



EU renewable ethanol's strategic contribution to Europe's food security, energy independence & climate goals

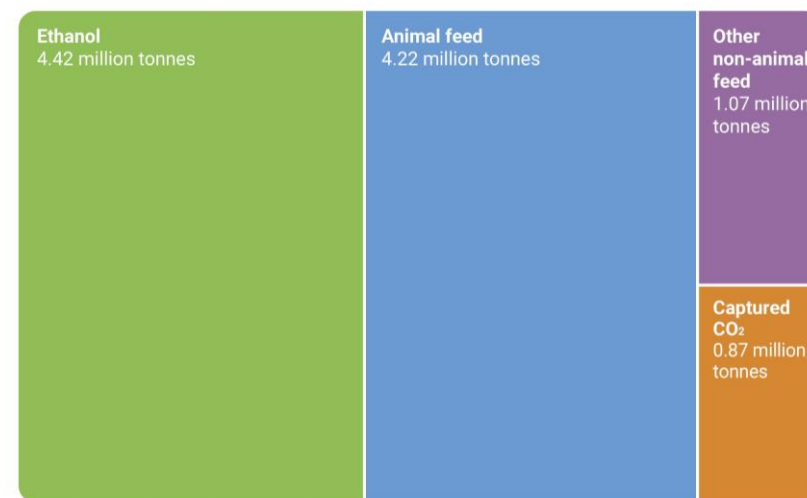
Simona Vackeová
ePURE Secretary General ad interim

ePURE: Voice of the EU renewable ethanol industry

- 38 members, including 20 producing companies
- 50 plants across the EU and UK
- 85% of EU renewable ethanol production



Main output of European renewable ethanol plants

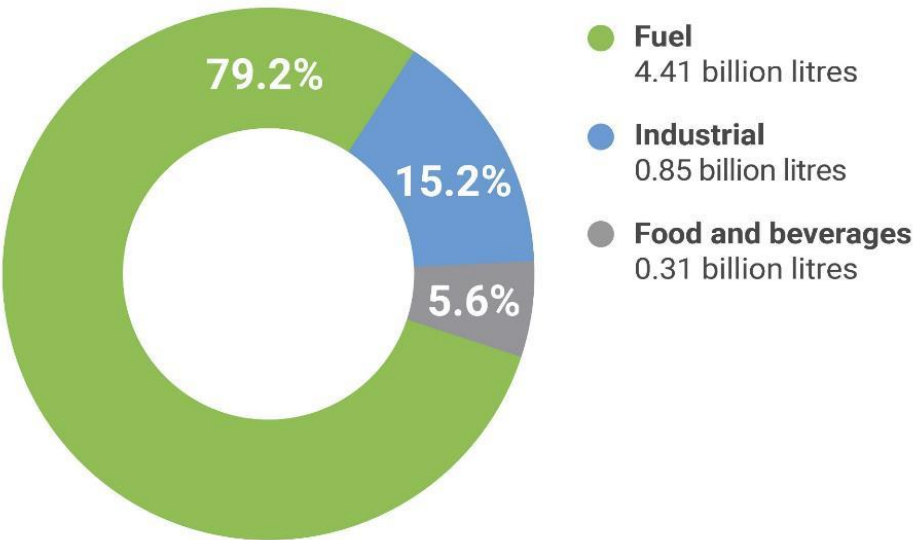


Source: Aggregated and audited data of ePURE members. Ethanol – pure alcohol;
Animal feed co-products – dry matter equivalent; Other co-products – commercial equivalent

