reduction target for fuels	6%	N/A

Specifics to ensure compliance

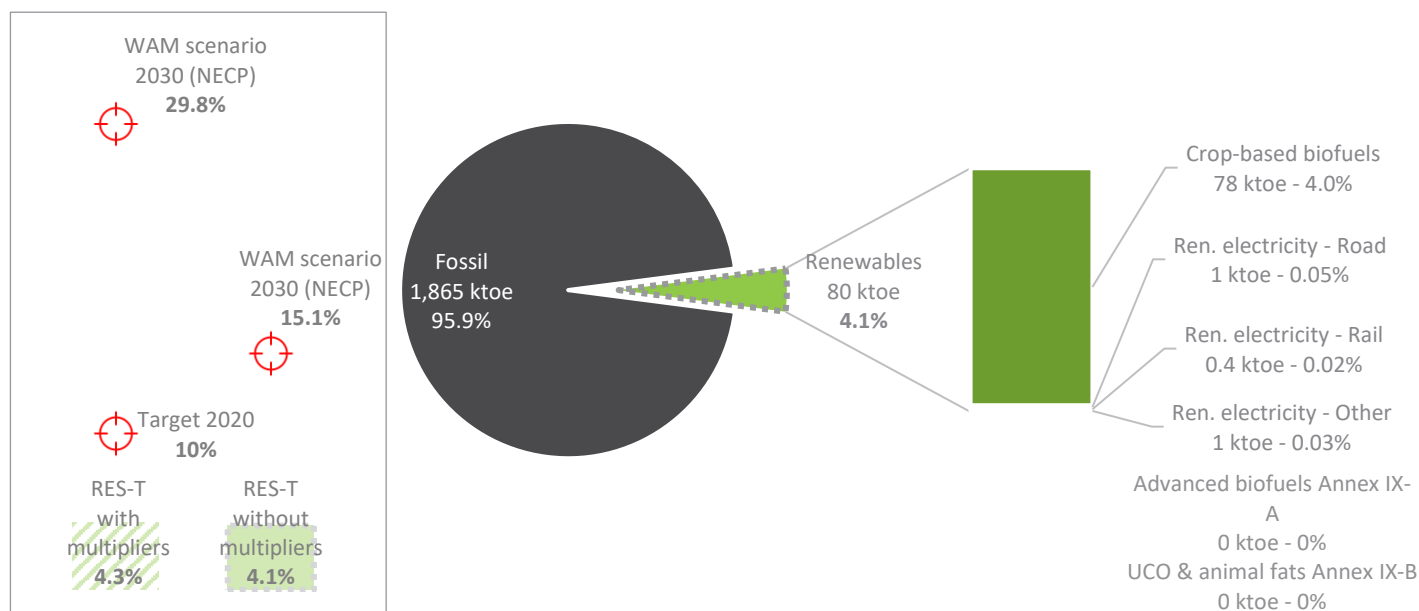
- Double counting: Not in place.
- Tax incentive: Tax exemption for high biofuel blends such as B100 or E85, applied on the share of biofuels exceeding 7% iv/v in diesel and 10% v/v in petrol.

Post-2020

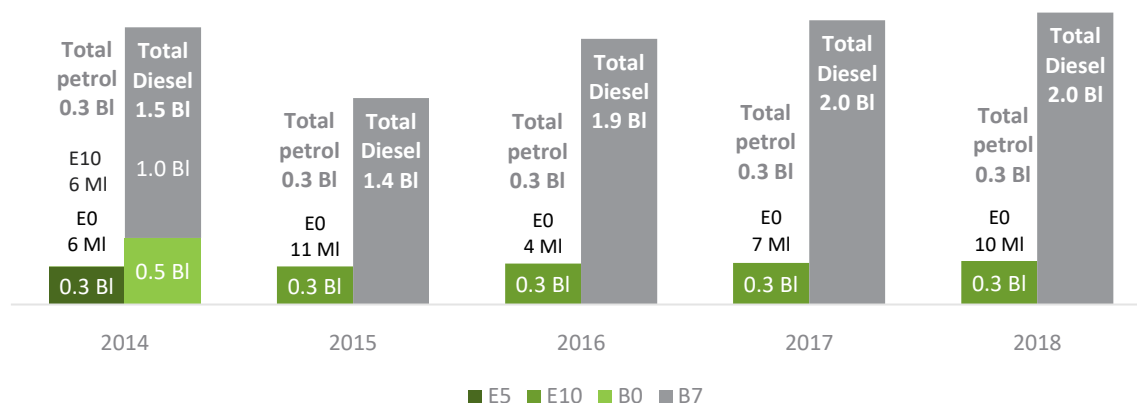
Lithuania plans to increase the RES-T to 15% in 2030 without multipliers or about 29.8% with multipliers. Lithuania foresees the share of biofuels in final energy consumption in transport to reach 5.9% in 2030, of which biodiesel accounts for 5.67% (138 ktoe) and ethanol 0.23% (5.6 ktoe). Lithuania will maintain the crop-based biofuels cap at 7% and aim at increasing the share of advanced biofuels in to 0.2% by 2022 and 3.5% by 2030.

Page | 44

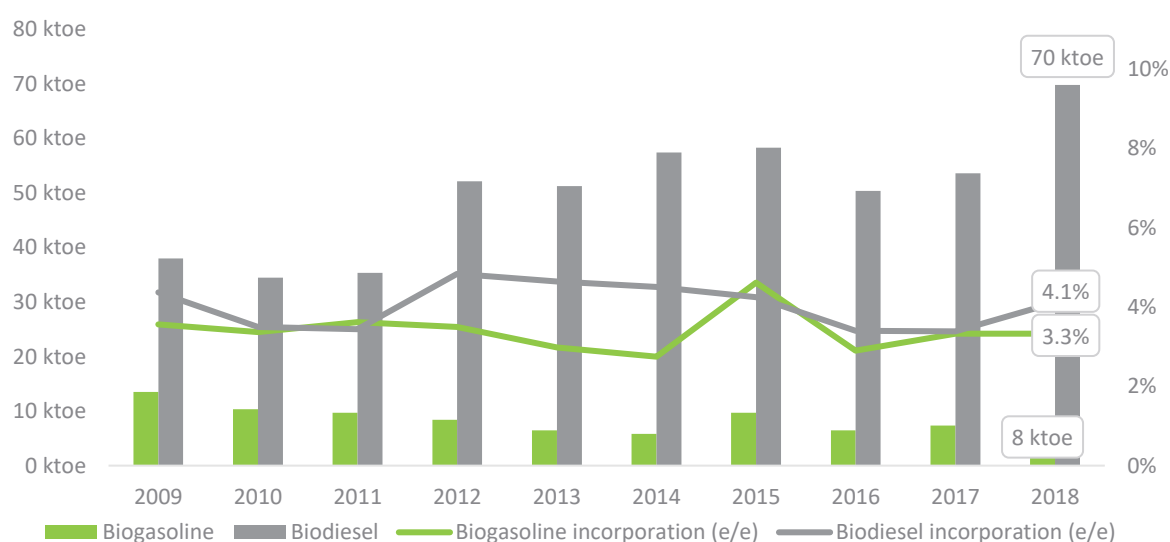
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



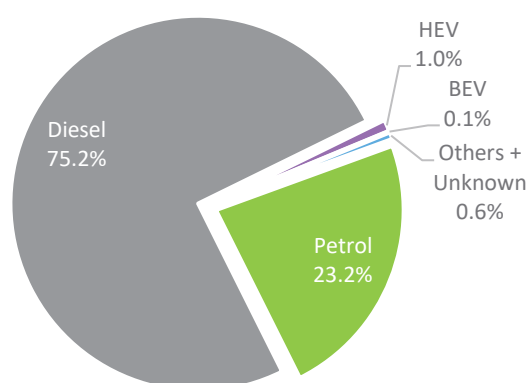
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



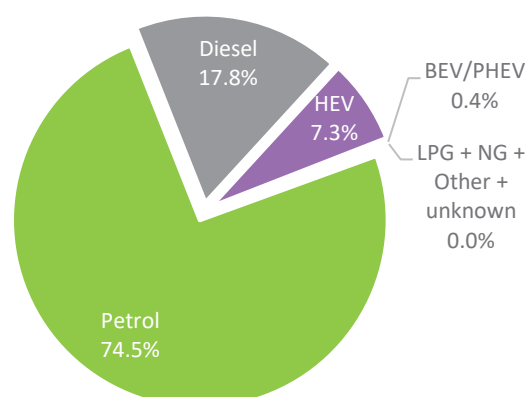
Page | 45

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T target	10%	6.5% (2018)
Renewable mandates	Overall: 7.7% before double counting, 9.7% after double counting, in energy. Dedicated sub-target for advanced biofuels: at least 50% of the biofuels mix after double counting.	Annex IX-A: 0% in energy (2018)
Crop cap	5%	5.1% (2018)
FQD – GHG emissions reduction target for fuels	6%	2.9% (2017)

Specifics to ensure compliance

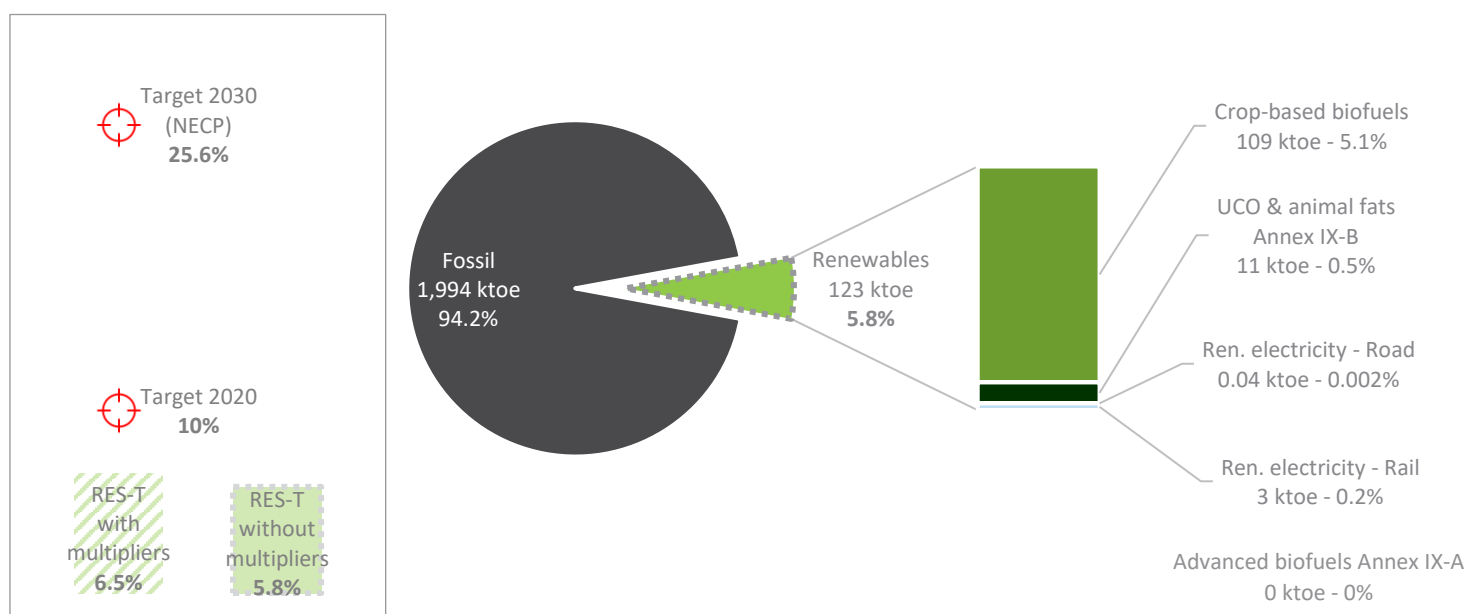
- Double counting: In place for biofuels produced from the RED Annex IX list of feedstocks.
- Penalties: €1,200/1,000l to be paid by fuel suppliers failing to meet with their blending obligations.
- Taxes: Biofuels are exempted from the taxes on energy products and the additional taxes for social and climate change contributions.

Post-2020

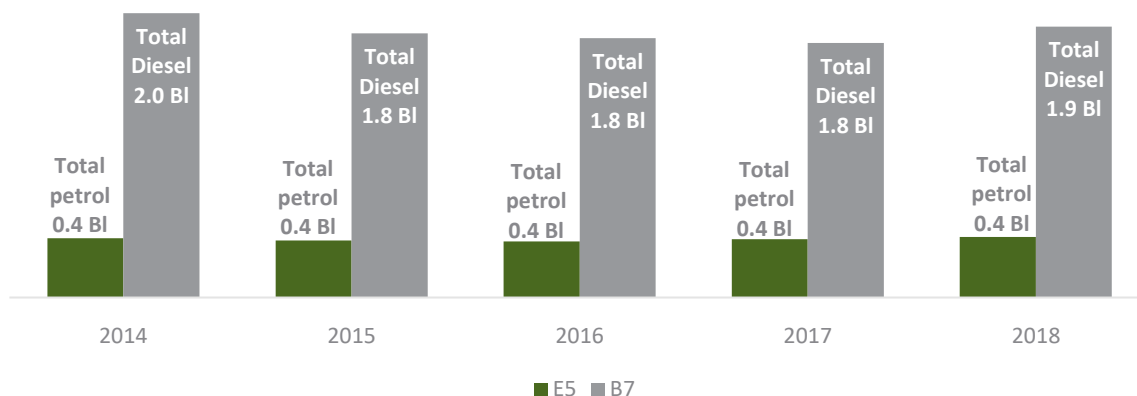
Luxembourg plans to increase the RES-T target to 25.6% in 2030 with the total consumption of biofuels expected to reach about 128 ktoe. The NECP foresees the blending obligation to be raised to 8.8% in 2025 and to 10% in 2030 while the share of crop-based biofuels could be reduced to 2.5% over the same period.

