



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

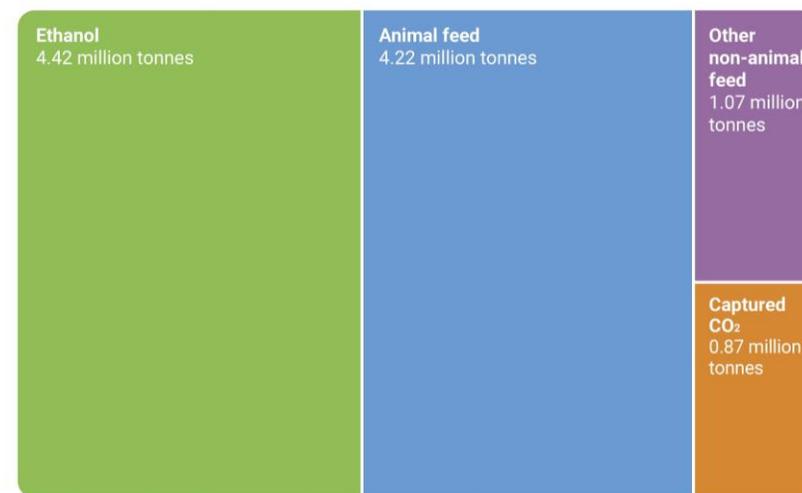
Simona Vackeová
ePURE Secretary General ad interim

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

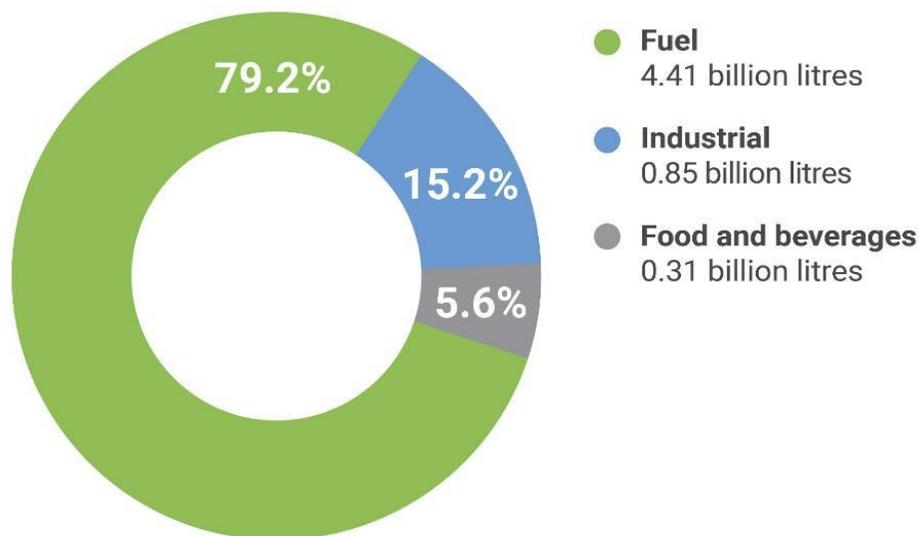


Source: Aggregated and audited data of ePURE members. Ethanol – pure alcohol; Animal feed co-products – dry matter equivalent; Other co-products – commercial equivalent