ePURE ethanol: delivering for Europe

More than just fuel

Renewable ethanol production by end-use

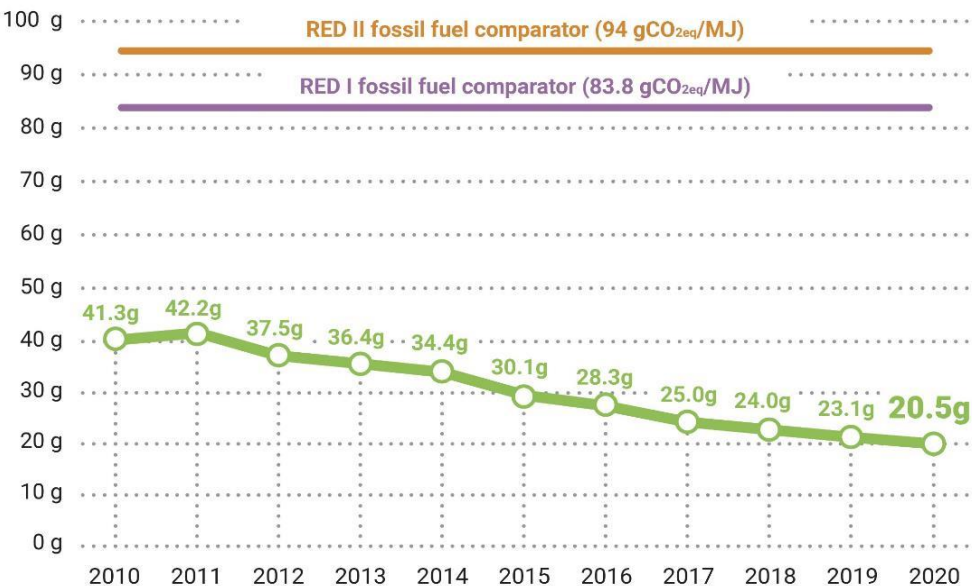


In 2020, ePURE members produced 5.57 billion litres of ethanol, operating at 86.3% of their 6.46 billion litres of installed capacity

Source: Aggregated and audited data of ePURE members for 2020 (pure alcohol)

But used as fuel it saves 75.5% emissions

Average certified emissions from the production and use of fuel ethanol in gCO_{2eq}/MJ