Page | 46

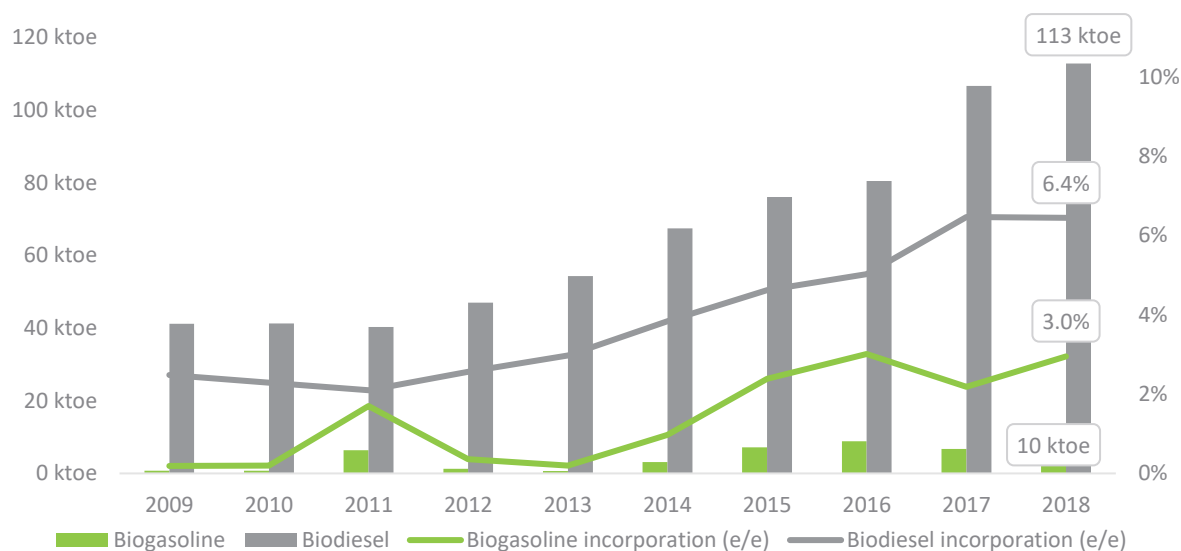
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



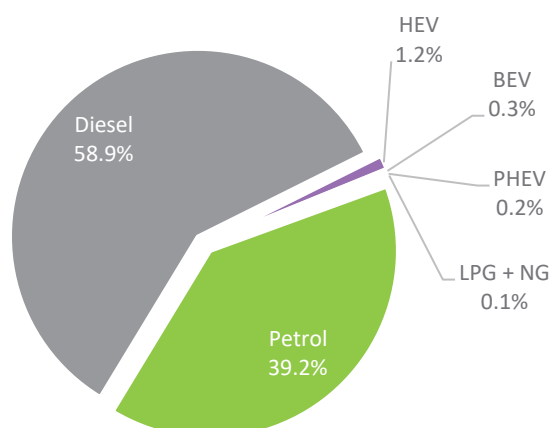
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



Page | 47

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019

No data

Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T	10%	8% (2018)
Renewable mandates with multipliers	Overall: 10% in energy Dedicated sub-target for advanced biofuels: 0.1% in energy	Annex IX-A: 0% in energy (2018)
Crop cap	7%	0.1% (2018)
FQD – GHG emissions reduction target for fuels	6%	2% (2017)

Specifics to ensure compliance

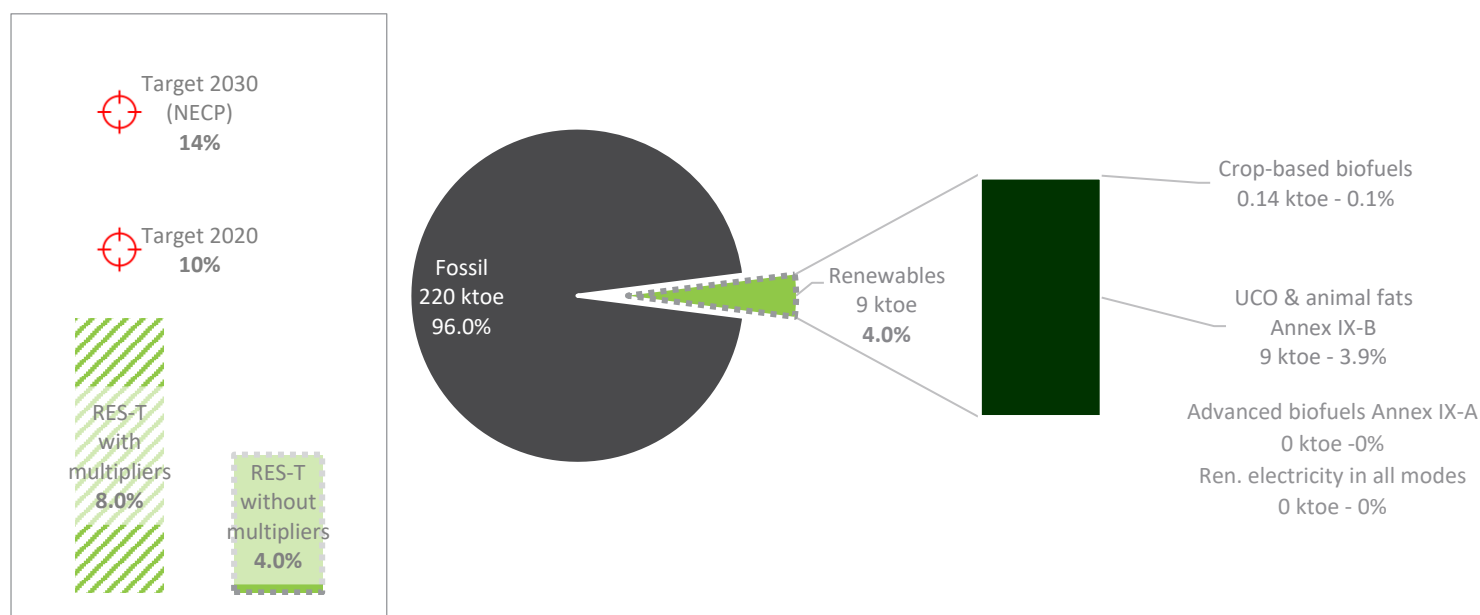
- Double counting: Not in place but Malta plans to consider biofuels from feedstock listed in RED Annex IX as twice their energy content post-2020.
- Penalties: Non-respect of the regulations may be sanctioned by up to 18 months of imprisonment as well as a fine up to €69,000 or €1,300 for each day during which the offence persists.
- Tax: 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.

Post-2020

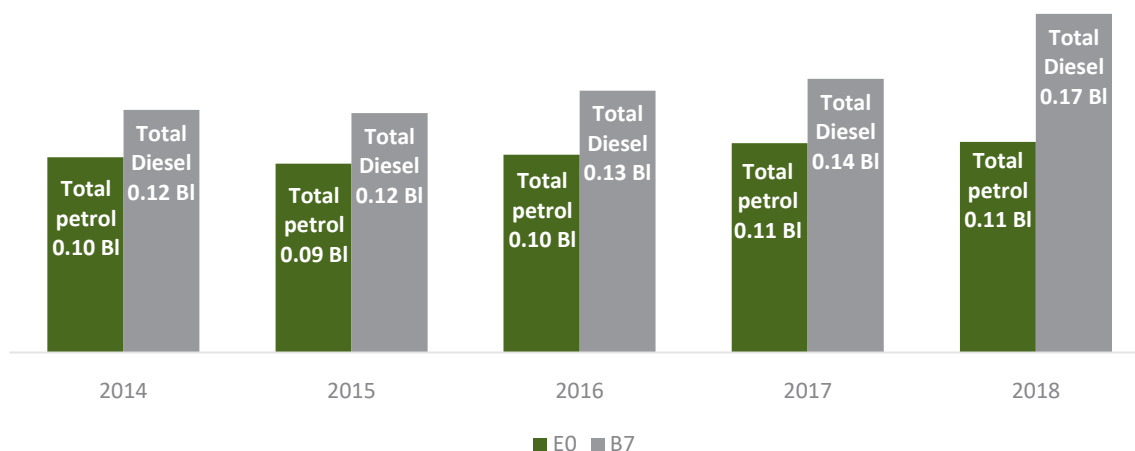
Malta plans to increase the RES-T target to 14% in 2030, mostly through biofuels such as HVO and FAME biodiesel, and with advanced biofuels expected to contribute to 25% of the 2030 biofuels consumption. The Government plans to gradually increase the blending obligations on fuel importers to 14% in 2030, including 3.5% advanced biofuels.

Page | 48

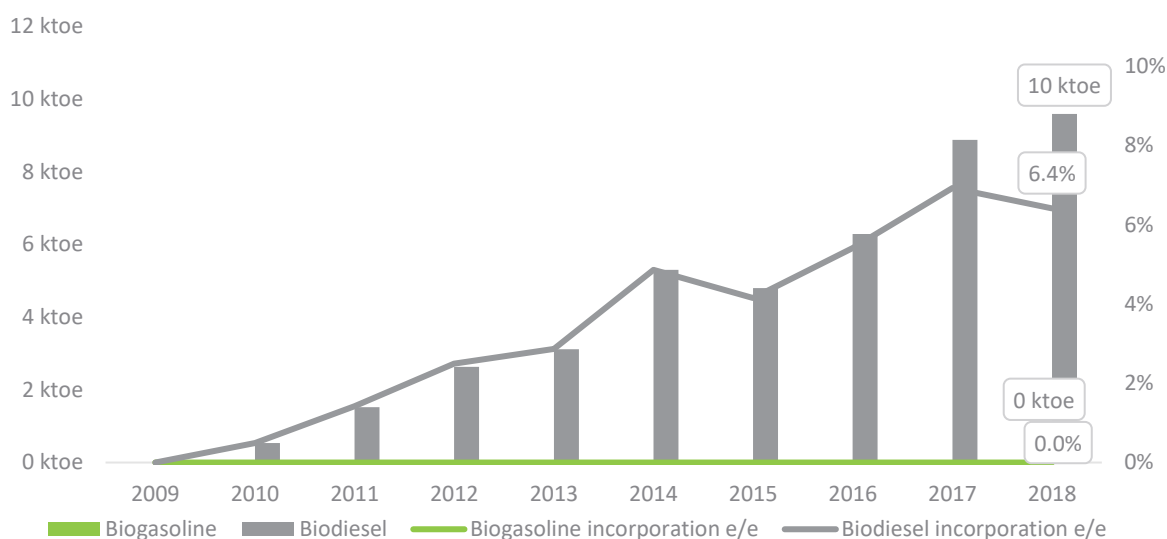
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



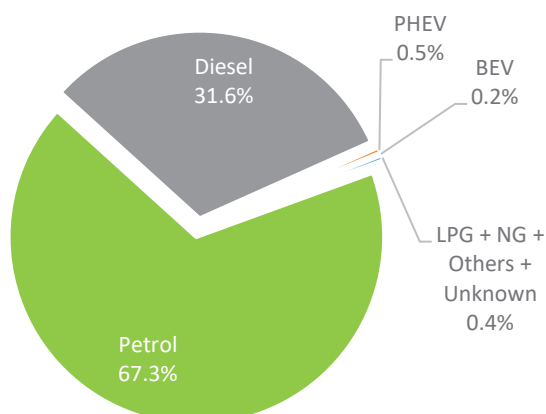
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



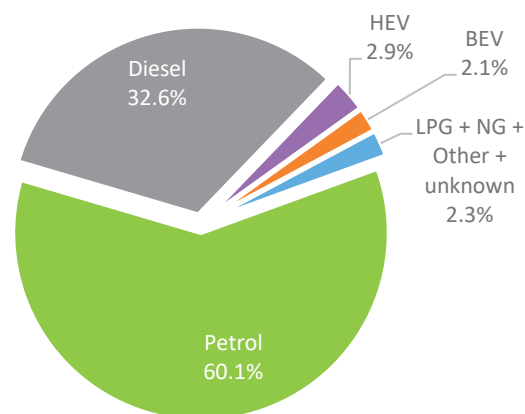
Page | 49

Vehicles market – Source: EC, Eurostat 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2018



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T	10%	9.6% (2018)
Renewable mandates with multipliers	Overall: 16.4% in energy Dedicated sub-target for advanced biofuels: 1% in energy	Annex IX-A: 0.8% in energy (2018)
Crop cap	5%	1.4% (2018)
FQD – GHG emissions reduction target for fuels	6%	3% (2017)