ePURE ethanol: delivering for Europe

More than just fuel

Renewable ethanol production by end-use

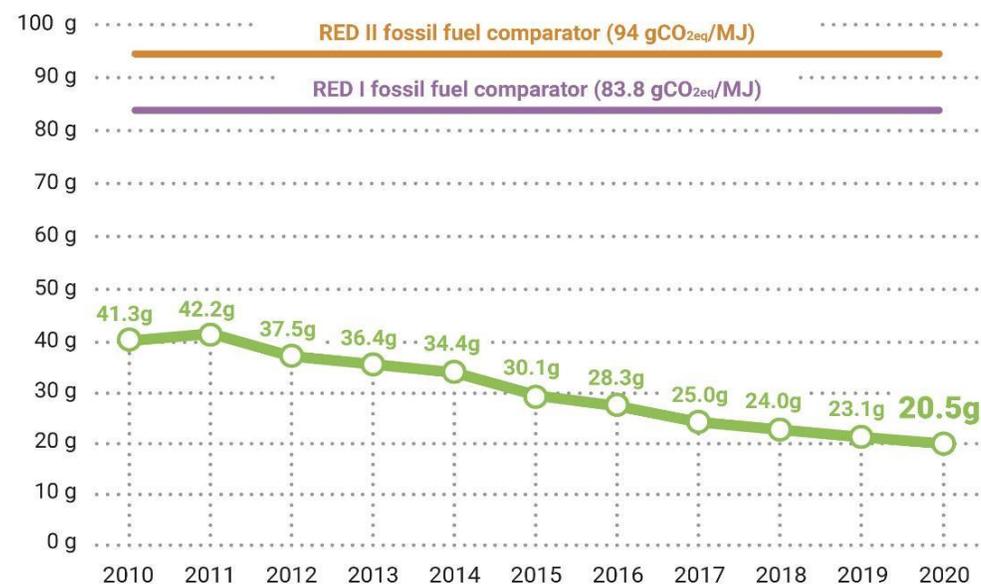


In 2020, ePURE members produced 5.57 billion litres of ethanol, operating at 86.3% of their 6.46 billion litres of installed capacity

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

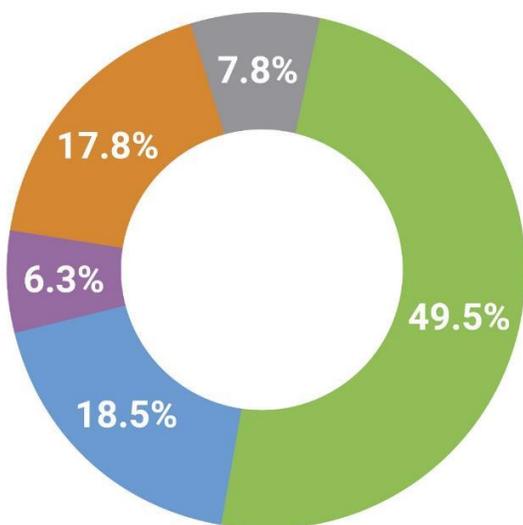


Source: Aggregated and audited data of ePURE members for 2020

ePURE ethanol: getting better every year

Comes from European feedstock...

Share of European renewable ethanol produced from each feedstock type



- Corn ethanol**
2.76 billion litres
- Wheat ethanol**
1.03 billion litres
- Sugars-based ethanol**
0.99 billion litres
- Ethanol from ligno-cellulosic/
Other RED Annex IX-A/ Other feedstock**
0.44 billion litres
- Other cereals and starch rich crops ethanol**
0.35 billion litres

... And delivers significant GHG savings

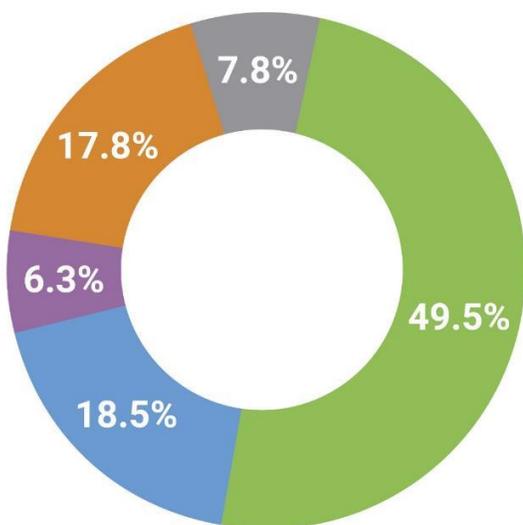
Average certified emissions savings in %



ePURE ethanol: sustainability myths have been busted

Comes from European feedstock...