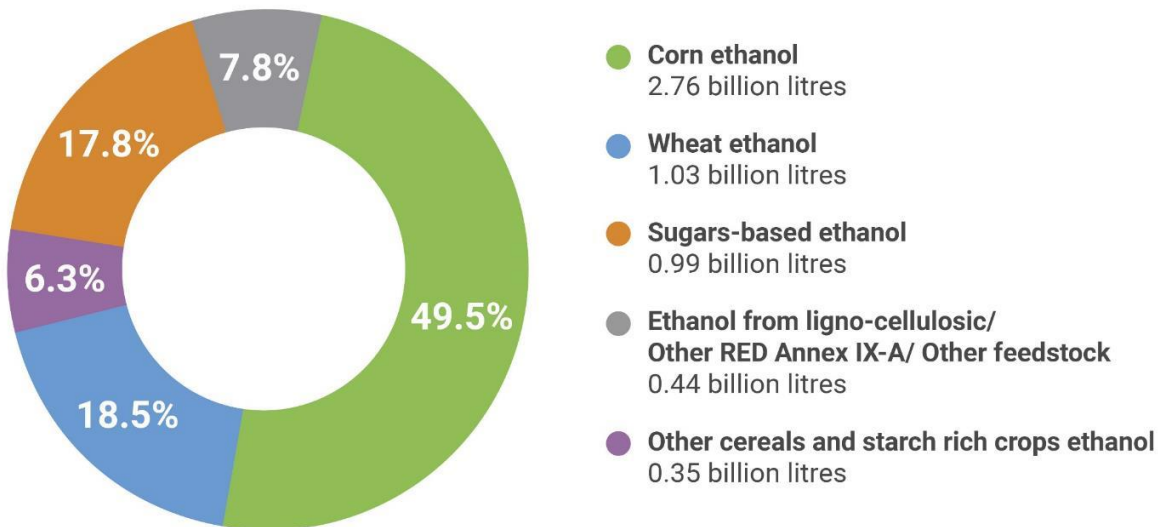


Source: Aggregated and audited data of ePURE members for 2020

ePURE ethanol: getting better every year

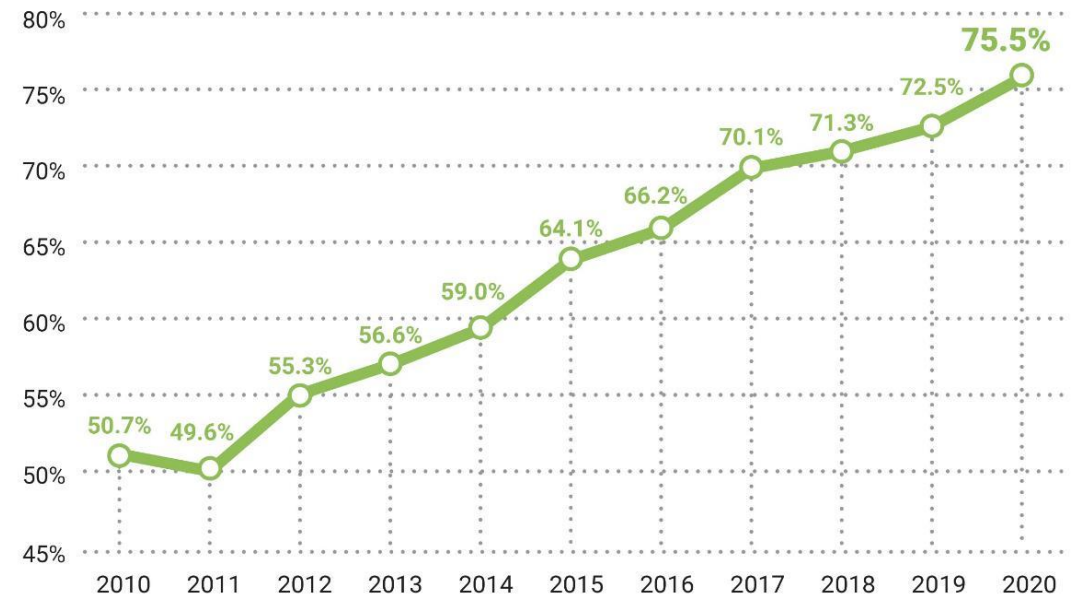
Comes from European feedstock...

Share of European renewable ethanol produced from each feedstock type



... And delivers significant GHG savings

Average certified emissions savings in %



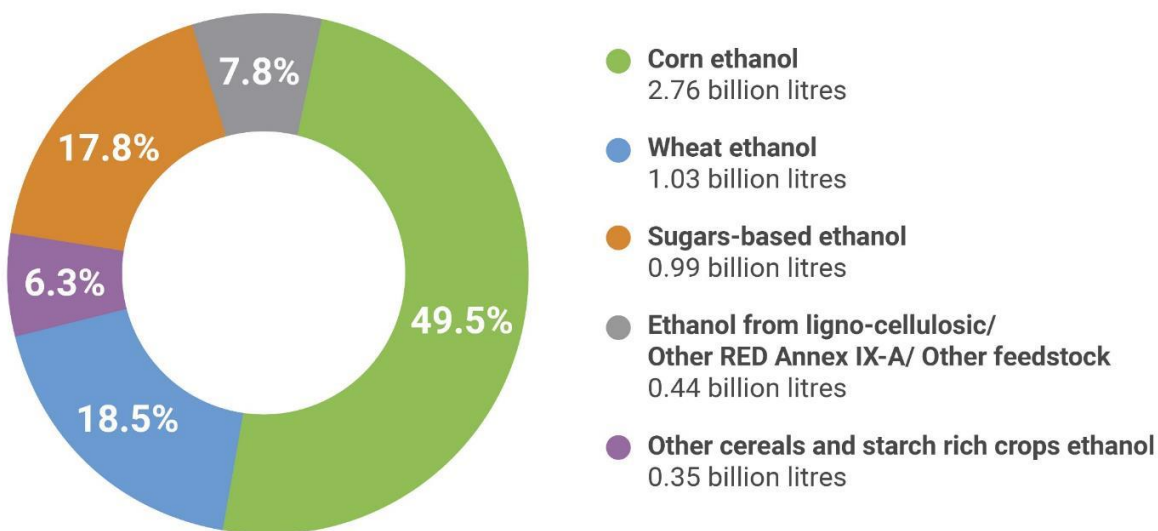
Source: Aggregated and audited data of ePURE members for 2020 (pure alcohol)

