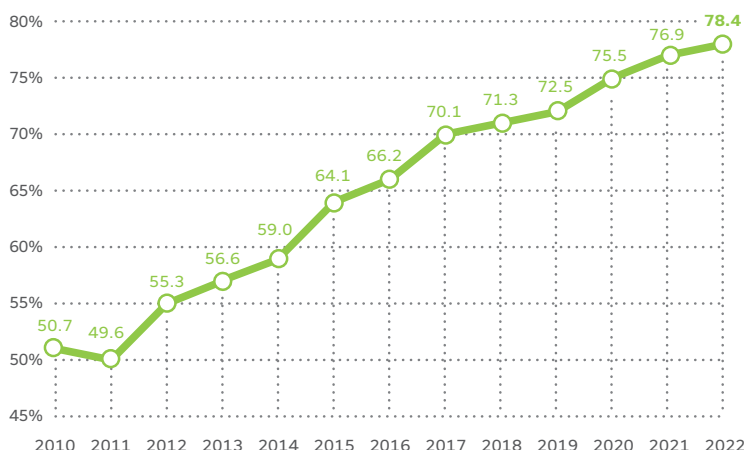


In 2022, ePURE members produced **4.5 million tonnes (5.71 billion litres)** of ethanol and **5.9 million tonnes of food and feed co-products**, including high-protein animal feed – in other words, **more food than fuel**. All of the crops used were **grown by European farmers**. 84.7% of the ethanol produced was for fuel use, with an average of **78.4% GHG savings compared to petrol**.

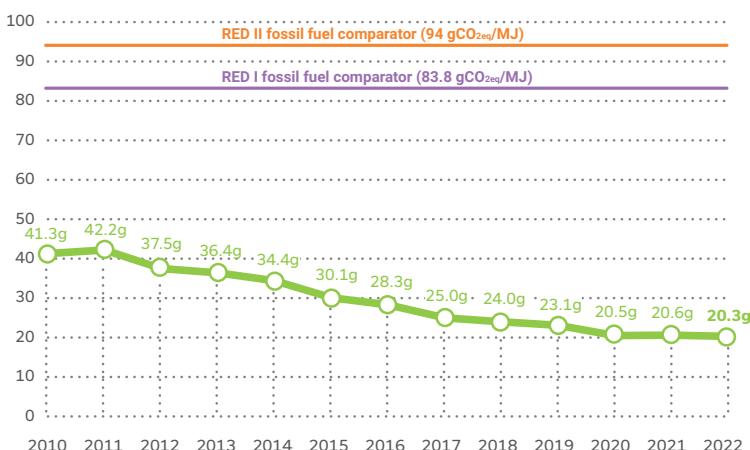
Average certified GHG emission savings in %

Since 2011 the average certified greenhouse gas emission savings of renewable ethanol against fossil fuel have increased continuously, reaching 78.4% in 2022.



Source: Aggregated and audited data of ePURE members for volumes certified under RED I or RED II methodology

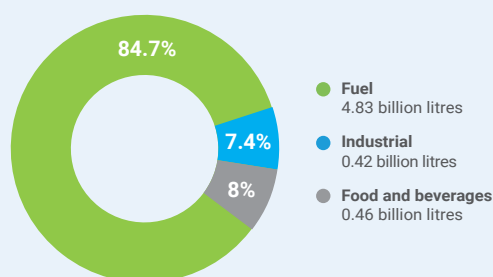
Average certified GHG emissions from the production and use of fuel ethanol in gCO_{2eq}/MJ



Source: Aggregated and audited data of ePURE members for volumes certified under RED I or RED II methodology

