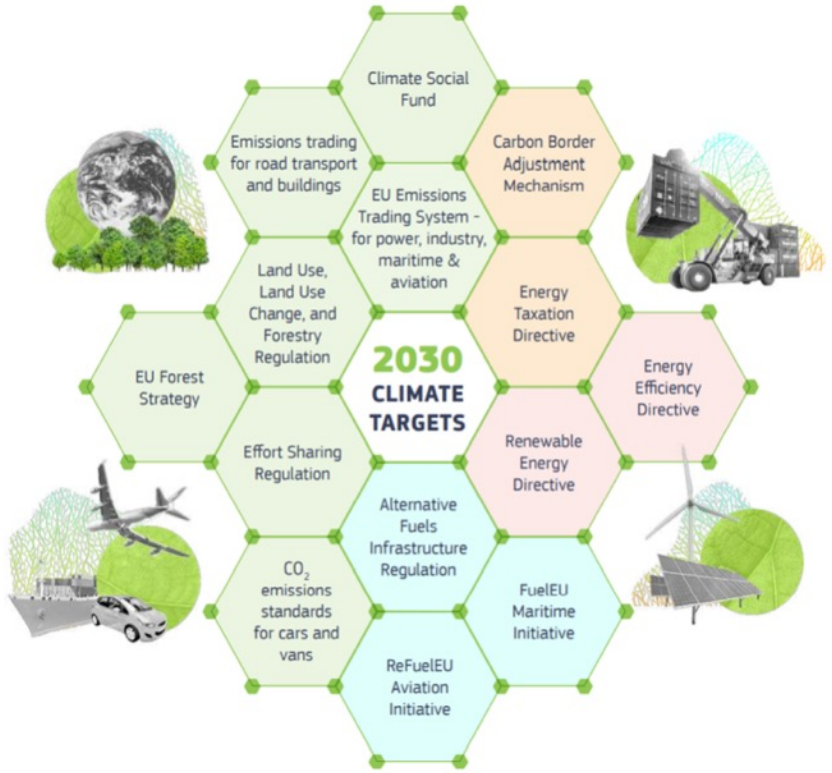

Boosting Renewable Energy for Transport: State of Play on EU plans Fit for 55 and the Renewable Energy Directive III

Rob Vierhout, ISCC Association (e.V.) Board Member

ISCC Regional Stakeholder Meeting – North America, New Orleans 14 November 2023

ISCC International Sustainability & Carbon Certification

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The European Green Deal and Fit for 55

Goal: EU to be climate neutral in 2050.

Reaching this target will require action by all sectors of the EU economy; for transport this is - 90% GHG emission reduction

The legal framework for the 2050 goal is the EU Climate Law.

Intermediate target agreed by the EU:

- **Reduce emissions by at least 55% by 2030 compared to 1990 levels. The so-called ‘Fit for 55’ package should deliver the target.**