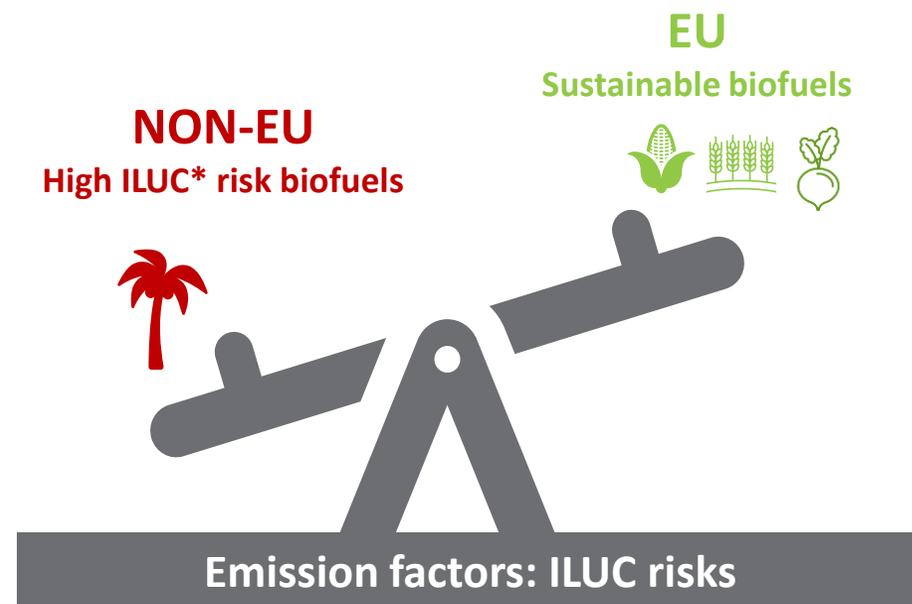
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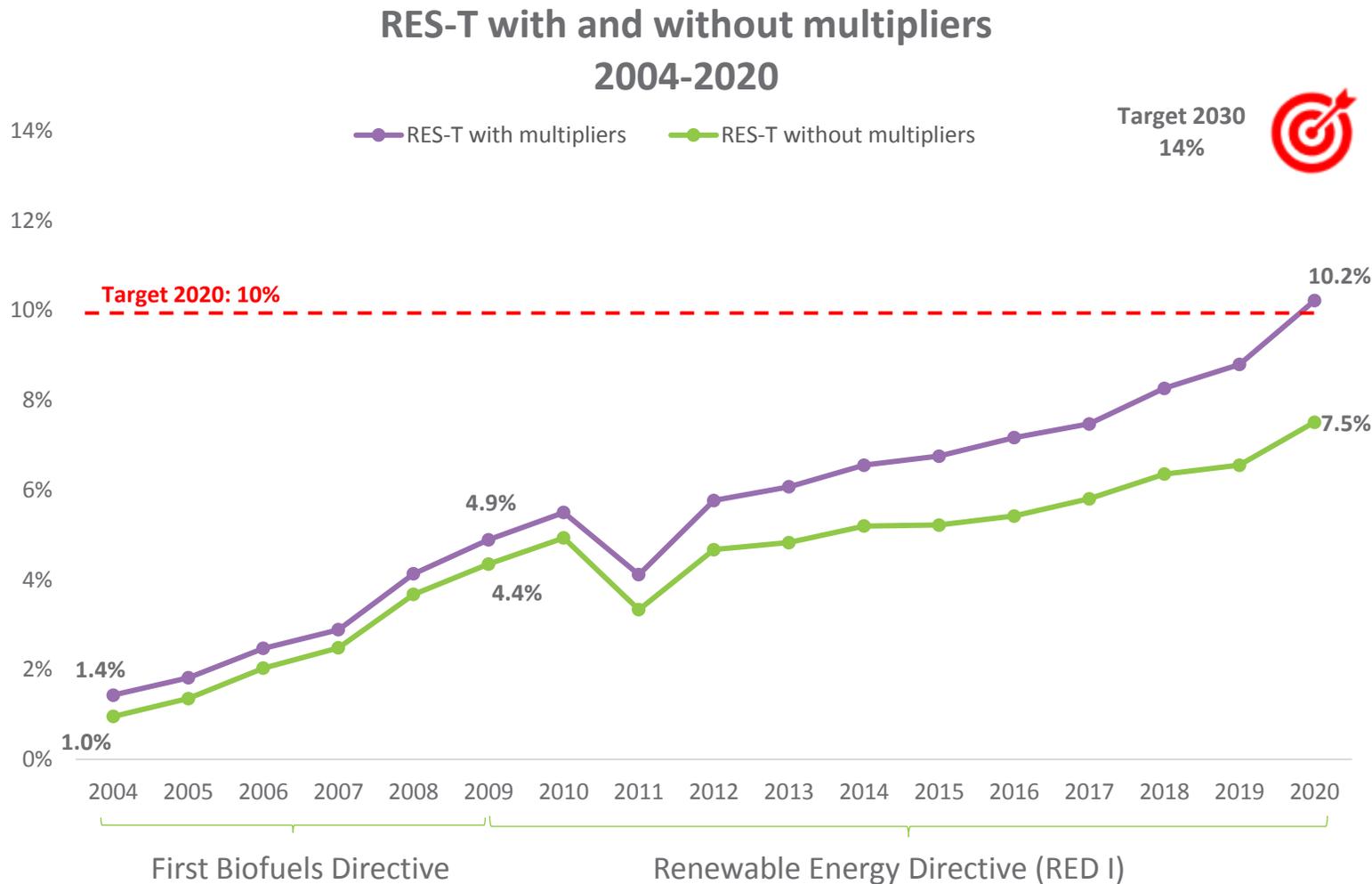
...which does not pose ILUC concerns

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, bioliqids and biomass fuels.