Renewable ethanol production by end-use

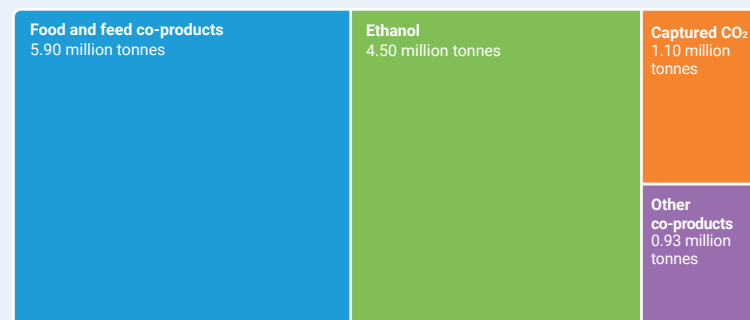
In 2022, ePURE members produced 5.71 billion litres of ethanol, operating at 79.8% of their 7.16 billion litres of installed capacity. Fuel accounted for 84.7% of the use; other markets, such as industrial applications and beverages, represented 7.4% and 8% respectively.



Aggregated and audited data of ePURE members. Ethanol volumes in pure alcohol

Main output of European renewable ethanol plants

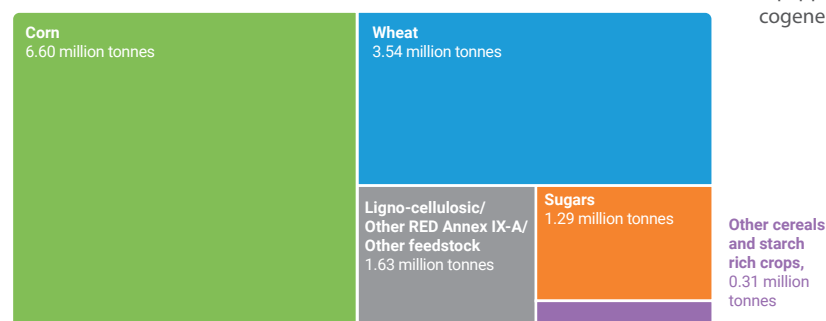
In 2022, ePURE members produced more food and feed co-products than ethanol: of the 7.93 million tonnes of co-products produced by biorefineries, 5.90 million tonnes were food and feed co-products.



Aggregated and audited data of ePURE members. Ethanol – pure alcohol; Food and feed co-products – commercial product equivalent; Other co-products – commercial equivalent

Feedstock used to produce renewable ethanol

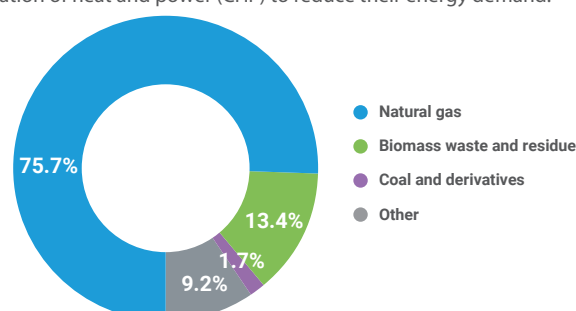
All the feedstock used to produce renewable ethanol by ePURE members was grown in Europe. Of the 5.71 billion litres of ethanol produced in 2022, 47.8% was from corn, 22.3% from wheat, 13.9% from sugars, and 1.9% from other cereals and starch-rich crops.



Source: Aggregated and audited data of ePURE members. Sugars – sugar equivalent; Ligno-cellulosic/Other RED Annex IX-A/Other – dry matter equivalent

Share of installed production capacity per type of process energy

ePURE members are improving production processes for renewable ethanol. In 2022, more than 53% of ePURE members' installed production capacity was equipped with a CO₂ capture system, and more than 70% had integrated cogeneration of heat and power (CHP) to reduce their energy demand.