Specifics to ensure compliance

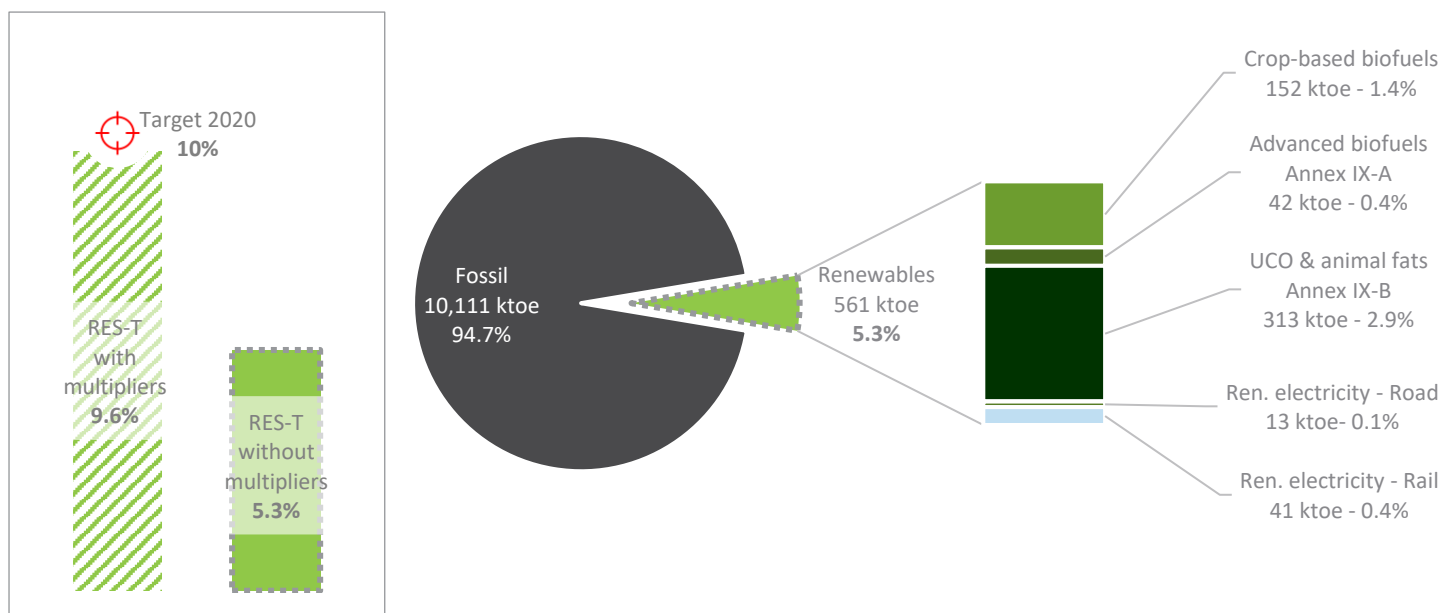
- Certificates system: Three types of certificates equivalent to 1GJ (about 0.024 toe) for:
 - Conventional (crop-based) biofuels;
 - Biofuels from Annex IX-A feedstocks, where obligated parties must demonstrate the feedstock has not been intentionally produced; and,
 - Biofuels from Annex IX-B or other non-Annex IX feedstocks.
- Double counting: Double counting is in place for Annex IX feedstock biofuels.
- Penalties: A fuel supplier failing to fulfil the quota obligation is liable and can be brought to Court for committing an economic misdemeanour.

Page | 50

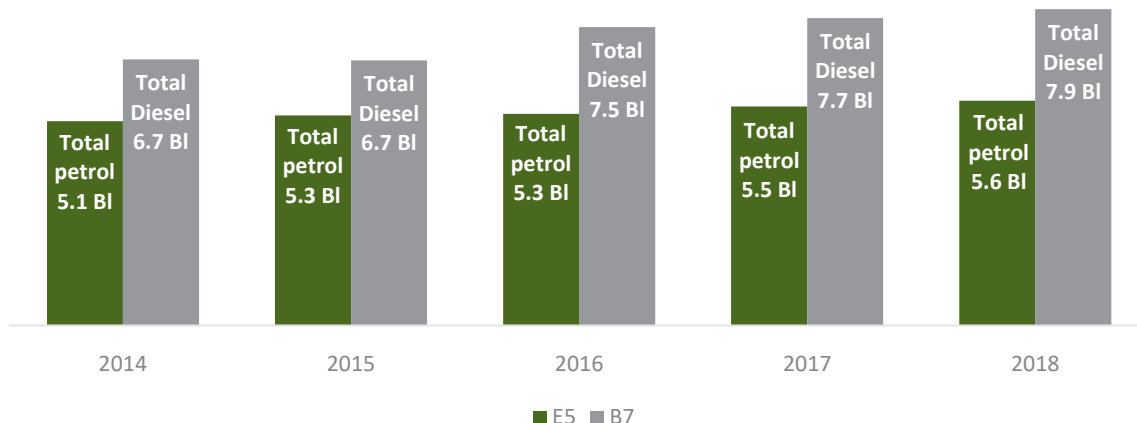
Post-2020

The Netherlands target a RES-T of 24.7% by 2030 with no additional contribution from crop-based biofuels above 2020 levels. The consumption of biofuels is expected to reach 836 ktoe/year between 2021 and 2030.

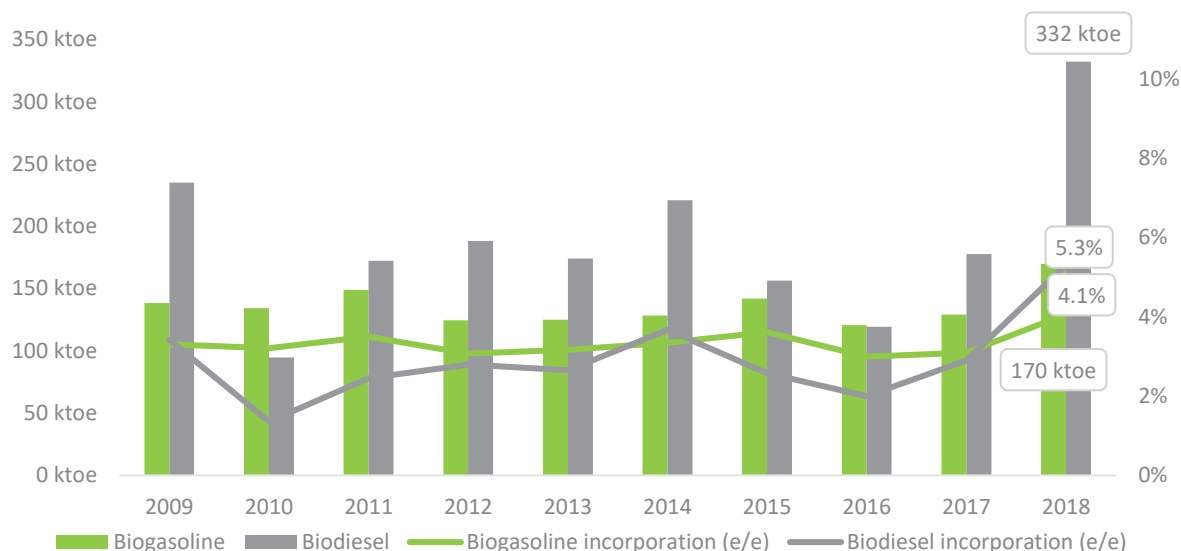
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



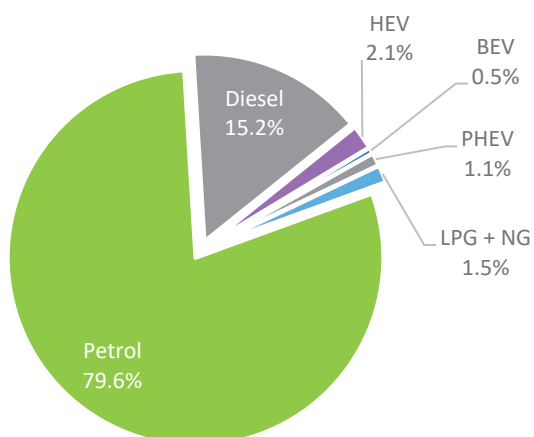
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



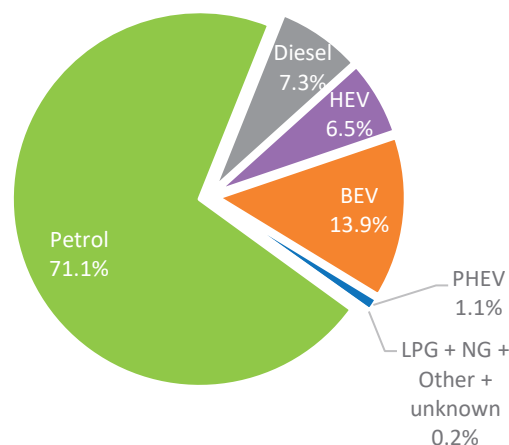
Page | 51

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T	10%	5.6% (2018)
Renewable mandates with multipliers	Overall: 8.5% in energy Dedicated sub-target for advanced biofuels: 0.1% in energy Petrol: 3.2% in energy Diesel: 4.9% in energy	Annex IX-A: 0% in energy (2018)
Crop cap	7%	6.8% (2018)
FQD – GHG emissions reduction target for fuels	6%	N/A

Specifics to ensure compliance

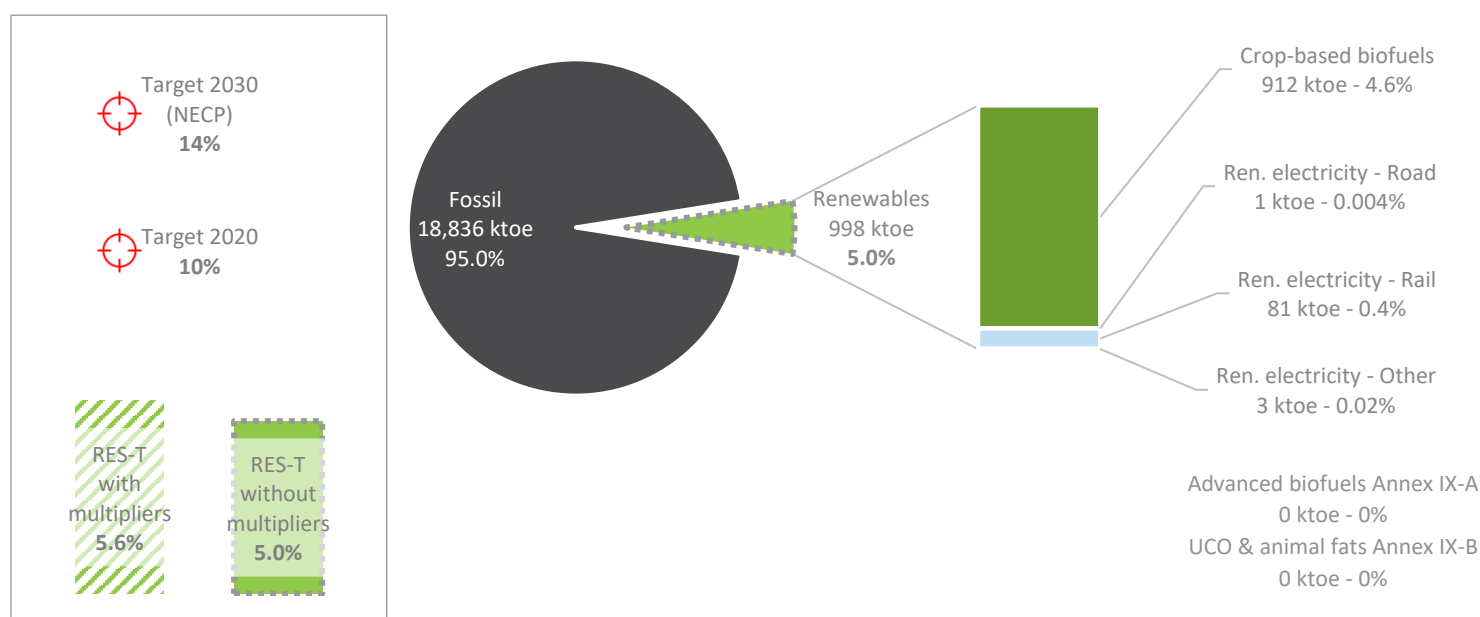
- Double counting: Biofuels from feedstocks listed in RED Annex IX can be double counted if they contribute to less than 0.45% of the obligation prior double counting.
- Target and penalties: A reduction factor of 0.82 applies to the overall blending target for biofuels meaning an effective target of $8.5\% \times 0.82 = 6.97\%$ is used. Fuel suppliers fulfilling less than 80% of this reduced obligation target must pay a penalty of PLN 0.2 per missing MJ (\approx €8,400/toe). In addition, a buy out-fee of PLN 0.1/MJ (about €4,200/toe) must be paid for fuels suppliers not respecting the obligation for the blending of biocomponents set independently for petrol and diesel.

Post-2020

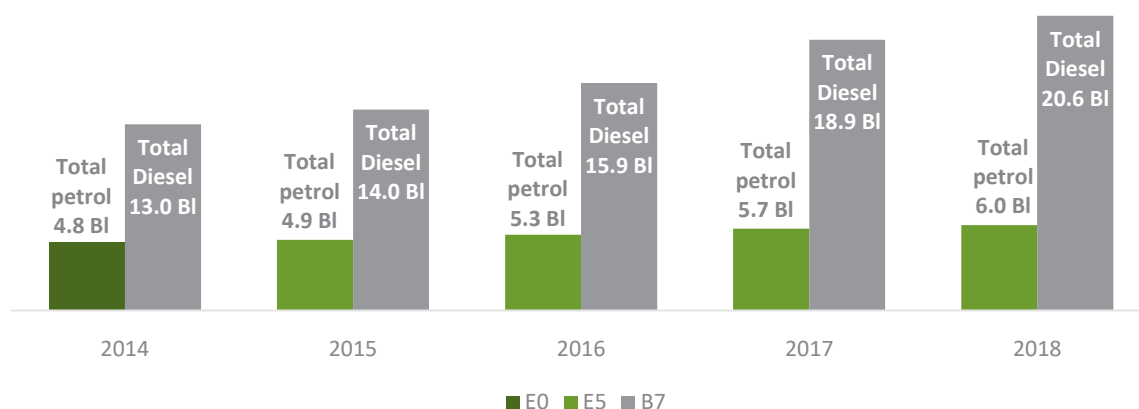
Poland plans to increase the RES-T target to 14% in 2030. The overall blending target for biofuels will increase by 0.1% every year from 8.7% in 2021 to 9.1% in 2024. The minimum biodiesel content will be raised to 4.95% e/e in 2021, 5% in 2022 and 6.2% (full B7) from 2023. The country is also considering introducing E10 in 2022/2023.