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



10.2% renewables in transport

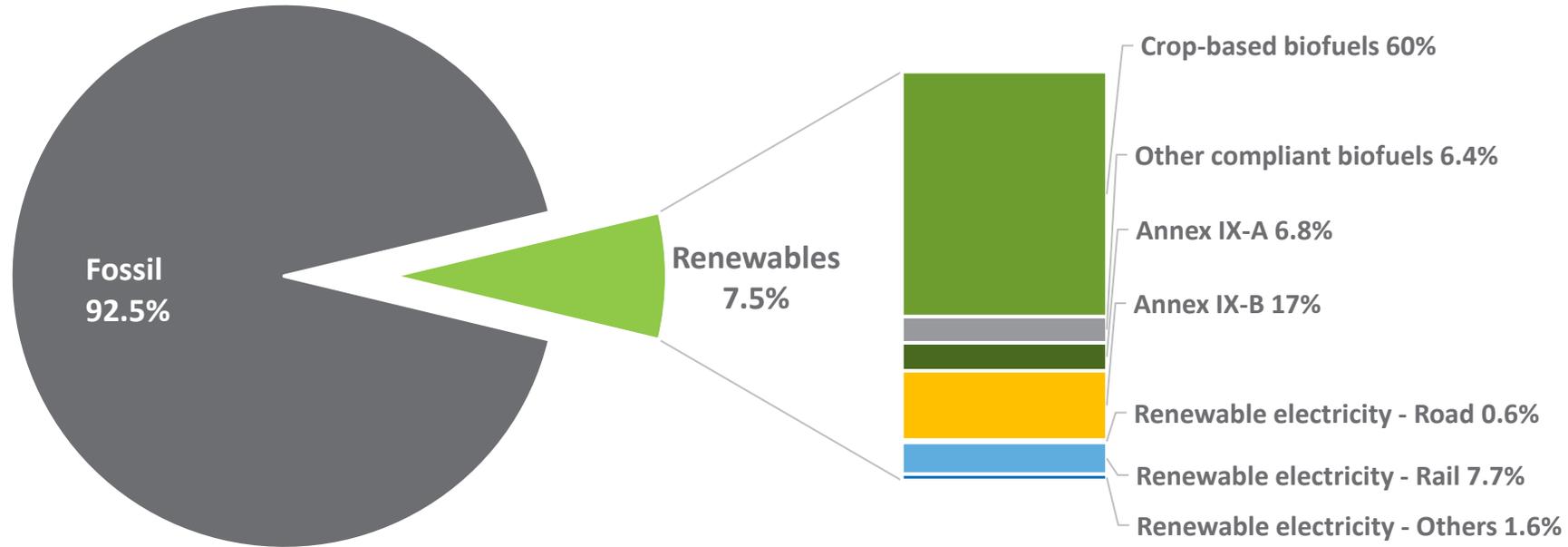
7.5% in reality

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%**

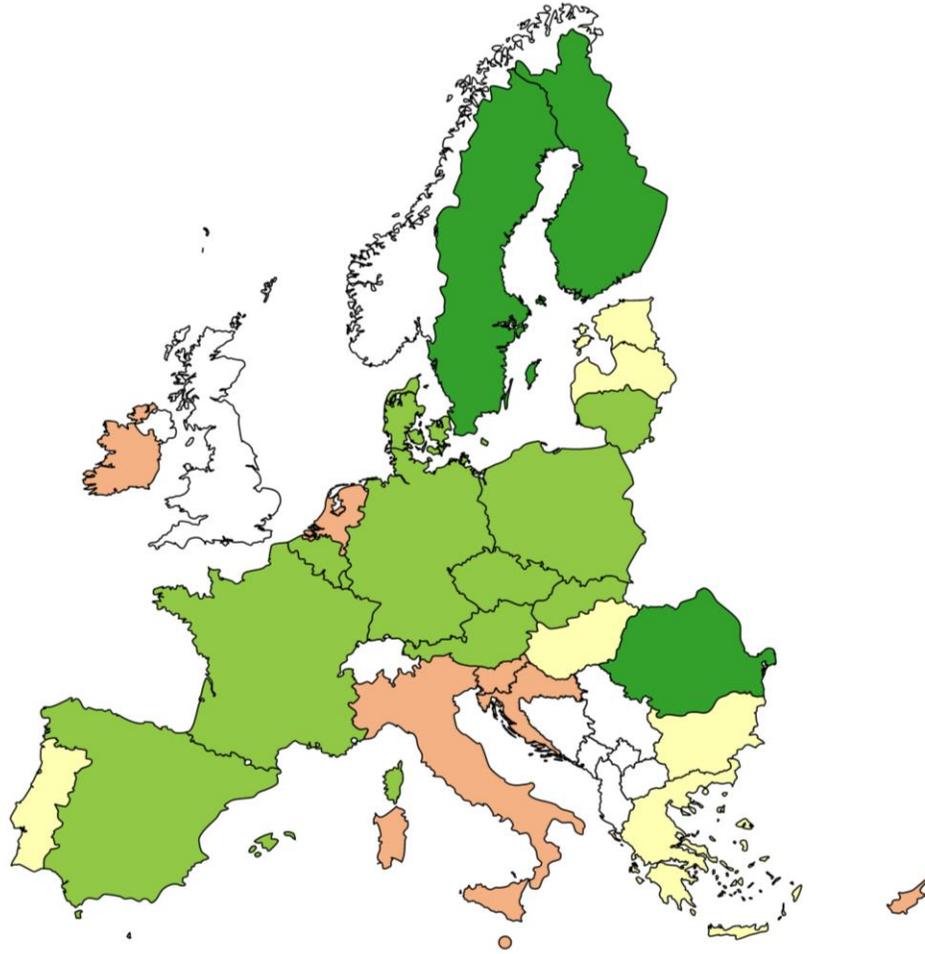
Renewables in transport