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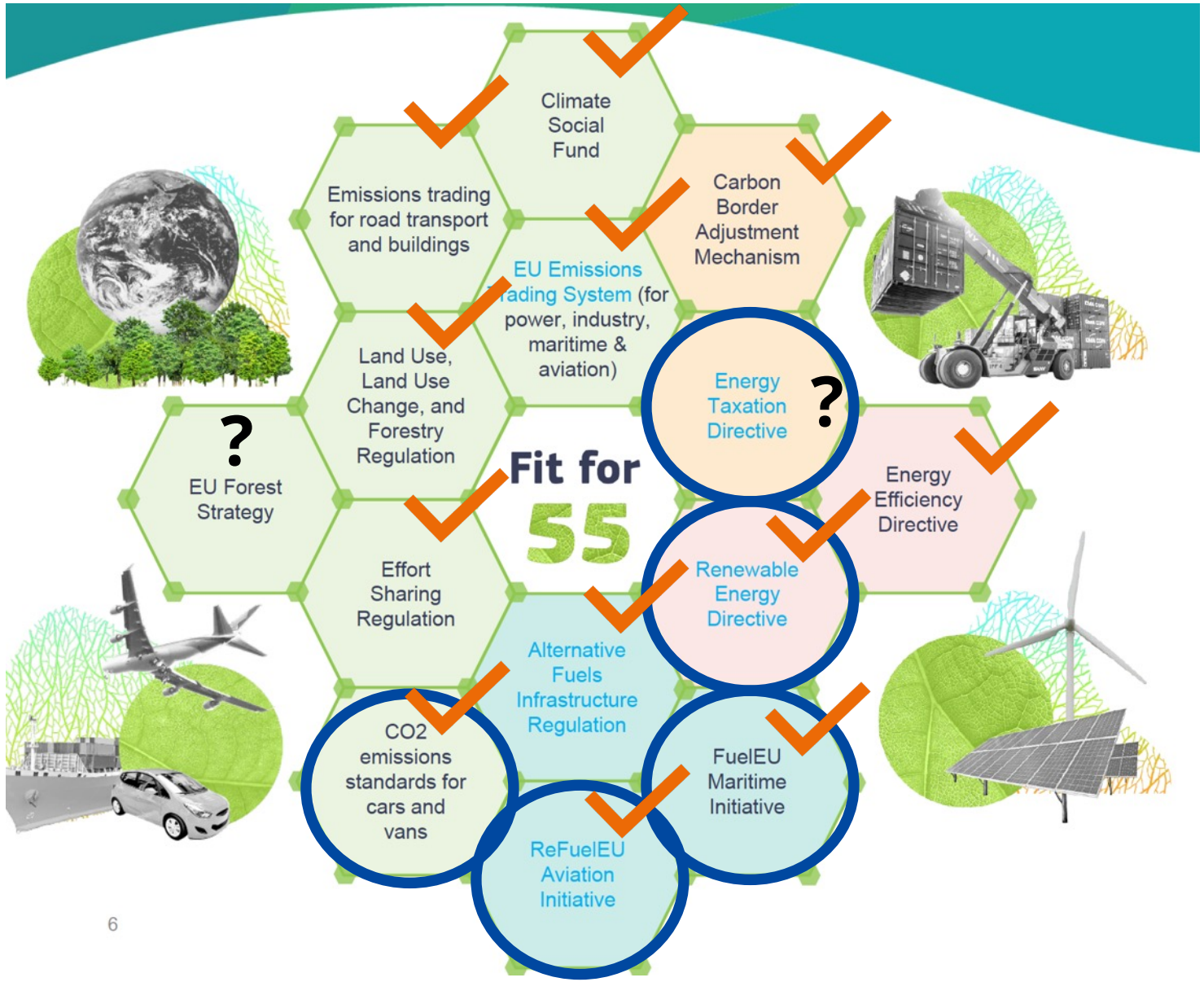
The FF55 package: many (interrelated) proposals relevant for biofuels



- Vast package of legislation: over 3500 pages text
- Complex and detailed
- Consistent transposition into national law will be a challenge
- Additional legislation through several EU Implementation Acts