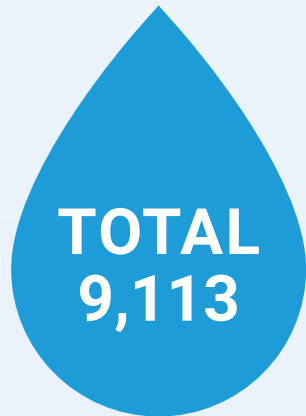
Aggregated and audited data of ePURE members; based on ePURE members' total installed production capacity



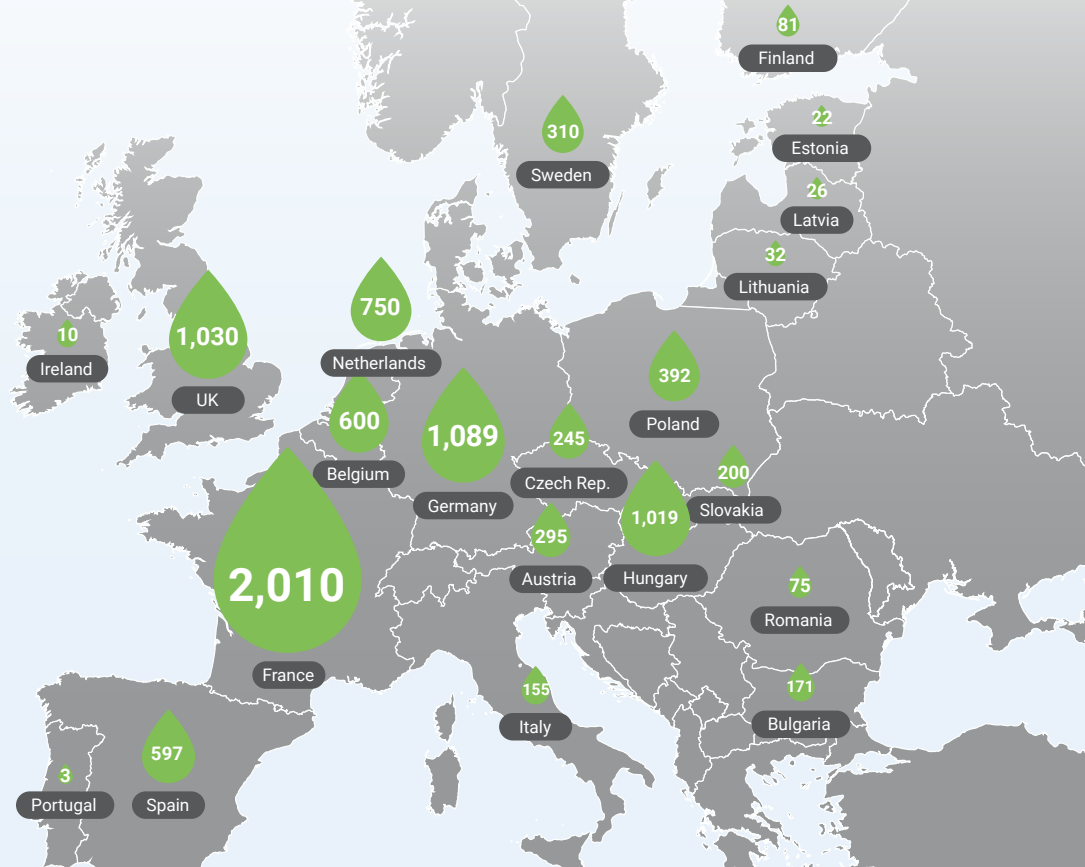
Renewable ethanol market at a glance – 2022

EU27 + UK renewable ethanol installed production capacity (Million litres)

*Includes non-ePURE members. ePURE members account for 7.16 billion litres of total European production capacity.