Compared to a fossil fuel comparator of 83.8 gCO_{2eq}/MJ

ePURE ethanol: sustainability myths have been busted

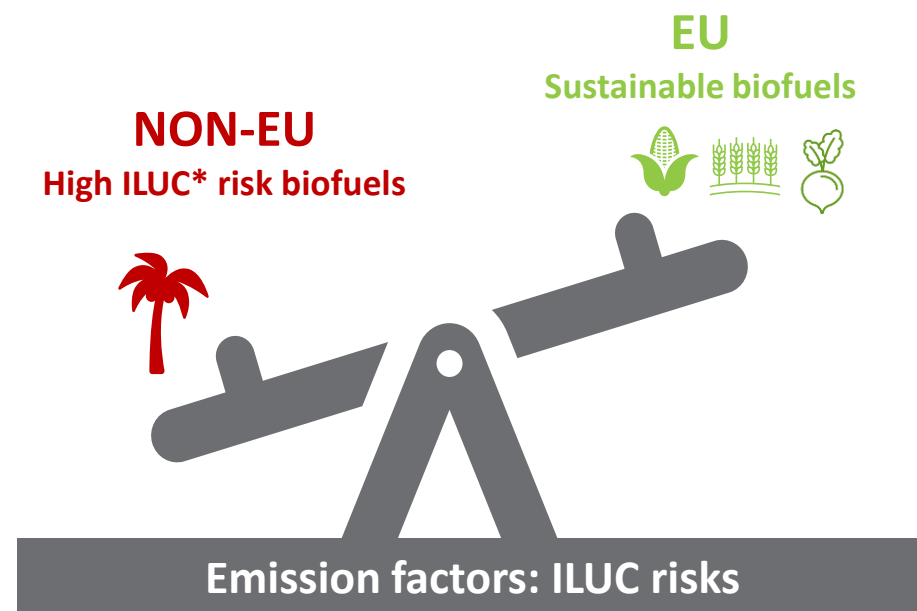
Comes from European feedstock...