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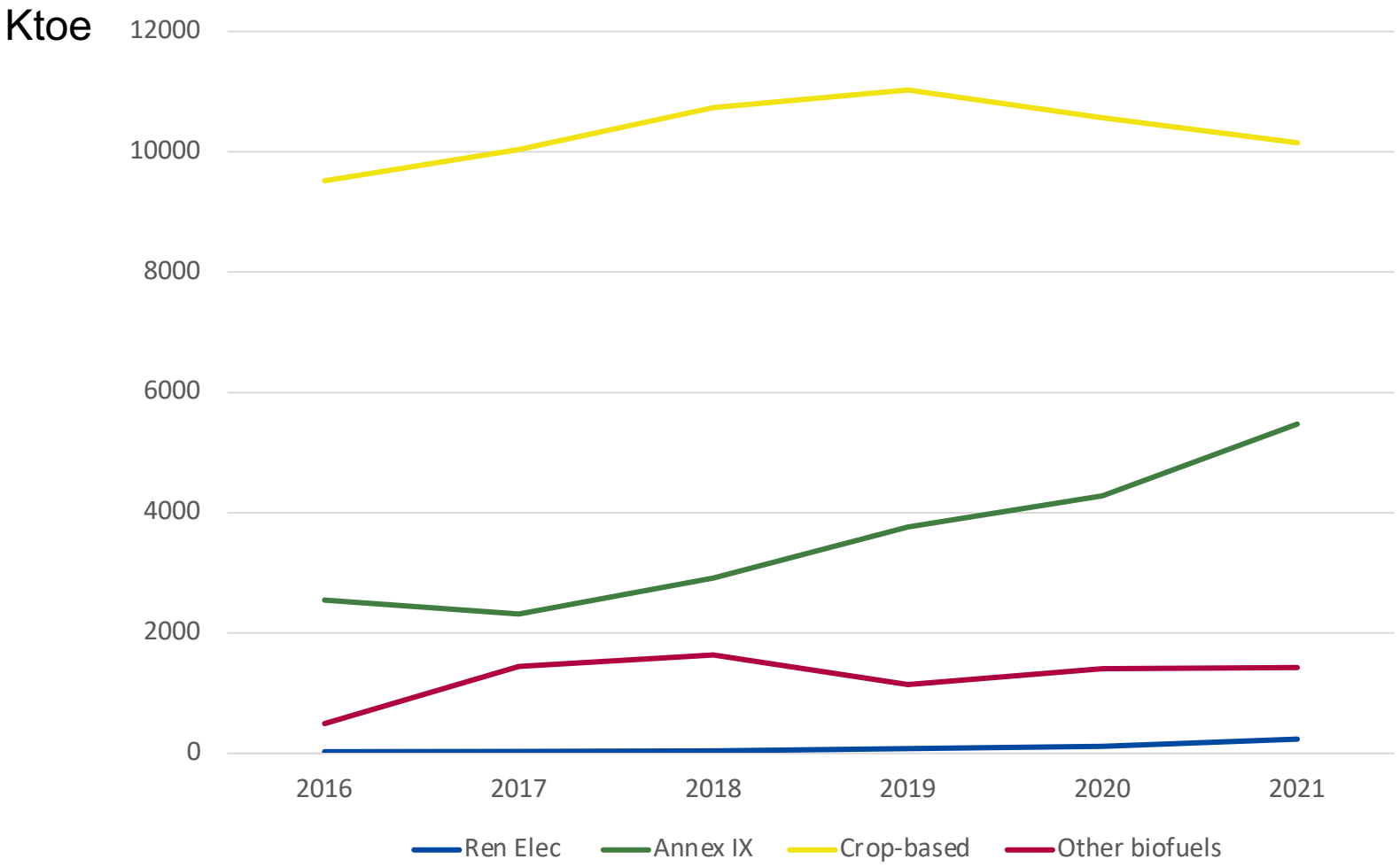
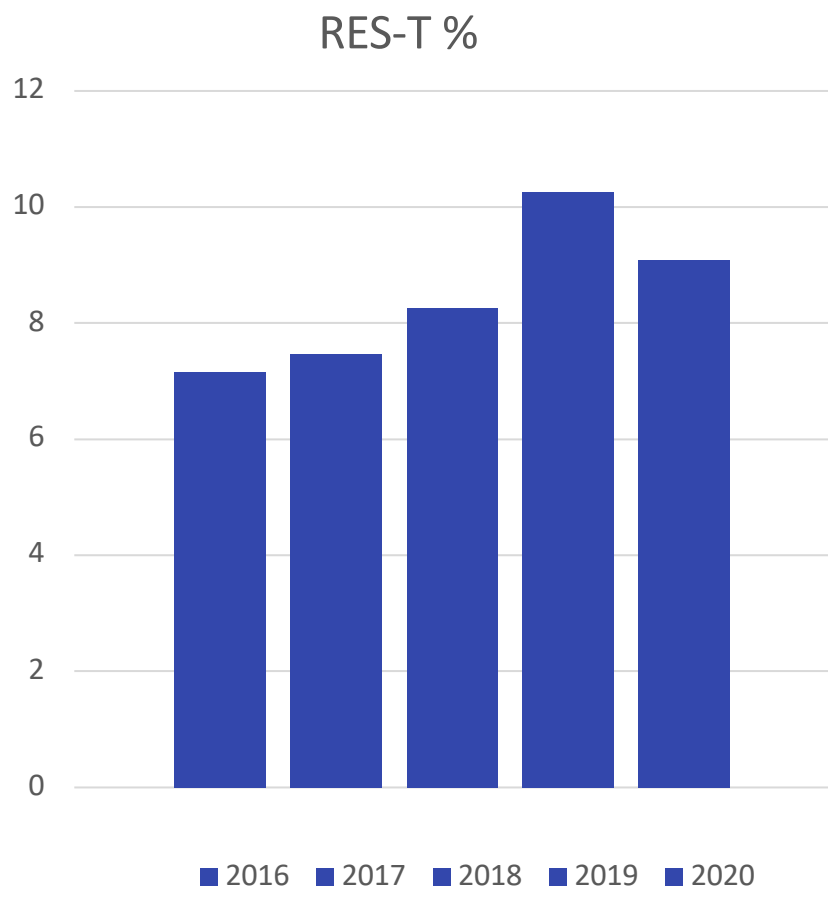
Renewable Energy in Transport (RES-T) 2016-2021





