

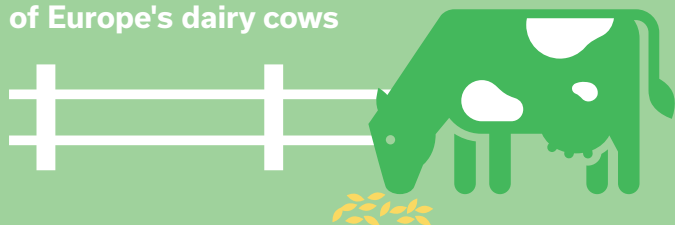
Some critics claim that renewable ethanol competes with food production and uses too much land. Let's look at the facts...

1. It's 'food AND fuel'

There is no 'food vs fuel' conflict. Fuel ethanol production contributes to food supply

- The UN Food and Agriculture Organisation¹ and the International Food Policy Research Institute² confirm that biofuels and food production can be mutually supportive.
- Every tonne of grain used by the ethanol industry produces as much animal feed as it does clean-burning, climate-friendly biofuel. **In 2015, EU ethanol biorefineries produced 5 million tonnes of high-protein, GMO-free animal feed. That's enough to feed at least 4 million dairy cows – at least 17% of the EU dairy herd.**
- The animal feed resulting from EU ethanol production is crucial to reducing the EU's heavy reliance on imported protein-rich animal feed – which in 2015-16 was 62% of its demand. **EU biofuels production is responsible for nearly 40% of the protein-rich animal feed that is produced in the EU, in terms of pure protein.**³

EU ethanol biorefineries produce enough animal feed to feed 17% of Europe's dairy cows



EU biofuels production generates at least €6.6 billion revenue for EU farmers per year



2. Farmers reap the benefits

Biofuels production provides valuable income to EU farmers. It helps them to invest in farm productivity

- Since 2009 – when Europe's biofuels policy was introduced – EU farm income has increased by 35%.⁴
- **The production of crop-based biofuels in Europe generates at least €6.6 billion in direct revenue for EU farmers per year, and at least €2.1 billion in revenue is attributed to ethanol feedstock.** This additional income helps farmers invest in food and fuel production and improve their productivity and environmental sustainability.

3. Renewable fuel, affordable food

Even as EU biofuels production has increased, global food prices have gone down

- EU biofuels production has increased by 68% since 2008⁵ – but overall global food prices have decreased by 20% during the same period.⁶
- Since 2008 the global prices of grains – which make up by far the largest share of crops used to produce EU fuel ethanol – have declined by almost 40%.⁷
- In a 2017 report, the European Commission confirmed that **the EU biofuels policy has not led to negative impacts on food prices, nor will it by 2020.**⁸
- Over 60% of food price increases are caused by crude oil prices, not the production of biofuels. By displacing fossil fuels, biofuels can mitigate the effect of crude oil on food prices.⁹

Since 2008...

EU biofuels production increased  68%

while global food prices dropped  20%

Fuelling Europe, feeding the world: 5 things you need to know about food security and biofuels



Only **2%** of EU grain production is used for fuel ethanol production

4. Agriculture that works for all

Fuel ethanol production does not compete with food supply. Crops used to produce EU fuel ethanol are surplus and come from agricultural productivity improvements

- **European fuel ethanol production uses a minuscule share of crops:** only 2% of EU grain production (or 0.3% of global production) and 11% of EU sugar production (or 1% of global sugar production)¹⁰ – not enough to reduce grain or sugar supply to food markets or affect food prices.
- **World grain production is at a record high – increasing by 14%**¹¹ since 2008 – and outstrips demand. That means more grain is available now than ever before. Between 2003-15, EU grain production grew 25%.¹²
- **Fuel ethanol production in Europe does not compete with any other grain uses.** Between 2008-2015 the EU produced 78 million tonnes of surplus grains which were neither used for food nor exported. Of that surplus, 90% was used to produce fuel ethanol.¹³

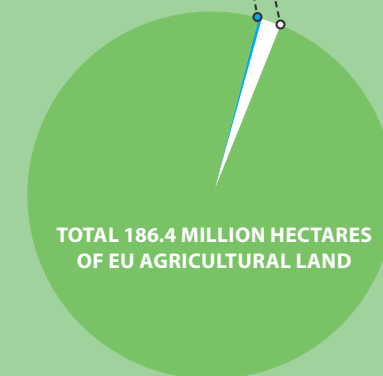
5. A sustainable source of homegrown energy

Fuel ethanol production in Europe uses a small amount of land – and does not cause deforestation

- **More than 99% of all crops used to produce EU ethanol are grown sustainably in Europe.** They are not imported from developing countries or responsible for land grabs or deforestation.
- In 2015, EU fuel ethanol production used 19 million tonnes of EU-grown crops and residues – **the equivalent of 0.5%**¹⁴ **of the EU's total agricultural land, or just 0.02% of global agricultural land use.**¹⁵
- **EU fuel ethanol production does not contribute to land expansion nor compete with agricultural land for food production because there is ample land available.** In the EU, 174.6 million hectares of agricultural land use is being used¹⁶ out of a total 186.4 million hectares of agricultural land.¹⁷ The nearly 12 million hectares of unused farm land is more than ten times the land area used for EU fuel ethanol production.
- Between 2003-2015 EU agricultural land use declined by 5%.¹⁸ **The EU is now producing more crops on less land mainly due to productivity improvements in EU farming.**

EU agricultural land

6% of agricultural land is unused
0.5% of agricultural land is used to grow crops for fuel ethanol



Renewable ethanol drives
EU decarbonisation.
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¹⁰UN Food and Agriculture Organisation Director General José Graziano da Silva speaking at the Global Forum for Food and Agriculture (2015)

¹¹Reconciling Food Security and Bioenergy: Priorities for Action, International Food Policy Research Institute (2016)

¹²EU protein balance sheet, European Commission (2017)

¹³Eurostat, European Commission (2017)

¹⁴Eurostat, European Commission (2017)

¹⁵World Food Price Index, UN Food and Agriculture Organisation (2017)

¹⁶World Food Price Index, UN Food and Agriculture Organisation (2017)

¹⁷Renewable Energy Progress Report, European Commission (2017)

¹⁸Long-Term Drivers of Food Prices, World Bank (2013)

¹⁹ePURE; European Commission; UN Food and Agriculture Organisation (2017). Data for the year 2015-16.

²⁰Cereal Supply and Demand Brief, UN Food and Agriculture Organisation (2017)

²¹Eurostat, European Commission (2017)

²²EU Cereals balance, European Commission (2017)

²³ePURE; Joint Research Center, European Commission (2017). Data for the year 2015-16.

²⁴FAOSTAT, UN Food and Agriculture Organisation (2017)

²⁵Eurostat, European Commission (2017)

²⁶Eurostat, European Commission (2017)

²⁷Eurostat, European Commission (2017)