Share of European renewable ethanol produced from each feedstock type



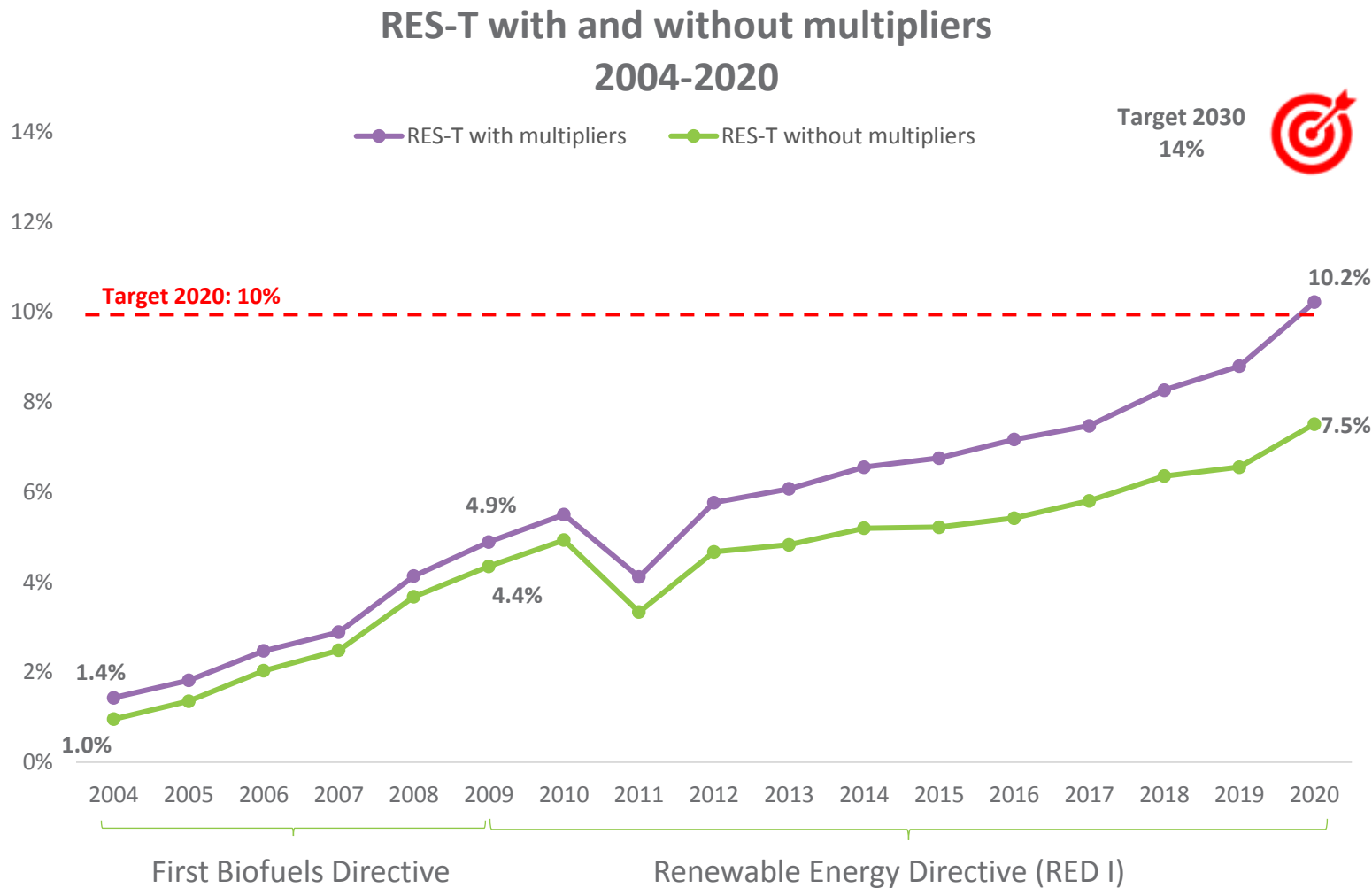
...which does not pose ILUC concerns

ILUC is no problem for domestic feedstock used for biofuels production



** Commission Delegated Regulation supplementing Directive (EU) 2018/2001 as regards the determination of high indirect land-use change-risk feedstock for which a significant expansion of the production area into land with high carbon stock is observed and the certification of low indirect land-use change-risk biofuels, bioliquids and biomass fuels.*

Renewables in transport (RES-T) Achievement and multipliers impact



10.2% renewables in transport

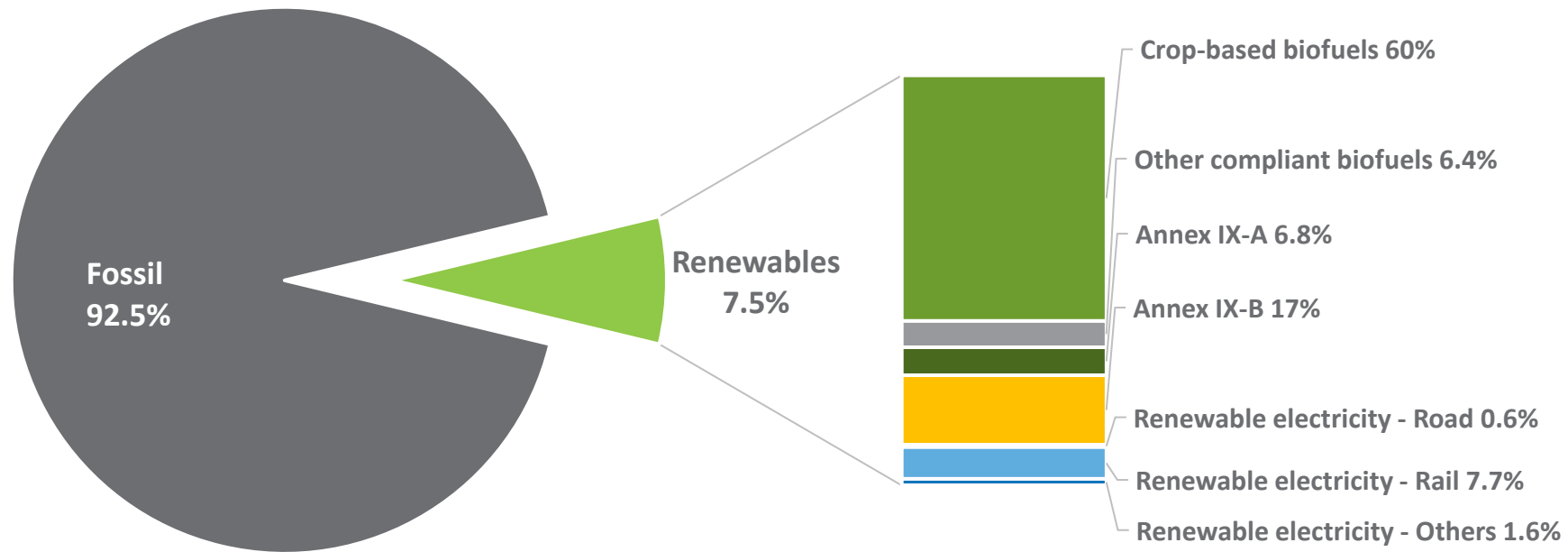
7.5% in reality

Increase

- Since RED I was approved in 2009: from 4.9% to 10.2%, BUT
 - Most of the increase has come from **virtual quantities created by artificial multipliers**
 - Without multipliers, it has **increased only by 3.1%**