Source: Eurostat SHARES

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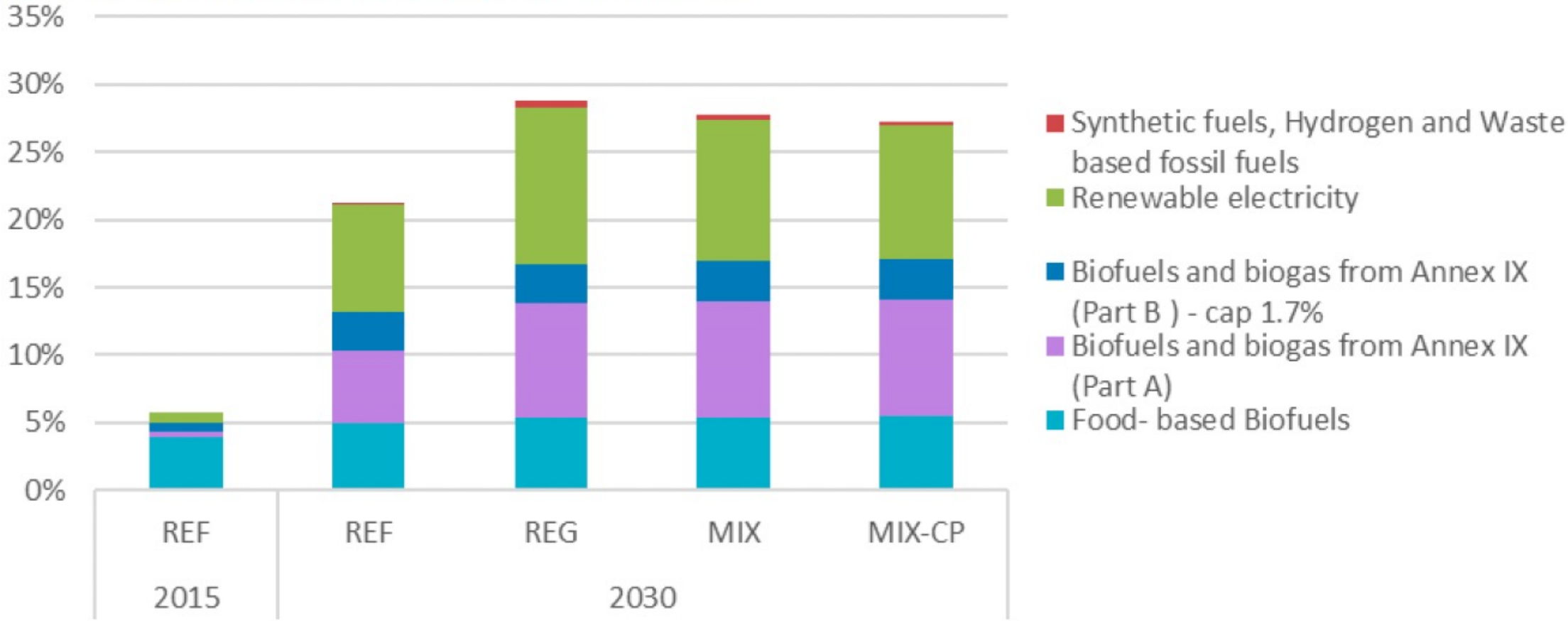
The outlook for renewable energy in EU transport up to 2030