Page | 52

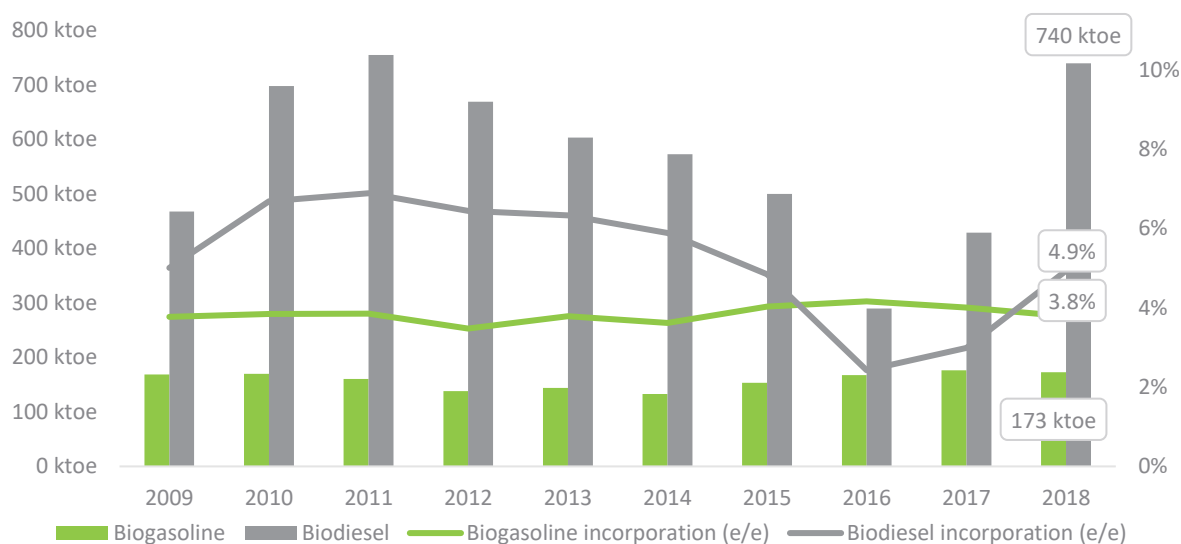
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



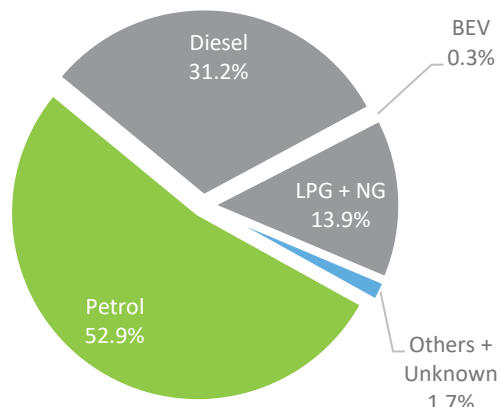
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



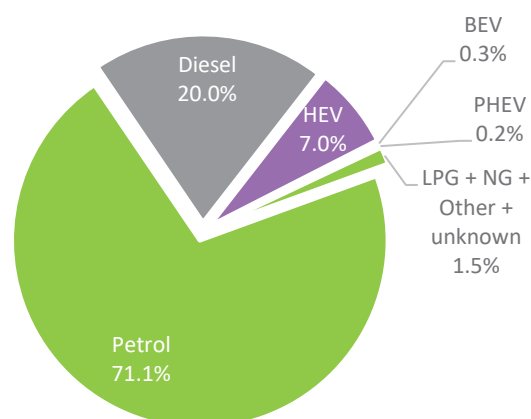
Page | 53

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T	10%	9% (2018)
Renewables mandates with multipliers	Overall: 10% in energy Dedicated sub-target for advanced biofuels: 0.5% in energy	Annex IX-A: 0% in energy (2018)
Crop cap	7%	2% (2018)
GHG intensity reduction target for fuels	10%	N/A

Specifics to ensure compliance

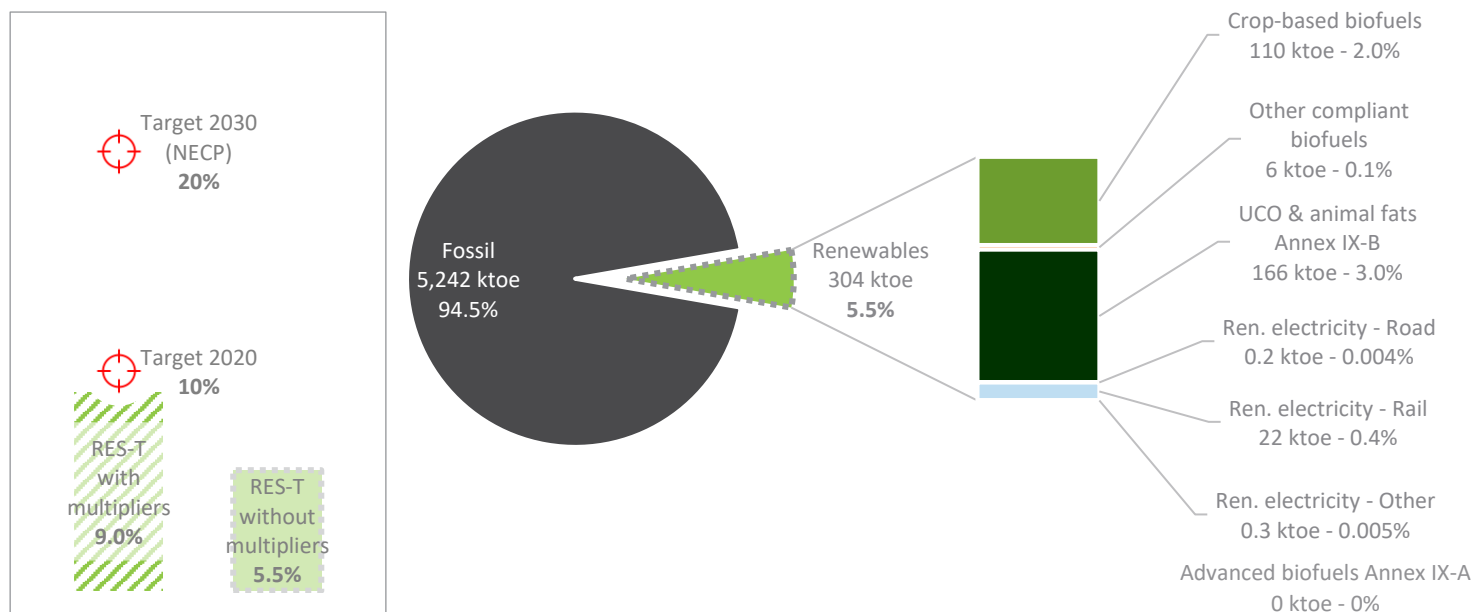
- Double counting: Incorporation of biofuels relies on certificates called TdB equivalent to 1 toe. Biofuels produced from waste and residue feedstocks listed by the government can be double counted, and producers can receive 2 TdB.
- Penalties: Fuel suppliers failing to meet their blending obligations must pay €2,000 per TdB missing.
- Tax incentive: Biofuels such as renewable ethanol from biomass are excluded from the tax on petroleum products and energy (ISP). Biofuels producers producing <40,000t/year are also exempted from this tax.

Post-2020

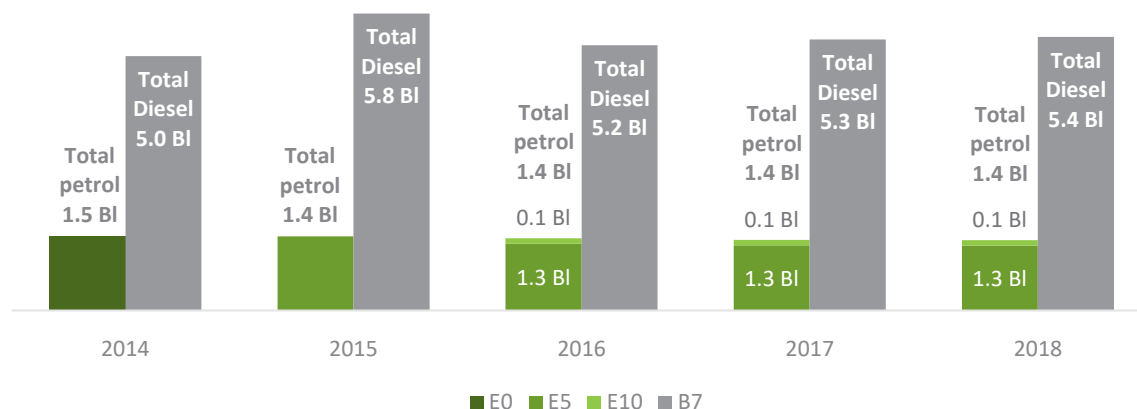
Portugal plans to increase the RES-T from 10% in 2020 to 20% in 2030. Crop-based biofuels are expected to decrease from 393 ktoe in 2020 to 136 ktoe in 2030. Advanced biofuels are expected to increase from 0 ktoe in 2020 to 155 ktoe in 2030.

Page | 54

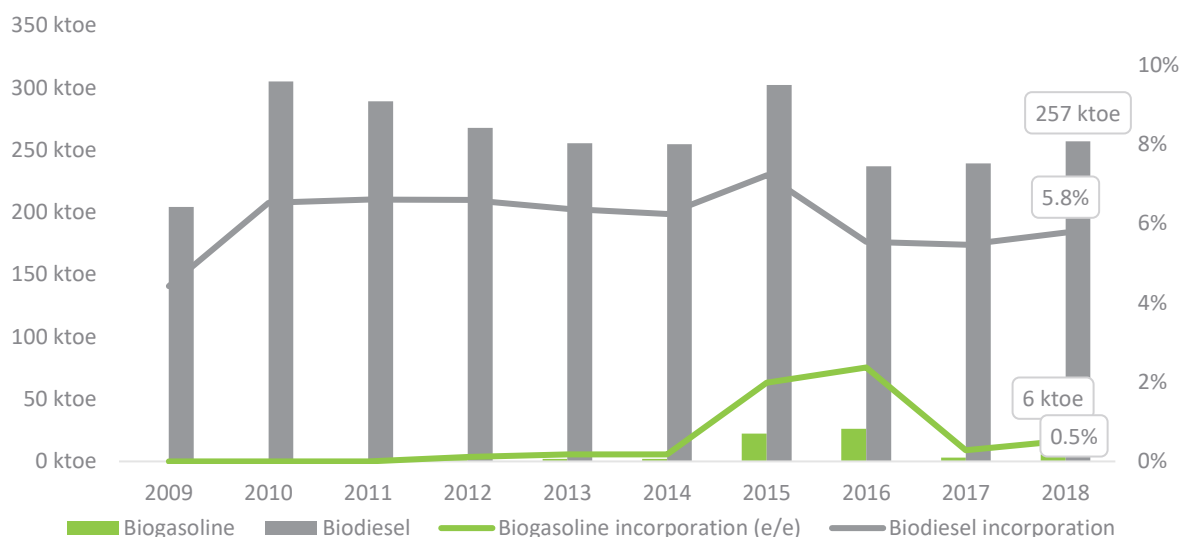
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



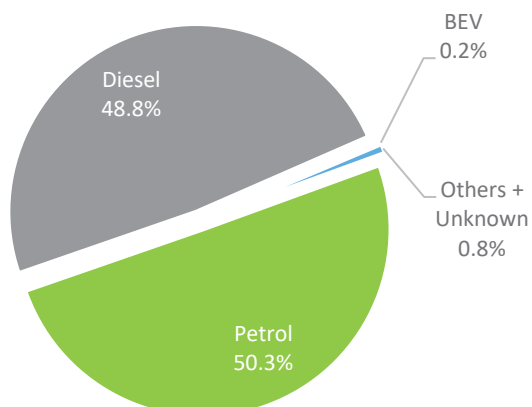
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



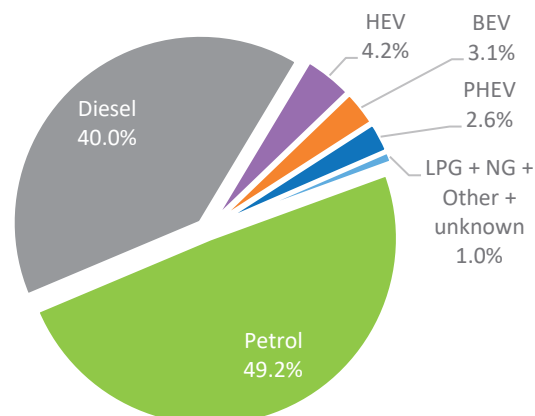
Page | 55

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T	10%	6.3% (2018)
Renewables mandates with multipliers	Petrol: 8% in volume Diesel: 6.5% in volume	Annex IX-A: 0% in energy (2018)
Crop cap	7%	4.8% (2018)
FQD – GHG emissions reduction target for fuels	Min. 6% toward 10%	N/A