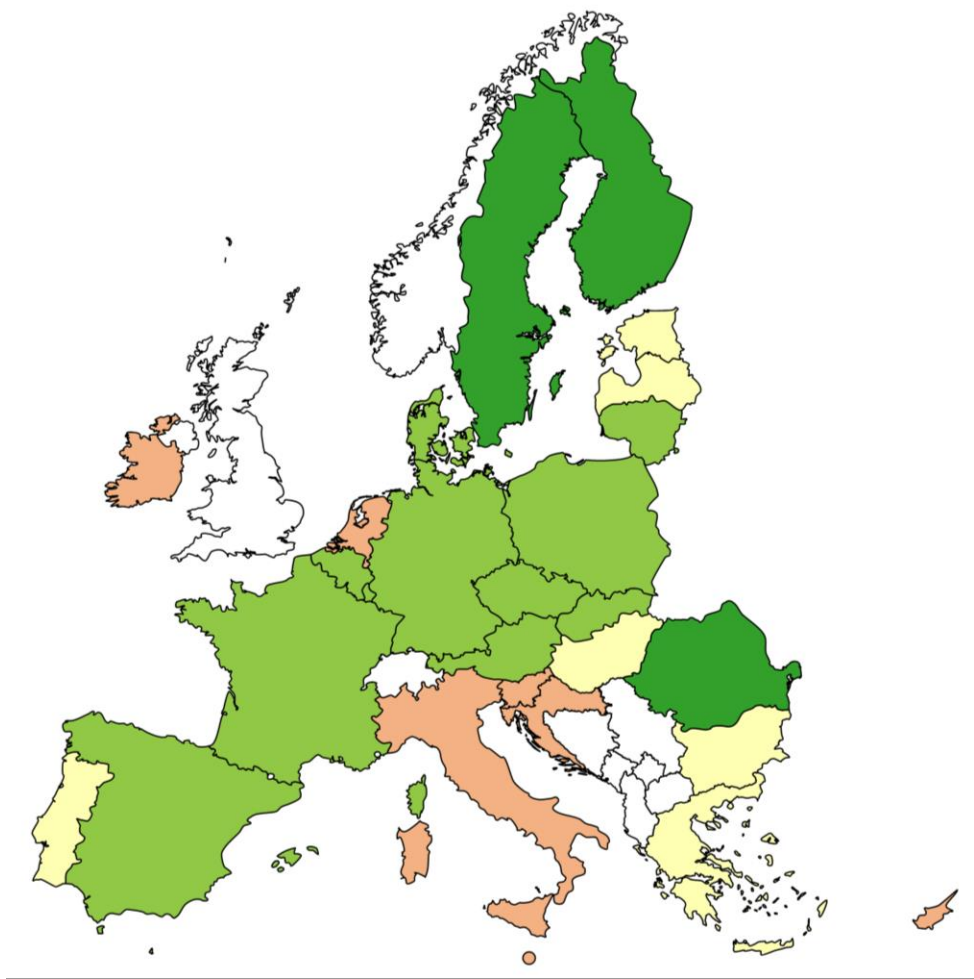
Renewables in transport

Biofuels contribution – EU27



- Crop-based biofuels represent the majority of renewables in transport (60%)
- All biofuels together account for over 90% of renewables in transport
- Renewable electricity contributes to 9.9%, of which 78% is used in rail
- No volumes of renewable hydrogen and RFNBOs were consumed in transport in 2020