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%

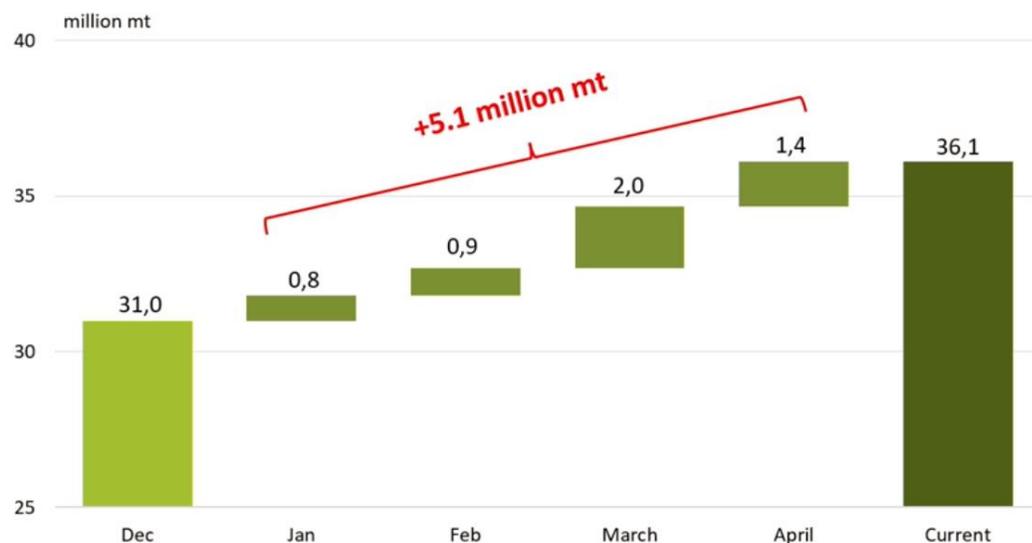
EU 27 average: 4.5%

Global market developments

Global sugar production

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

INDIA 2021-22 SUGAR ESTIMATES

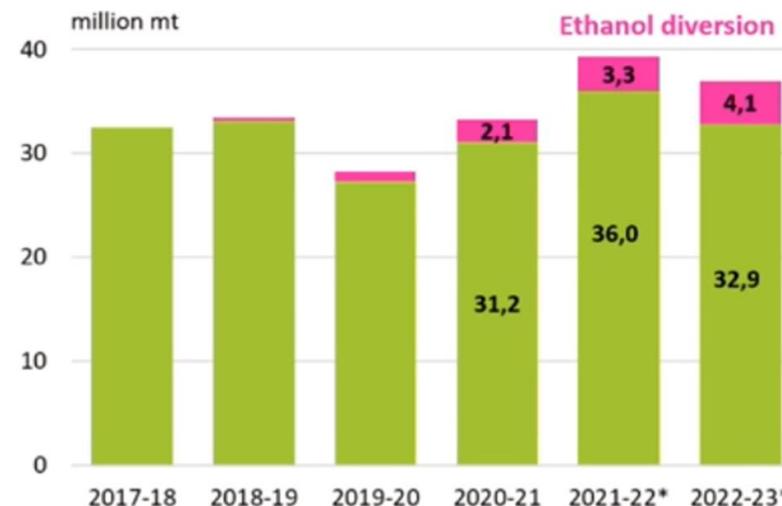