Figure 21 - RES-T share in core scenarios; Source PRIMES



Source: European Commission, COM(2021)557

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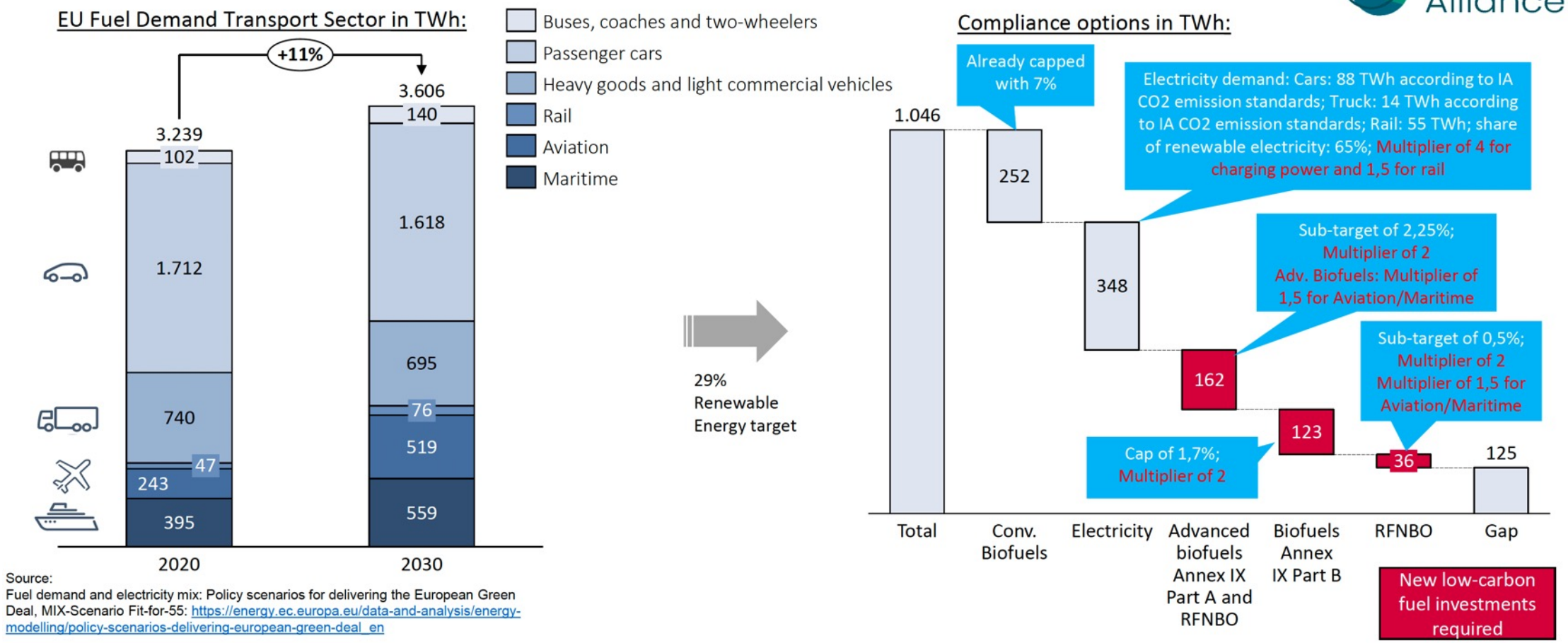
Renewables needed by 2030