Share of crop-based biofuels in transport per MS in 2020



FI	7.9%
SE	7.6%
RO	7.5%
BE	6.6%
FR	6.0%
DK	5.5%
AT	5.1%
PL	5.1%
DE	4.9%
SK	4.8%
LT	4.6%
LU	4.6%
CZ	4.6%

ES	4.0%
BU	3.8%
LV	3.4%
EL	3.0%
HU	3.0%
EE	2.1%
PT	2.1%
NL	1.8%
SL	1.7%
HR	1.6%
IT	1.4%
IE	0.3%
MT	0.1%
CY	0.0%

EU 27 average: 4.5%

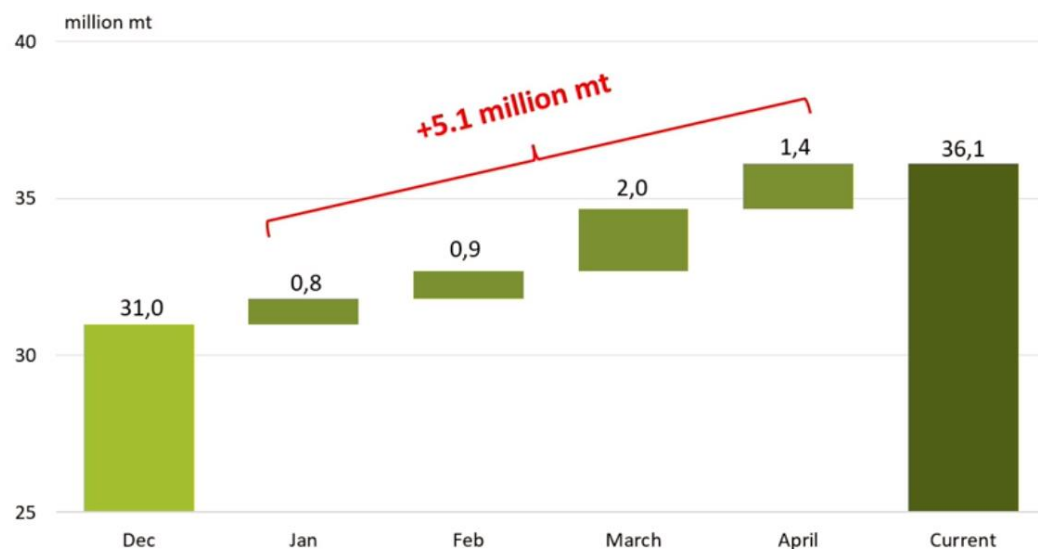
Source: ePURE, SHARES 2022, calculated according to the methodology of RED I. For RES-T calculation, the 7% limit for 1G contribution was applied.

Global market developments

Global sugar production

S&P Platts Commodity Insights foresees an increase of global sugar production

INDIA 2021-22 SUGAR ESTIMATES

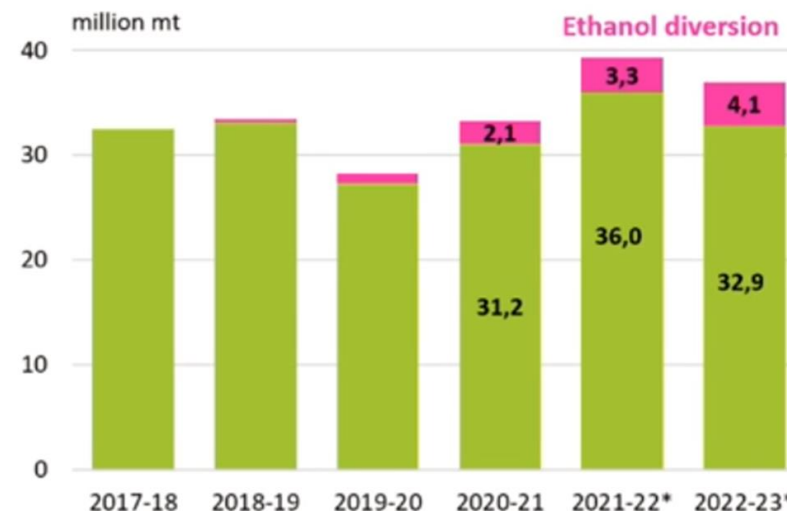


Source: S&P Global Commodity Insights

Renewable ethanol use forecast

More ethanol could be produced due to global sugar production surplus

SUGAR PRODUCTION & DIVERSION TO ETHANOL



Source: ISMA, S&P Global Platts Analytics

Reducing biofuel blending mandates...

Taxes and prices at the pump as key drivers for blending proportion reductions

- **Czech Republic**
 - Future blending mandates uncertain
 - A decision on reducing blending mandates tbd
- **Croatia**
 - To have withdrawn penalties given to blenders that miss mandate targets
- **Germany***
 - Ministries discuss lower biofuel blends
 - Plans to cut the use of biofuels produced from food and feed crops
- **Finland**
 - A temporary reduction of its 2022 and 2023 biofuel blending obligations by 7.5 percentage points to 12%
- **Latvia**
 - To raise the distribution obligation 2030 target to 34% from 30% to compensate
- **Sweden**
 - A temporary waiver for the biofuel mandates
 - A final decision is due to be taken by 1 July
 - Plans to freeze 2023 GHG saving obligation at 2022 levels
 - 2023 mandate 10.1% from 7.8% in 2022 in petrol

* Ongoing discussions re. a lower biofuel blend in order to free up more crops for food purposes

Reducing biofuel blending mandates...

