The transport sector is currently responsible for almost one quarter of EU’s greenhouse gas emissions; a prompt shift to low-emission mobility is key to decarbonising the European economy. Biofuels such as bioethanol and biodiesel are effective at curbing GHG emissions and require no major vehicle or infrastructure changes. They should be allowed to play a much larger role in decarbonisation.

EU transport is still heavily dominated by fossil fuels, as shown in the graph above. In 2017 oil represented 93% of final energy consumption in transport while low-emission and renewable solutions still account for a very marginal portion (about 5%). The highest contribution to renewable energy in the EU transport system is covered by sustainable biofuels and biomethane (89% of renewable energy in transport), whose consumption grew in the last decade – with a setback in 2011, due to lengthy implementation of Renewable Energy Directive at a national level.
Biofuels production and resource efficiency

As shown in the pie chart below, the output of EU renewable ethanol plants maximises resource efficiency. Indeed, from ethanol processing other important co-products are obtained such as animal feed and captured CO₂.

Sustainable biofuels and food production go hand in hand. Several crops used to produce biofuels can also provide protein-rich animal feed, which the EU currently imports in large quantities. If such production were domestic, the EU would help mitigating the negative effects of land use change caused by soybean production in third countries (deforestation, for instance).

Circular economy

The principle of the circular economy is well applied by the EU biofuels industry. Indeed, in recent years the use of animal fats and used cooking oil (UCO) to produce biodiesel has significantly grown and now represents more than one quarter of the feedstock for biodiesel production.

1. Recognise the important role of biofuels in transport decarbonisation now and in the decades to come. While all available alternative fuel options will be needed to decarbonise EU transport sector, conventional biofuels are already contributing with no systemic or fleet change required. In the future, the combination of renewable electricity-based, biofuels and other low-carbon solutions will curb the current high level of GHG emissions.

2. Ensure R&D incentives and support to accelerate market deployment of advanced biofuels keeping in mind that companies support their investments in advanced biofuels through the production of conventional biofuels.

3. Ensure investment predictability and guarantee continuity by reflecting the recent Renewable Energy Directive provisions and sustainability criteria in any long-term policy. Regulatory consistency will help mobilise the investments needed to meet the EU’s long-term decarbonisation objectives.

4. Revise the Energy Taxation Directive to be in line with EU climate and energy policy, promoting for example a carbon tax on fossil fuels. The current Energy taxation’s volume-based approach has led to the detrimental situation in which fossil fuels are taxed at lower rates than their low-carbon and renewable alternatives.

5. Increase aviation biofuels availability. Biofuels can play a key role in curbing aviation and maritime emissions. The commercialisation of novel advanced aviation biofuels need further support by research and development. However, increasing the use of biofuels in aviation and maritime sectors requires policy interventions on international and national level.