Source:
Fuel demand and electricity mix: Policy scenarios for delivering the European Green Deal, MIX-Scenario Fit-for-55: https://energy.ec.europa.eu/data-and-analysis/energy-modelling/policy-scenarios-delivering-european-green-deal_en

European Commission | Mobility and Transport

FuelsEurope

SAFRAN

Hydrogen Europe

FINCANTIERI

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Comparison RED II and RED III (Directive 2023/2413)

		REDII in force	Changes in RED III (entering into force 1-1-2025)
Overall RED target		At least 32%	At least 42.5%; joint endeavour to reach 45%
RES-T	RES-Target and reporting	At least 14% e	**At least 14.5 % GHG saving or 29% share of RE** Scope: all modes of transport (including aviation and shipping)
	Crop-based	2020 consumption level for each MS within a 7% limit, with 1% flexibility MS may reduce the 7% to zero	No changes
	Annex IX-A (advanced biofuels)	0.2 % (2022), 1 % (2025), 3.5 % (2030)	At least 1% in 2025 and 5.5% in 2030 (This is a shared mandate with RFNBOs) If more feedstock available share can be increased
	Annex IX-B	Limit of 1.7%, which can be modified by MS if approved by Commission	No change
	RFNBOs (Renewable Fuels of Non Biological Origin (H2, e-MetOH		At least 1% in 2030 (so less for advanced biofuels) Use of renewable hydrogen to produce petrol and diesel counts towards the RES-T
	Multipliers	Annex IX-A and B: x2 Aviation and shipping: x1.2 Electricity: x4	Annex IX + RFNBOs: x2 Advanced biofuels in maritime and aviation: x1.2 (on top of the x2 = 2.4) RFNBOs in maritime and aviation: x1.5 (on top of the x2 = 3) Renewable electricity: x4 for road and x1.5 for rail
	Sustainability criteria		Cascading system to be respected as much as possible

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Implementing Acts (mentioned in the RED)

Name	SoP /Adopted	Published
On verification of sustainability	√	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R0996&qid=1692183048159
Conditions and calculating rules on RFNBOs (COM issued a Q&A for better understanding)	√	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023R1184 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023R1185
Co-processing (use of biofuels in the refining industry)	√	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023R1640
Review of Annex IX (list of allowed waste and residues)	Proposal expected soon	
High ILUC risk biofuels	SoP unclear	