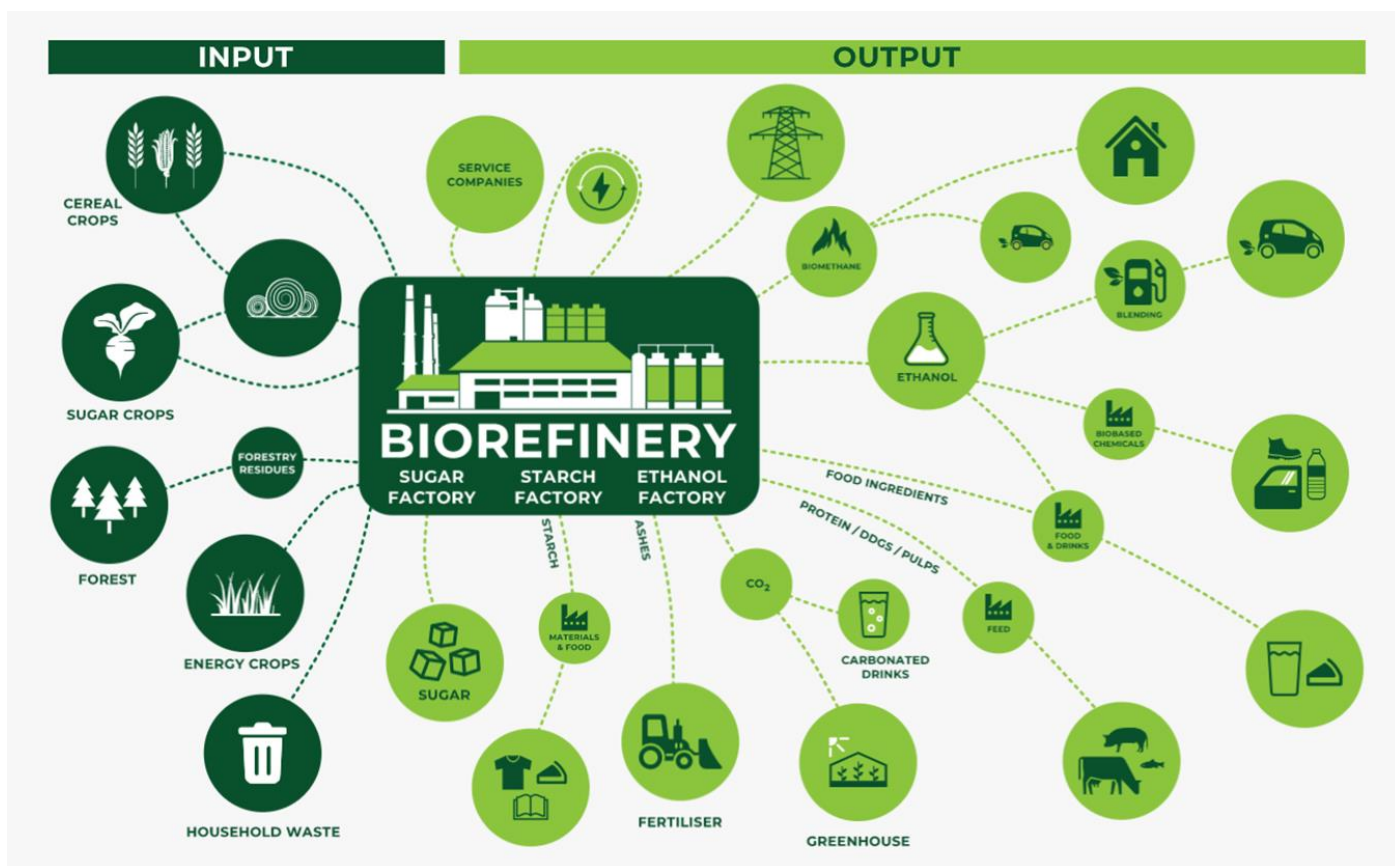
... harms renewable ethanol's strategic contribution to

 Europe's food & feed value chain



EU's energy independence

 EU high climate ambitions & emissions reductions





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