Specifics to ensure compliance

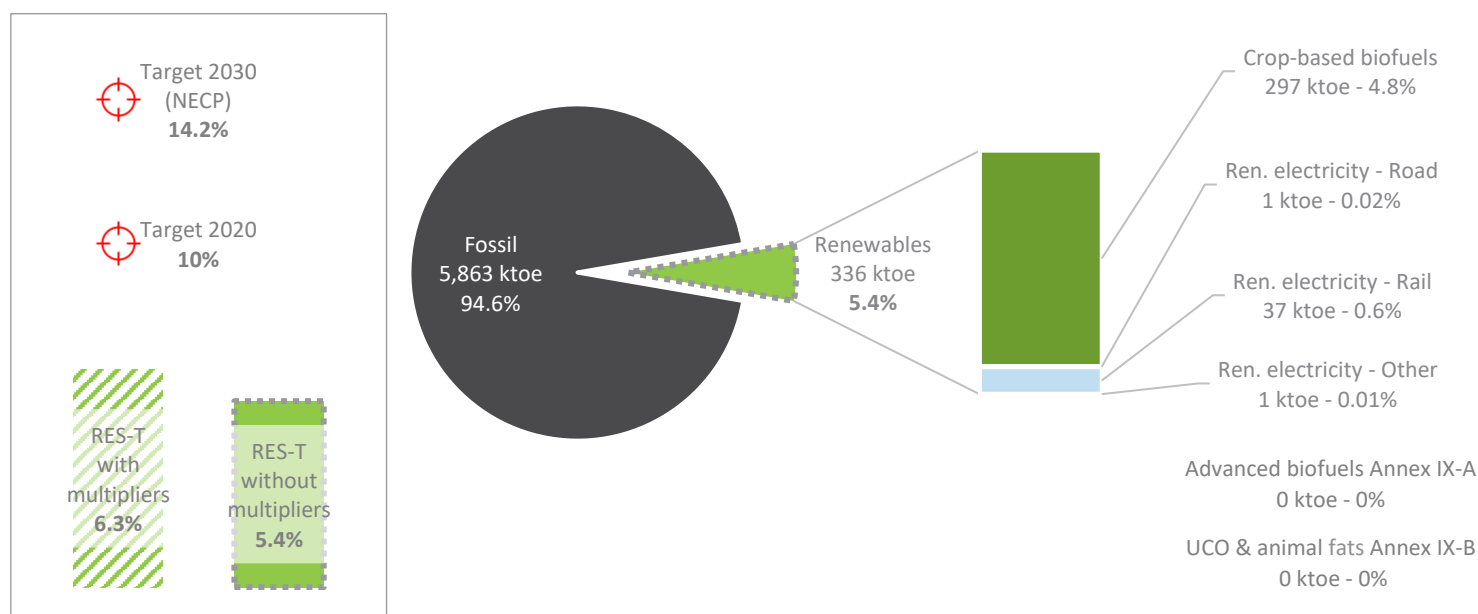
- Double counting: In place for biofuels produced from a list mirroring the RED Annex IX list of feedstocks.
- Penalties: A fine of RON 70,000-100,000 (about €14,500-20,700) must be paid by fuel suppliers failing to meet the GHG intensity reduction target in 2020 or the blending requirement for biodiesel. A fine of RON 50,000-70,000 (about €10,300-14,500) must be paid for not respecting the biofuels sustainability criteria.

Post-2020

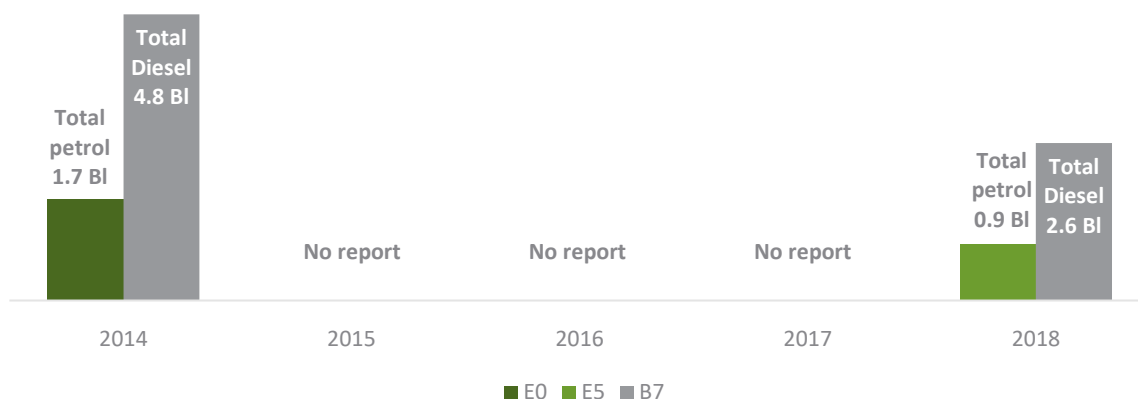
Romania plans to increase the RES-T to 14.2% in 2030, with a crop-based biofuel consumption of 474.3 ktoe, vs. 505.7 ktoe in 2020, and a consumption of biofuels produced from Annex IX feedstocks of 63.6 ktoe, vs. 0 ktoe in 2020.

Page | 56

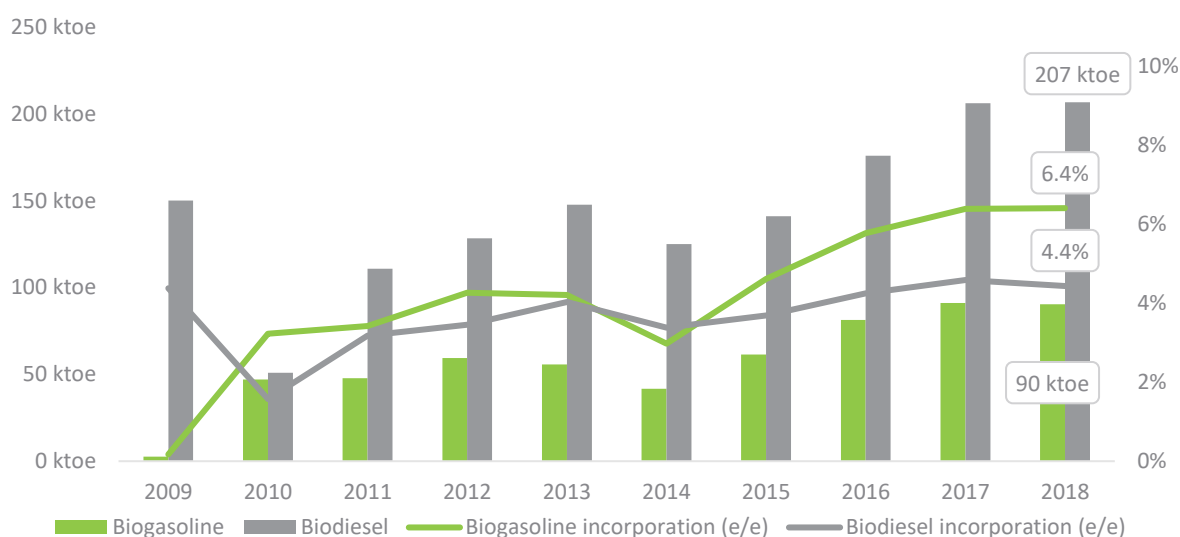
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



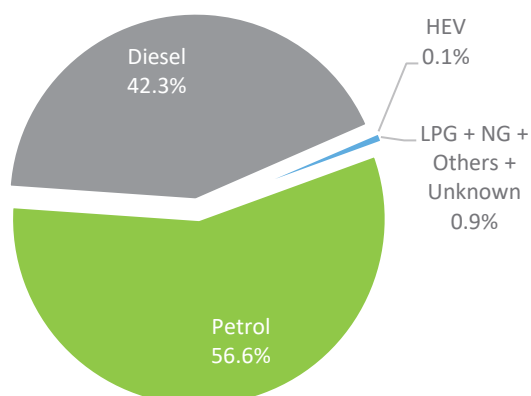
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



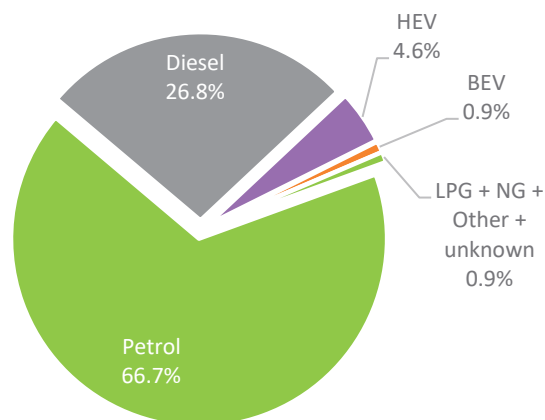
Page | 57

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020, EEA, 2019 & SK Government, 2020

What	By law (2020)	Progress to date
RED - RES-T	10%	7% (2018)
Renewable blending mandates	Overall: 7.6% in energy Dedicated sub-target for advanced biofuels: 0.5% in energy Petrol: 9% in volume Diesel: 6.9% in volume	Overall: 7.1% in energy (2019) Annex IX-A: 0% in energy (2018) Petrol : 6.5% in volume (2018) Diesel: 6.9% in volume (2018)
Crop cap	7%	5.5% (2018)
FQD – GHG emissions reduction target for fuels	6%	4% (2017)

Specifics to ensure compliance

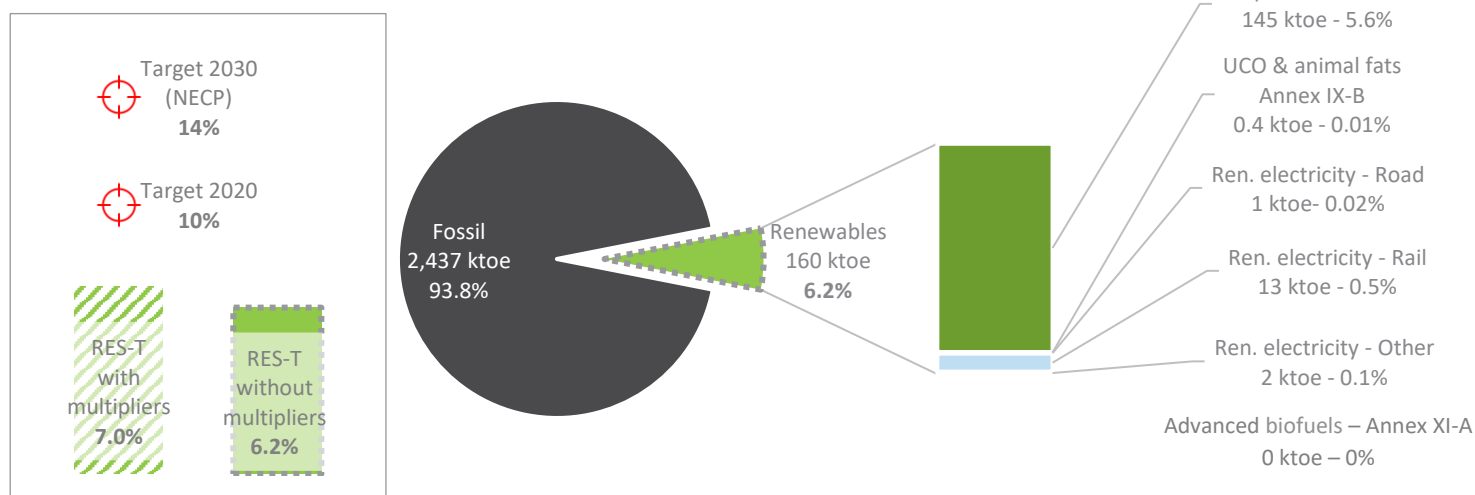
- Double counting: In place for feedstocks of the RED Annex IX-A and for certain approved feedstock at national level, only for the purposes of both the EU and national reporting. The obligation of 0.5% is to be achieved by fuels suppliers without double counting.
- Penalties: Fuel suppliers failing to achieve the fuel GHG intensity reduction target must pay: €0.37/kgCO_{2eq} if they achieved a reduction below 2%, €0.185/kgCO_{2eq} between 2.01% to 4% or €0.015/kgCO_{2eq} above 4.01%. Fuel suppliers failing to meet their renewable blending obligations must pay €0.05/MJ (around €2,092/toe).
- Tax incentive (until end 2020):
 - for petrol, tax reduced from €554/1,000l to €514/1,000l, if blended with at least 7.4% ethanol or 6.9% and a min. of 0.5% advanced ethanol; and
 - for diesel, tax reduced from €394/1,000l to €368/1,000l, if blended with at least 6.9% biodiesel or 6.4% and a min. of 0.5% advanced biodiesel.

Page | 58

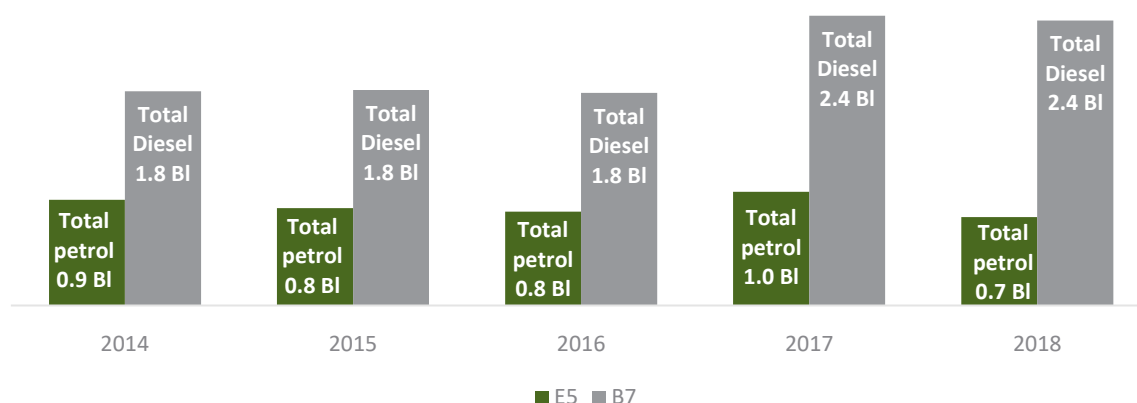
Post-2020

Slovakia plans to achieve a 2030 RES-T of 14%, incl. 3.5% Annex IX-A biofuels. Biofuels consumption would reach 55 ktOE (incl. 18 ktOE advanced) for ethanol/bio-ETBE and 130 ktOE (incl. 22 ktOE advanced and 21 ktOE Annex IX-B) for biodiesel. The overall renewable mandate would be 8% in 2021, and 8,2% from 2022 to 2030 with an advanced subtarget of 0.75% post 2024.