Source: S&P Global Commodity Insights

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

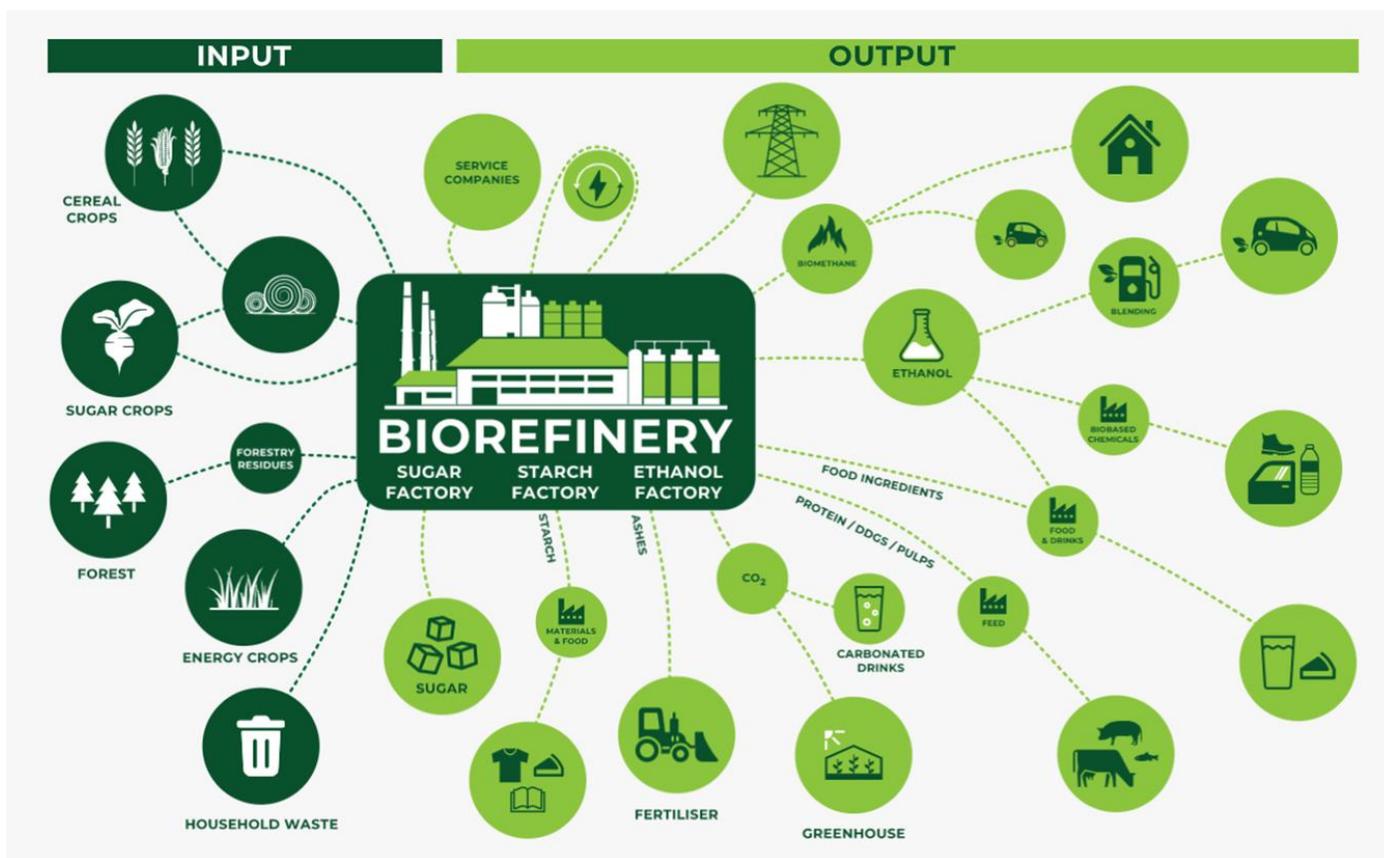
Reducing biofuel blending mandates...

... 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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