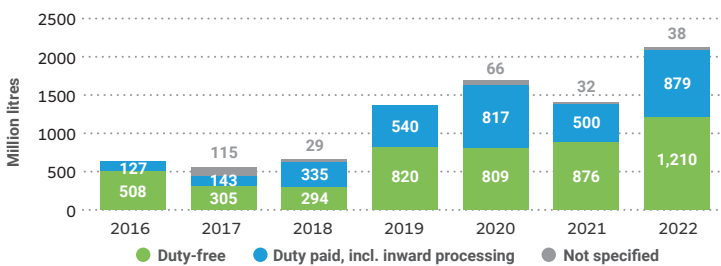


Source: ePURE estimates for ethanol fermentation capacity based on F.O. Licht



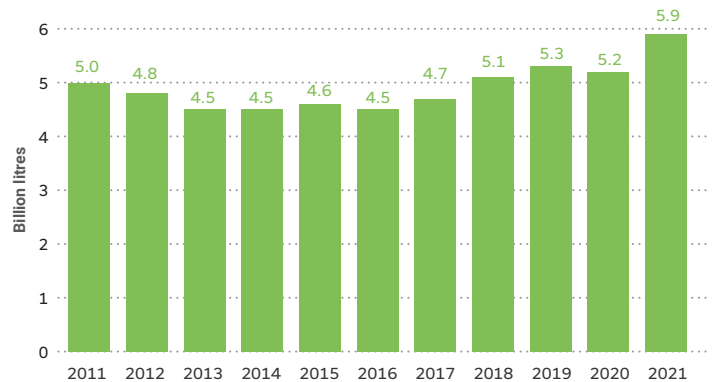
Imports of ethanol into the EU27

EU27 ethanol imports reached a record-high 2,127 million litres in 2022, an increase of 51% compared to 2021. Imports from countries enjoying duty-free access to the EU accounted for the majority of imports with 57%, compared to imports subject to duties including inward processing, representing 41%. These include imports from the US, which increased by 72% in 2022 compared to 2021, reaching 470 million litres, and imports from Brazil, which increased by 131% reaching 333 million litres in 2022. Pakistan is the largest importer in 2022, reaching 496 million litres in 2022, a 197% increase, while benefitting from duty exemption under the GSP+ regime.



Source: Eurostat EU28 imports until 2019, EU27 imports without the UK as of 2020

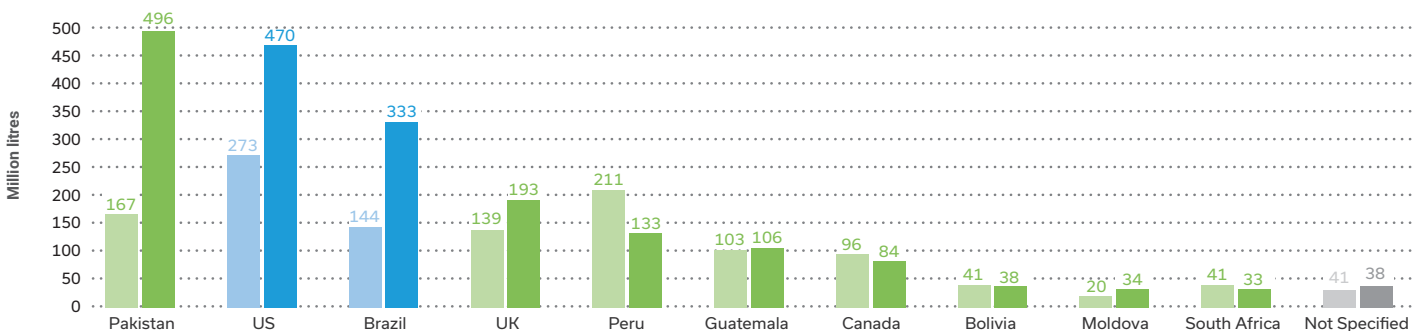
EU27 biogasoline consumption



Source: Eurostat

Biogasoline: liquid biofuels suitable to be blended with or to replace motor gasoline from fossil origin e.g. ethanol, methanol and the share of ETBE and MTBE from biomass

Top 10 origins of EU ethanol imports



Source: Eurostat; EU 27 imports

2021 Duty-free or reduced duty 2022 Duty-free or reduced duty 2021 Duty paid 2022 Duty paid