Renewables in transport – 2018 – Source: EC, SHARES 2020

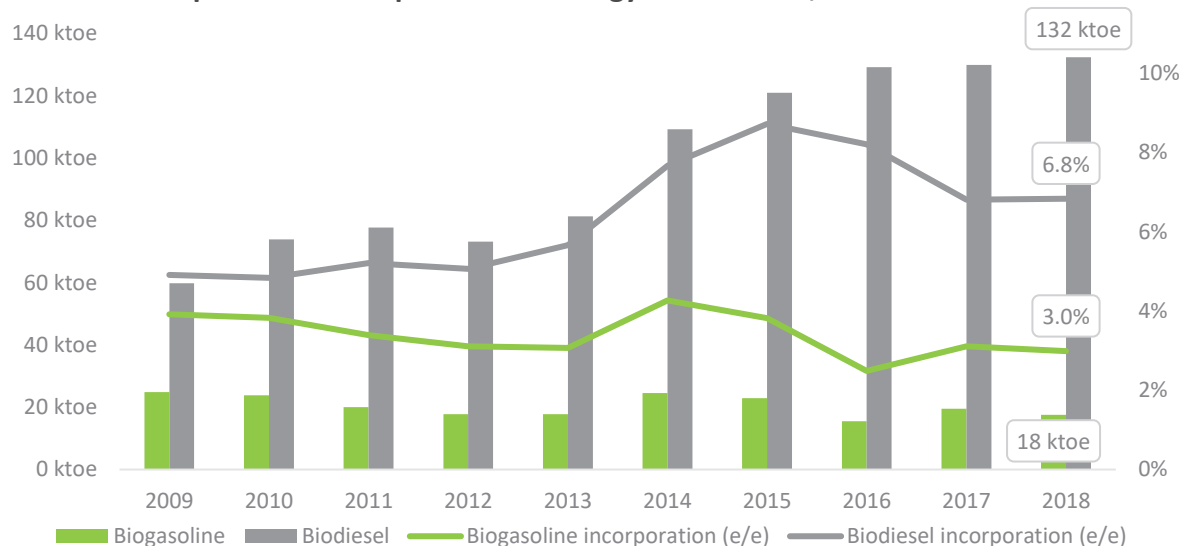


Fuels market – Source: EEA, FQD Article 8 reports



Feb. 2020 petrol market shares: 95E10, 90%; 98E5, 10% (personal communication with ePURE members)

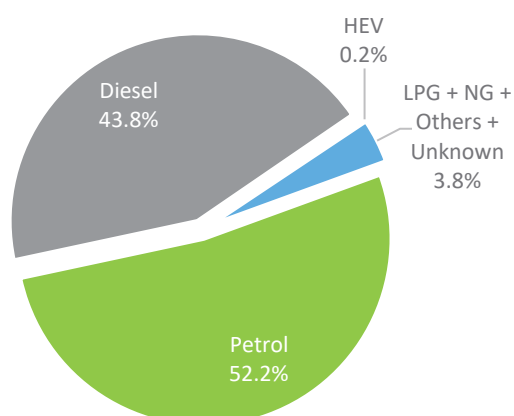
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



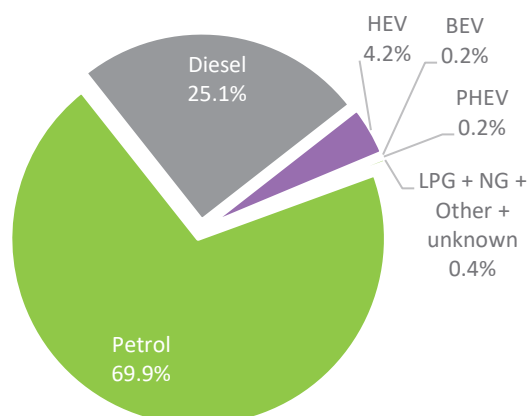
Page | 59

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T	10%	5.5% (2018)
Renewables mandates with multipliers	Overall: 10% in energy Dedicated sub-target for advanced biofuels: 0.5% in energy	Annex IX-A: 0% in energy (2018)
Crop cap	7%	2.6% (2018)
FQD – GHG emissions reduction target for fuels	6%	0.3% (2017)

Specifics to ensure compliance

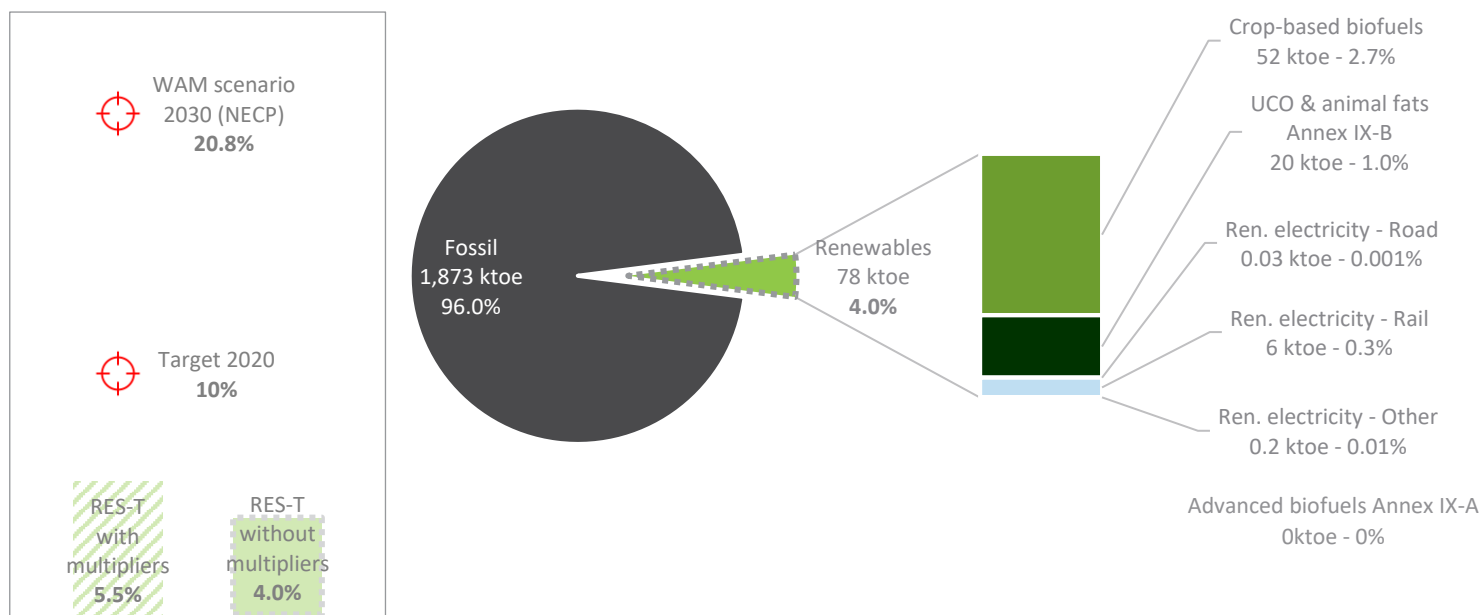
- Double counting: In place for biofuels produced from wastes, residues, non-food cellulosic material and ligno-cellulosic material.
- Penalties: Suppliers failing to meet the renewables mandates must pay a fine amounting between €50,000 and 2% of their annual turnover from the sales of transport fuels.
- Excise duty: The excise duty rate is set at 0% for ethanol, bio-ETBE, biodiesel, biogas, biodimethylether and biomethanol.

Post-2020

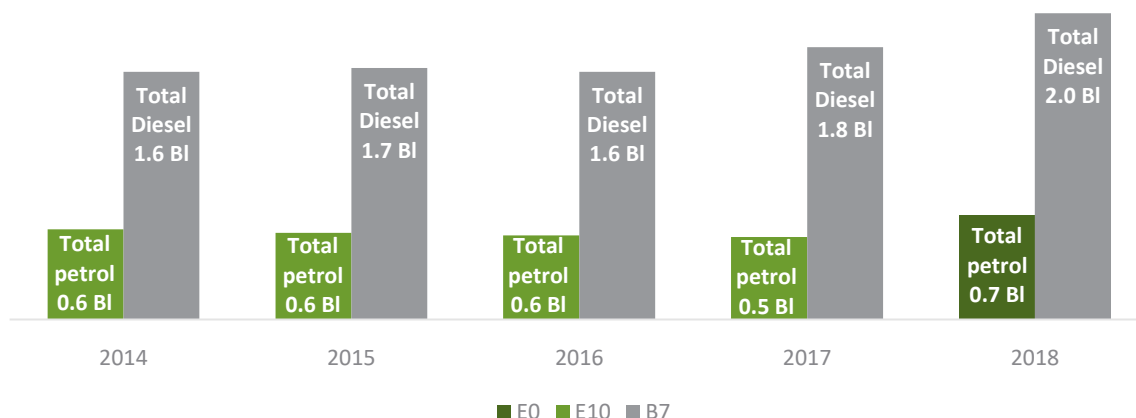
Slovenia plans to increase the RES-T target to 20.8% in 2030 with at least 11% from biofuels. The consumption of biofuels in transport is expected to reach in 2030 182 ktoe of which 89 ktoe of advanced biofuels.

Page | 60

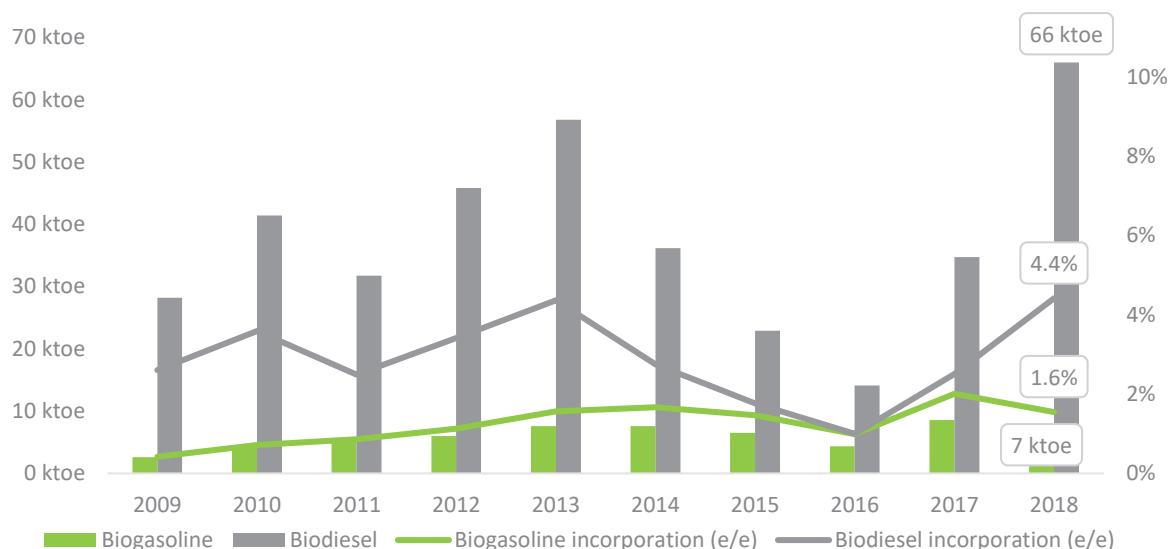
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



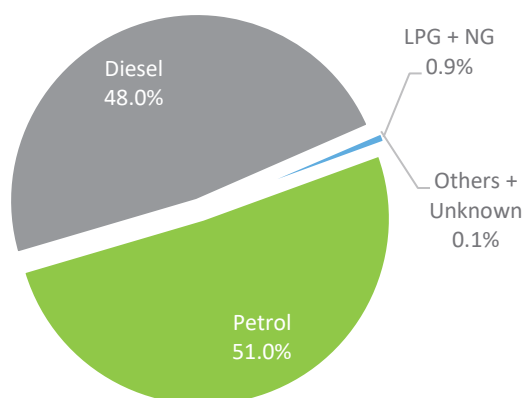
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



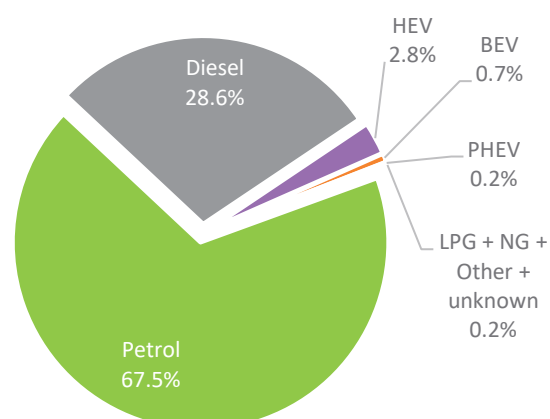
Page | 61

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RES-T	8.5%	6.9% (2018)
Renewable mandates with multipliers	Overall: 8.5% in energy Dedicated indicative sub-target for advanced biofuels: 0.1% in energy	Annex IX-A: 0% in energy (2018)
Crop cap	7%	5.9% (2018)
FQD – GHG emissions reduction target for fuels	-	N/A