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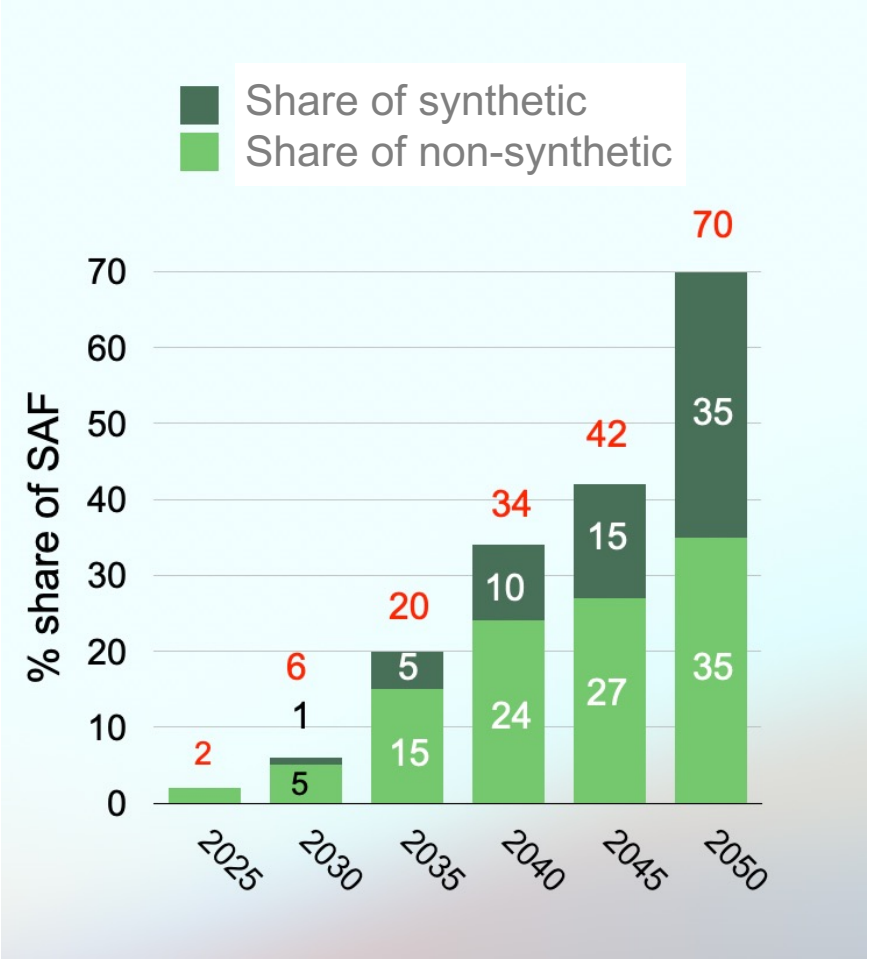
ReFuel EU AVIATION (SAF) - (2025-2050)

- Sets a volume-based SAF target for aircraft operators and fuel suppliers
- SAF is (a) synthetic aviation fuel or (b) aviation biofuel, or (c) recycled carbon fuel
- Renewable hydrogen and low-carbon aviation fuels also allowed
- Crop-based biofuels are excluded
- Sub-targets for e-fuels
- Penalty for non-compliance
- Flexibility mechanism for fuel suppliers



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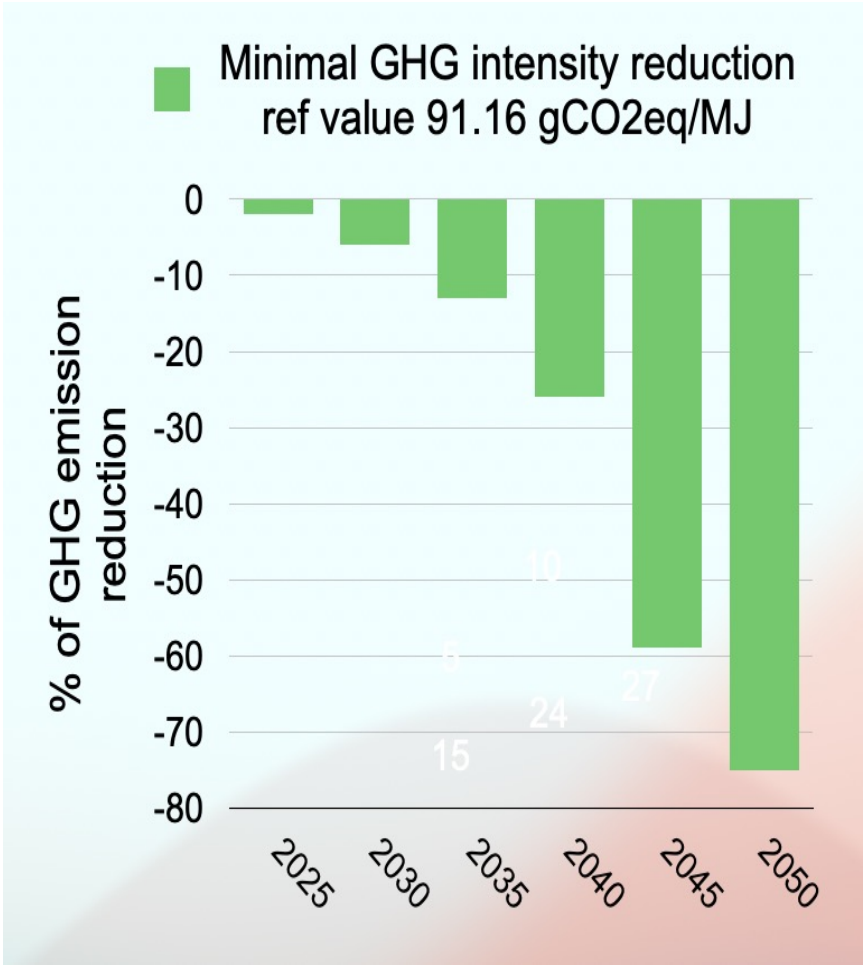
FuelEU MARITIME (2025-2050)