Specifics to ensure compliance

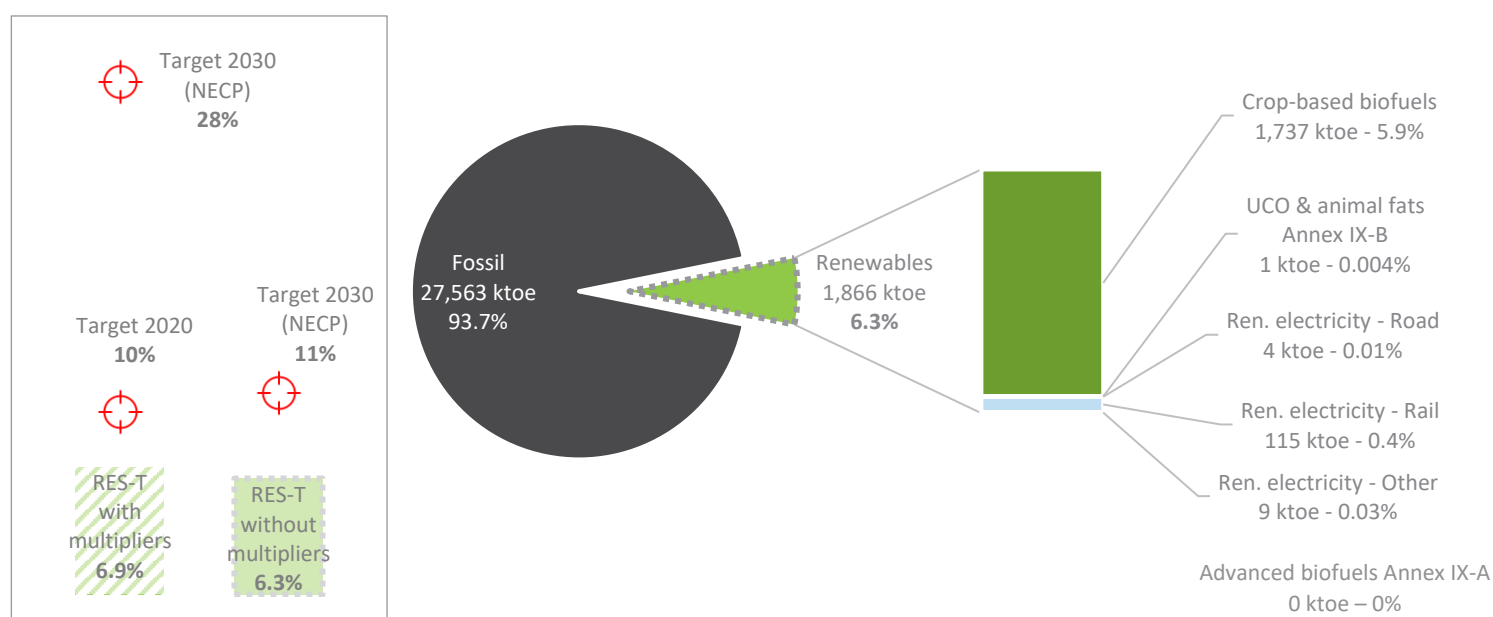
- Double counting: applied for Annex IX A and B.
- Penalties: Fuel suppliers not meeting the renewable mandates can be fined to up €30 million.

Post-2020

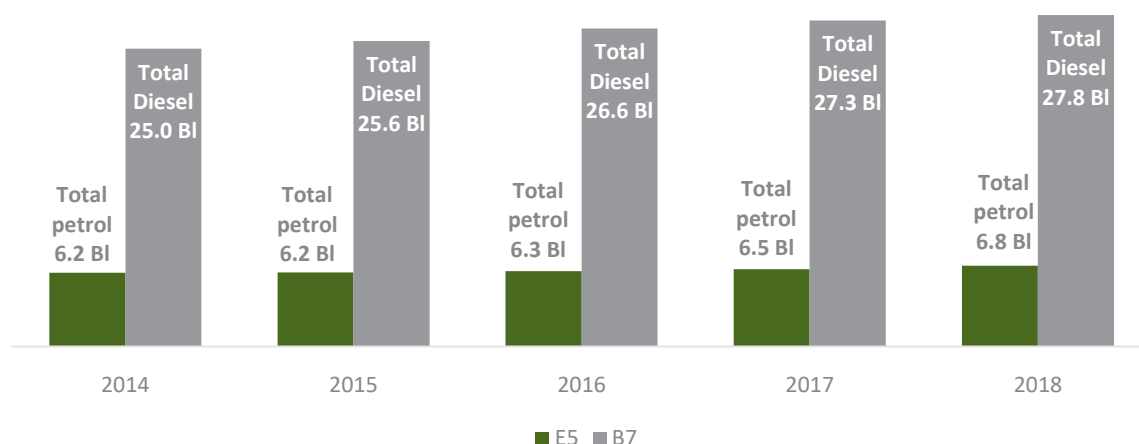
A Draft Royal Decree on biofuels mandates for 2021 and 2022 (on public consultation as of Sep. 2020) establishes an overall biofuel target of 9.5% for 2021, 10% for 2022 with 0.2 % advanced, and it raises the crop cap to 7.2% for both years. According to the NECP, the Spanish share of biofuels in 2030 on a RED methodology basis is instead expected to reach: 3.7% for Annex IX-A biofuels (with multipliers) and 1.7% for Annex IX-B biofuels (without multipliers) and 6.8% for crop-based biofuels.

Page | 62

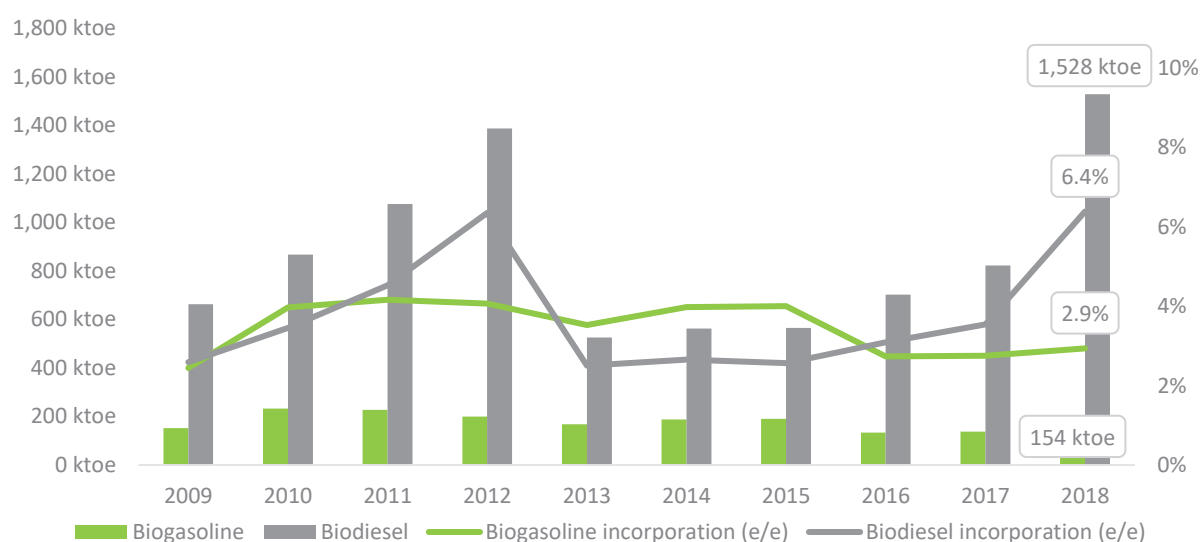
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



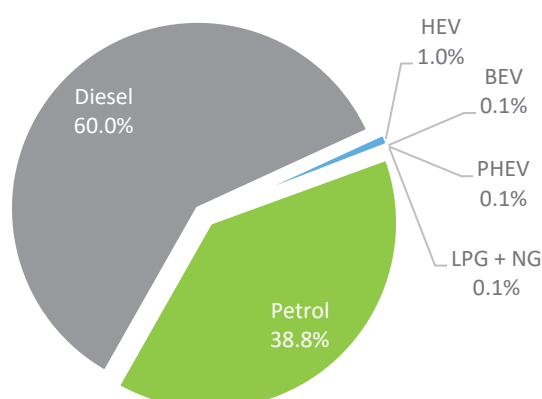
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



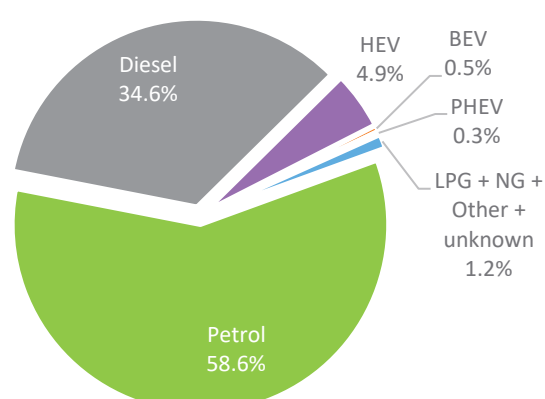
Page | 63

Passenger cars market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RES-T	10%	29.7% (2018)
Crop cap	7%	Annex IX-A: 6.6% in energy (2018)
FQD – GHG emissions reduction target for fuels	6% Petrol: 4.2% Diesel: 21% These levels will be maintained until 30 June 2021	17.4% (2017)

Specifics to ensure compliance

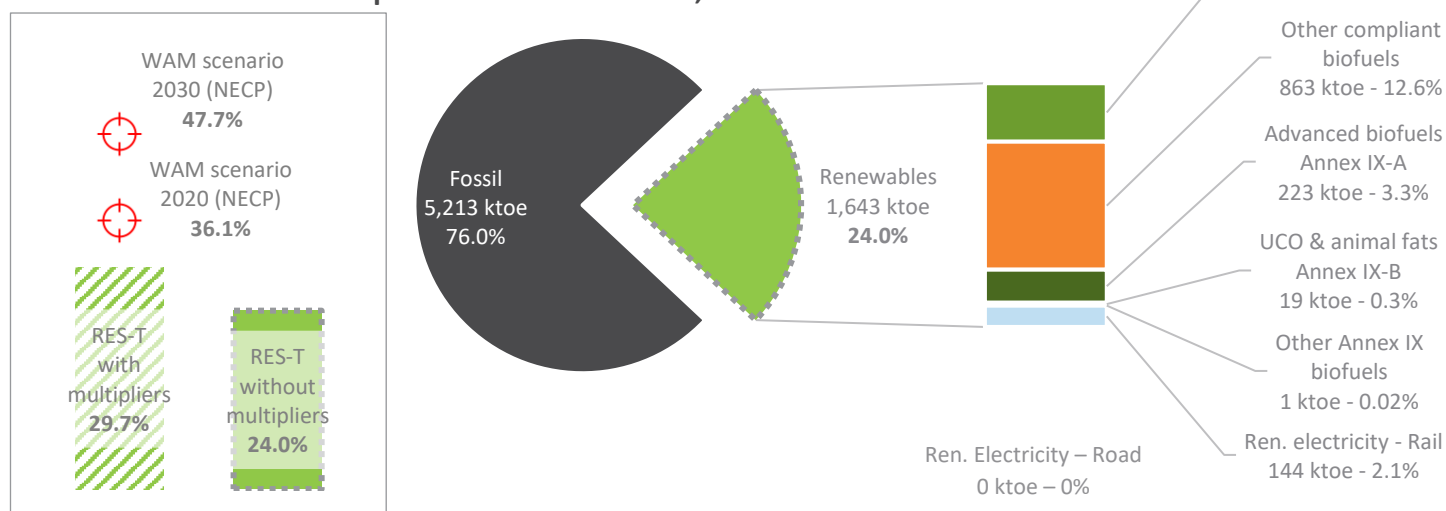
- Double counting: Not in place
- Penalties: Fuel suppliers failing to fulfil their GHG obligations must pay a penalty per kgCO_{2eq} of SEK 5 (€0.48) for petrol and SEK 4 (€0.39) for diesel. Suppliers selling fossil fuels with no biofuels content must pay a fee of SEK 0.39/l of petrol (€0.038) and SEK 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 incentives: In place until end of 2020, Sweden already applied for an extension of the tax incentives for 2021, but no decision was taken from the Commission as of September 2020.
 - Sweden grants various reductions from the energy tax:
 - 74% for ethanol and 8% for FAME for low blending;
 - 73% for ethanol (E85) and 50% for FAME for high blending;
 - 100% for biofuels other than ethanol and FAME in low and high blending or 100% for HVO.
 - All biofuels are exempted from the CO₂ tax.

Page | 64

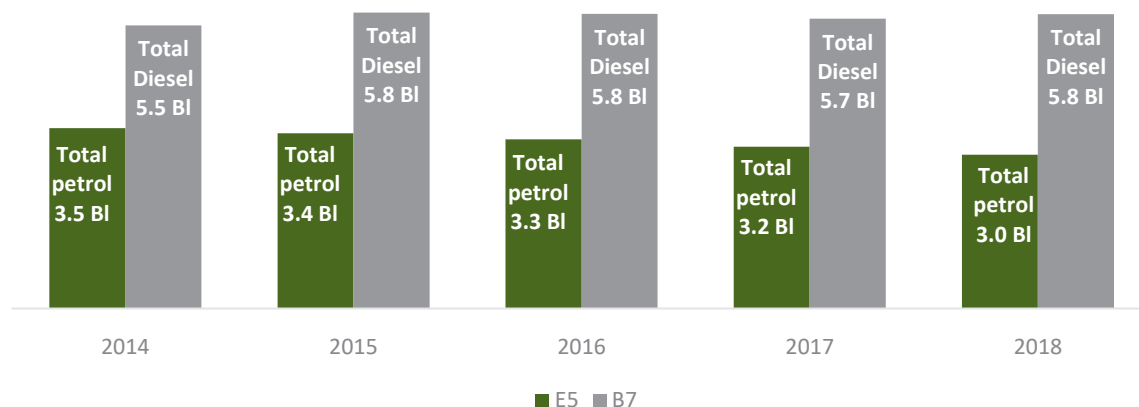
Post-2020

Sweden plans to increase the RES-T to 47.7% in 2030 and 52.1% in 2040. In the transport sector, under the current level of GHG reduction obligation, the NECP scenario estimates that the biofuels consumption would increase by 3 TWh (about 258 ktoe) from 2017 to 2020 and then remains constant until 2030. This increase is mainly due to the increased consumption of HVO biodiesel of around 2 TWh (about 172 ktoe).

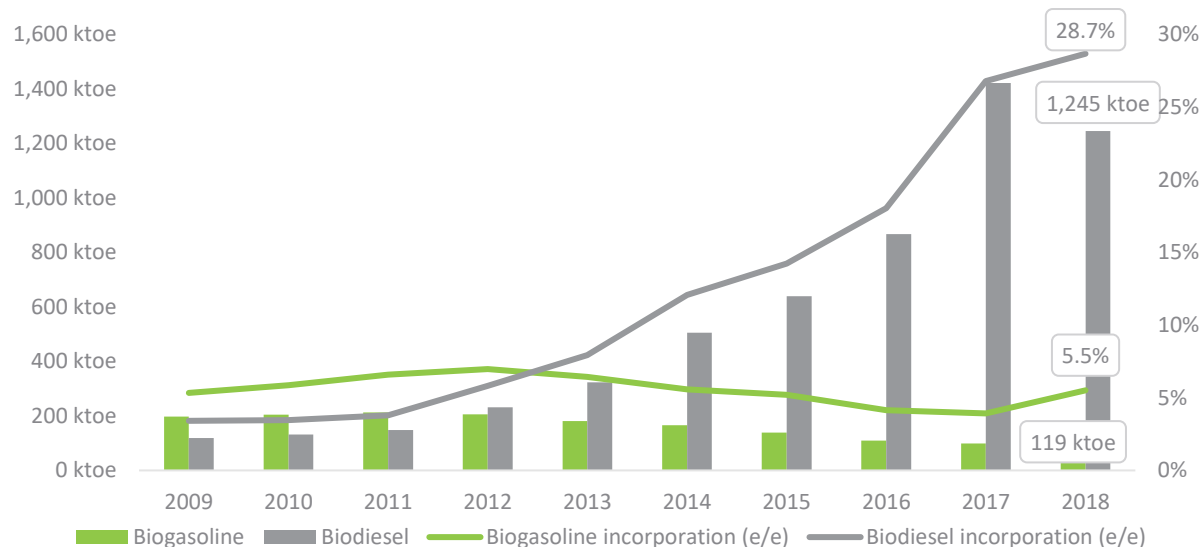
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



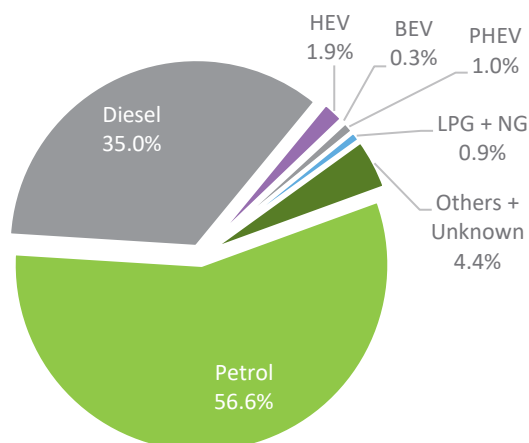
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



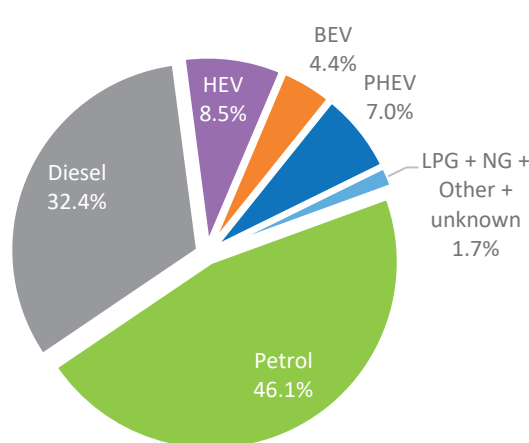
Page | 65

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



Legal framework and progress to date – Sources: EC, SHARES 2020 & EEA, 2019

What	By law (2020)	Progress to date
RED - RES-T	10%	6.5% (2018)
Renewable mandates	Overall: 9.75% in volume Dedicated sub-target for development fuels which does not mirror the Annex IX-A: 0.15% in volume	Overall: 5.1% (2019, DfT fuel statistics 2020) Annex IX-A: 1% in energy (2018)
Crop cap	4%	0.8% (2018)
FQD - GHG emissions reduction target for fuels	4% (2019) 6%	1.5% (2017)

Specifics to ensure compliance

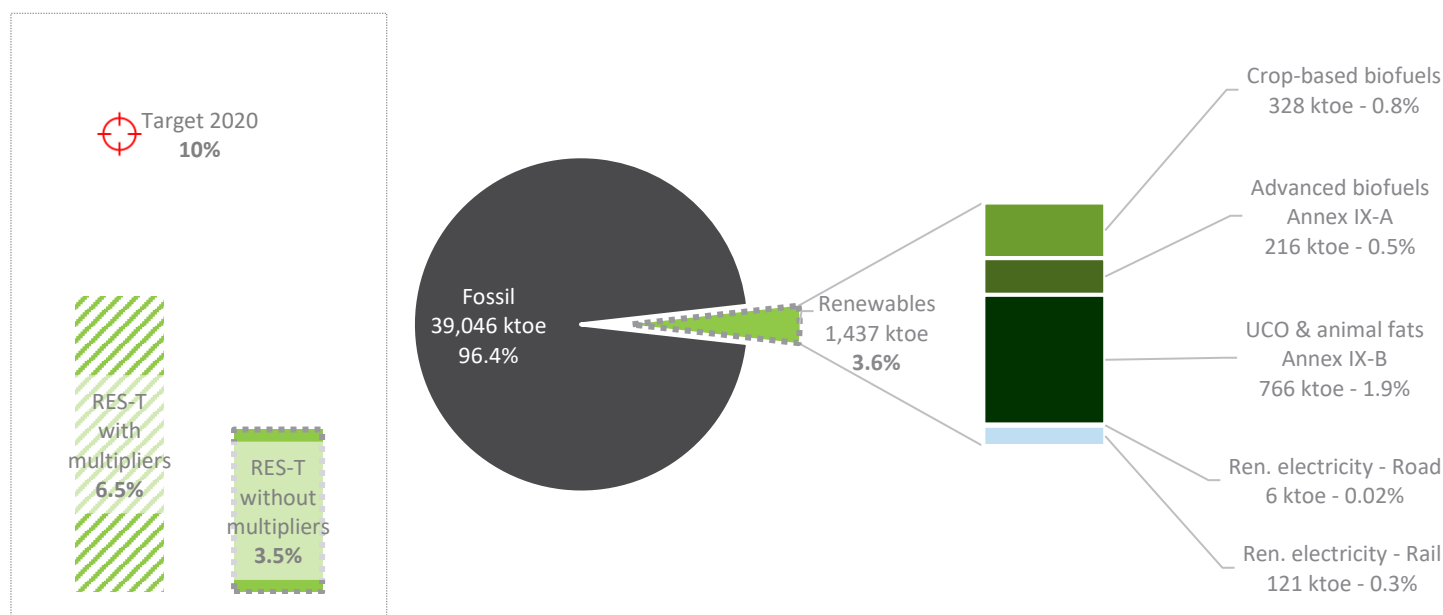
- Double counting: The DfT established lists of waste, processing/agricultural residues, energy crop and RFNBOs eligible to be considered as development fuels. Development fuels are eligible to receive double the number of certificates for every litre of biofuels produced are double counted in the achievement of the renewable targets.
- Penalties: Based on a system of certificates, one per litre for renewable fuels and two per litre for development fuels. A supplier must pay 0.3£ per missing certificate (around €0.33/l) and 0.8£ per missing certificate of development fuels (around €0.89/l). Fuel suppliers can carry over up to 25% of their certificates from the year before. Carry over is not allowed into 2020 (but can be from 2019 to 2021).

Page | 66

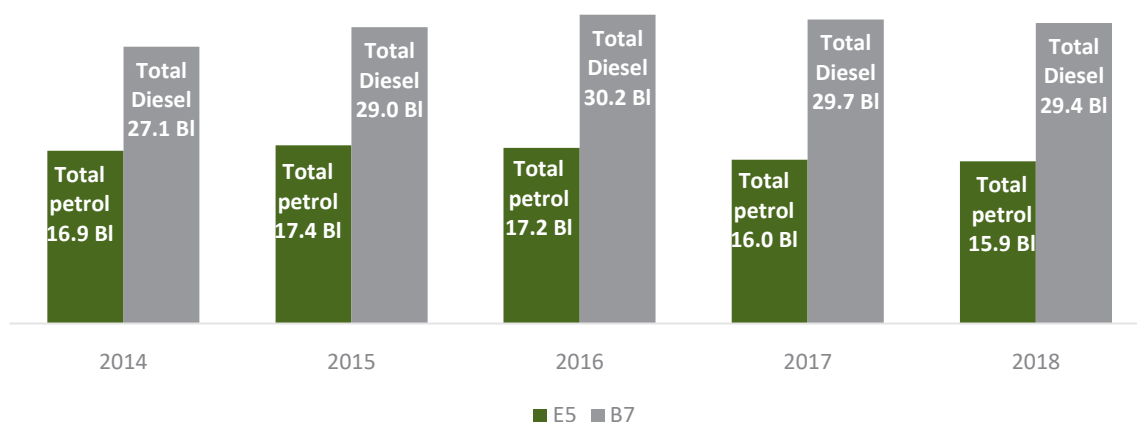
Post-2020

Crop-based biofuels cap to decrease year-on-year from 2021 to reach 3% by 2026 and 2% by 2032. The blending target for development fuels is set at 0.25% for 2021, 0.4% for 2022 and will then increase by 0.1% year-to-year to reach 1.4% in 2032 (expressed as share of the total volume of fuels, excluding double counting and carry overs).

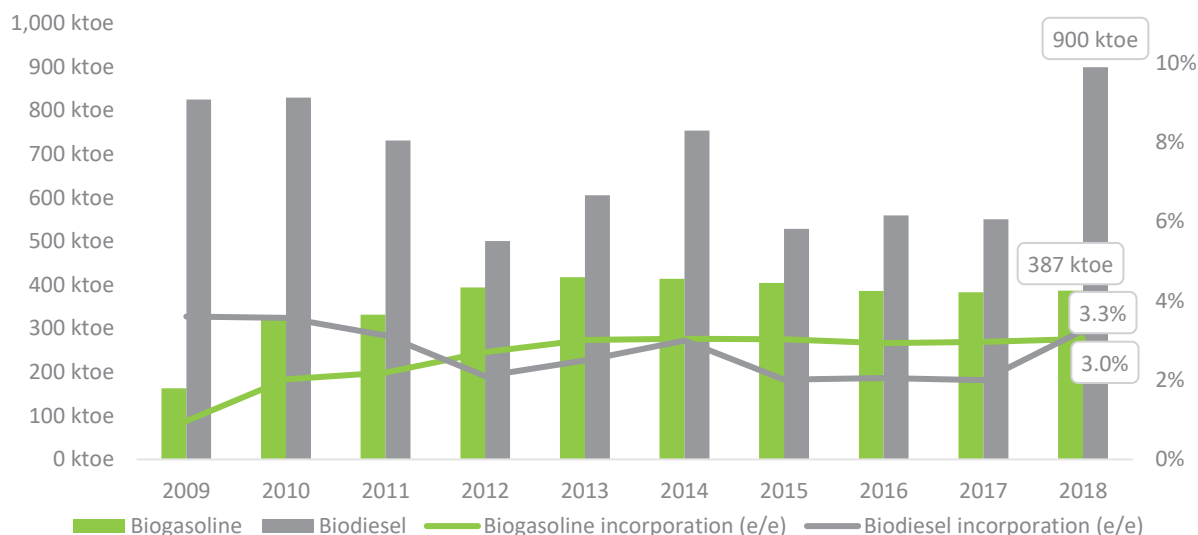
Renewables in transport – 2018 – Source: EC, SHARES 2020



Fuels market – Source: EEA, FQD Article 8 reports



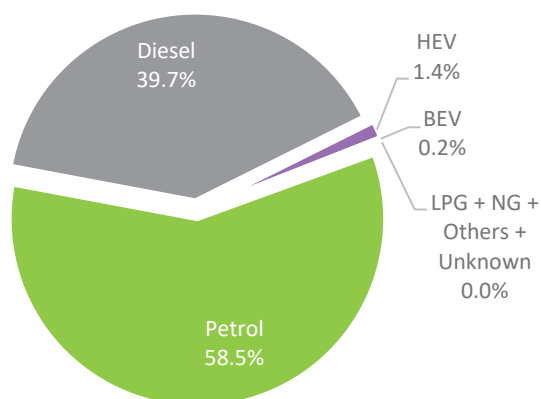
Biofuels consumption and incorporation in energy – Source: EC, Eurostat 2020



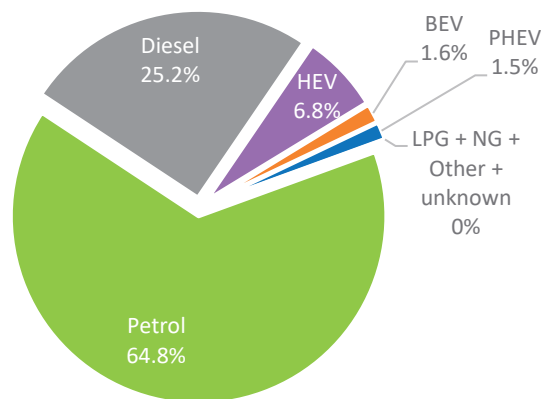
Page | 67

Vehicles market – Source: ACEA 2020

Existing passenger cars fleet – 2018



Registration passenger cars – 2019



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 36 member companies (including 19 producing members), with about 50 plants in 16 EU Member States, accounting for about 85% of the EU renewable ethanol production.

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

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