- Sets minimal GHG intensity reduction targets for all ships over 5 000 gross tonnage
- If next port outside EU only 50% of energy used applies
- Every fuel allowed but crop-based biofuels have very high emissions
- If in 2031 no 1% of RFNBOs reached, then 2% sub-quota from 2034 onwards
- Not all RE in maritime can count towards RED-goal (max 13% of all energy in MS)
- GHG intensity of two or more ships may be pooled
- Penalty for non-compliance



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CO2-emission standards for cars and vans (Regulation)

First file of the FF55 package that resulted in an agreement between legislators (Regulation (EU) 2023/850)

Most important elements of the law:

- Newly registered cars, compared to 2021, have to reduce emissions by 55% by 2030 and 100% by 2035 on a tank-to-wheel basis
- For new vans, the reduction targets are 50% and 100%, respectively
- The Commission needs to present a methodology to measure emissions on a well-to-wheel basis before 2025
- The Commission should present a proposal for registering after 2035 vehicles running exclusively on CO2 neutral e-fuels (not biofuels)
- First review of the legislation in 2026

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How might the market for renewable fuels develop up to 2030 ?

- Up to 2030 **cop-based biofuels** are needed to deliver on the targets. However, share of crop-based biofuels may grow only slightly (now around 4.5%)
- Biofuels from waste oils (**Annex IX-B**) even though limited in growth potential (capped due to limited feedstock) may show strong growth in some Member States due to national targets and uptake in aviation and maritime
- **Advanced biofuels** (made from feedstock listed in Annex IX-A) will have, in theory, a growing market share but are now in competition with RFNBOs. Good prospective for the short-term but less good beyond 2030
- Strong push for **Electricity** to gradually replace liquid and gaseous fuels for passenger transport, but less for trucks, shipping and maritime. RFNBOs (renewable H_2) are the expected solutions for heavy duty transport)
- New renewable fuel markets arising for **aviation and maritime**, substantial in volume
- **E-fuels**, such a H_2, are the new silver bullet but are expected, due to costs, to scale up after 2030 only

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Some (additional) observations

- The **FF55 package** is ambitious, legislation complex and not technology-neutral (electricity and green hydrogen are overpromoted)
- **REDIII** is modest in changes but devil, as per usual, in the detail and in the way Member States implement the Directive
- **New markets** for aviation and maritime creating opportunities for Annex IX biofuels and RFNBOs but could canabalize renewable fuels for road transport
- **Other crops** (cover / intermediairy / energy crops depending on review Annex IX) could start replacing food/feed-based crops.
- CO_2 standard for cars/vans could result in **phasing out ICE** by 2035
- The need for **(robust) certification** is steadily increasing beyond biofuels (CORSIA, chemicals, scope-3, carbon removals) and will become a *conditio sine quo non* to do business in the EU

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Questions?

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