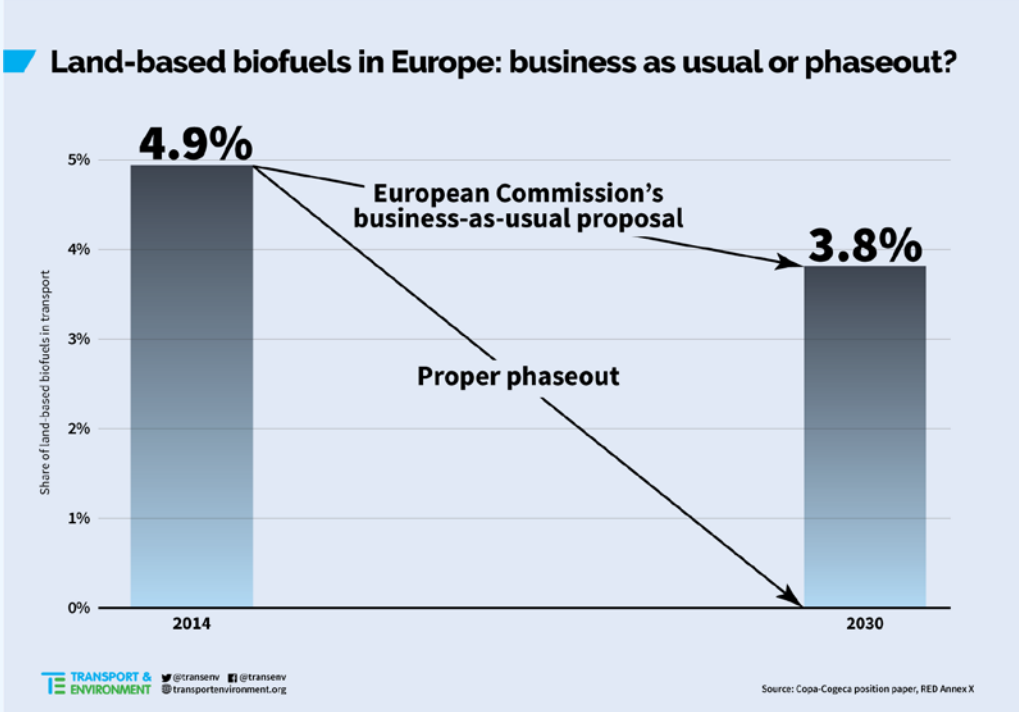
Draft 2030 biofuels proposal: a brief impact assessment

November 2016

Summary

Last July, the European Commission's Strategy for Low Emission Mobility promised a 'phaseout of food-based biofuels' (labelled first-generation biofuels or '1G biofuels' in this note for brevity). However, this promise of a phase-out is not visible in Annex X of a leaked draft proposal of the Renewable Energy Directive (RED).

The leak points to the Commission's intention to keep 3.8% of 1G biofuels in transport fuels in 2030. This is only 1.1 percentage point less than the 4.9% share of 1G biofuels in transport in 2014.



In this briefing T&E analyses:

1. How much would the Commission's draft proposal increase EU transport greenhouse gas (GHG) emissions in the 2021-2030 period compared to a 'proper' phase-out of 1G biofuels?;

2. How much underestimation of EU transport GHG emissions in the 2021-2030 period would the draft proposal lead to – as a result of the zero-counting of biofuels – compared to a 'proper' phase-out of 1G fuels?

The draft Commission proposal contains a trajectory to decrease the limit ('cap') on 1G biofuels from 7% of transport energy in 2020 to 3.8% in 2030. The annual decrease proposed is 0.3 of a percentage point from 2021 to 2025 and 0.4 of a percentage point from 2026 to 2030. For this analysis we calculate biofuels

used as percentage of fuels used in road and rail transport only, in line with the original 2020 RED. If we calculated as a percentage of fuels used in all transport modes, the emissions would be even larger, as the volumes would be bigger.

We define a 'proper' phase-out to be a linear downward trajectory from 2020 towards 0% 1G biodiesel in 2025 and 0% 1G bioethanol in 2030. This translates to an annual decrease of the cap by 1 percentage point from 2020 to 2025 for biodiesel and 0.17 of a percentage point for bioethanol for the 10-year period.

These calculations assume the maximum amount of 1G biofuels allowed between 2020 and 2030 corresponds to the trajectory defined in the leaked draft policy. The exception is 2020 and 2021 when the cap is 7% but Globiom estimates a real-world use of 1G biofuels to be 6.7%.

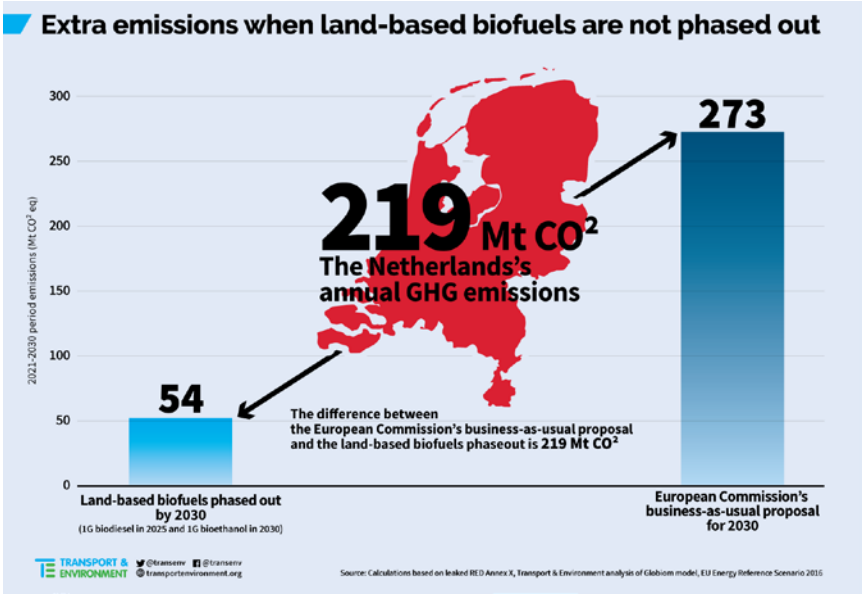
To estimate the GHG performance of 1G biofuels, we used the T&E analysis of the Globiom modelling study on land-use emissions caused by the EU biofuels policy. 1G biodiesel has emissions 81% higher than its fossil fuel counterpart, while 1G bioethanol has 33% lower GHG emissions than fossil fuels. A weighted average of the biofuels mix in 2020 shows that 1G biofuels have GHG emissions **52%** above those of the fossil fuel they replace.

We estimated an annual *increase* in EU transport GHG emissions resulting from 1G biofuels use by multiplying the level of the 1G biofuel percentage cap by the emissions impact of 1G biodiesel and bioethanol in 2020 compared to fossil emissions for each year. This was multiplied by the total transport GHG emissions from the 'Energy, transport and GHG emissions trends to 2050 EU Reference scenario'[1].

We calculated the *underestimation* of EU transport GHG emissions with a similar method, except that we added the combustion emissions from the biofuels, which are the same as those from fossil petrol and diesel. We did this because currently the official accounting of GHG emissions sets biofuel combustion emissions at 0.

The total cumulative emissions for the period is a sum of the years 2021-2030.

1. The Commission's proposal of 3.8% of 1G biofuels in 2030 would result in **219 MT of additional emissions,** compared to a 'proper' phase-out to no 1G biofuels in 2030. The 219 MT difference is equivalent to the Netherlands' total GHG emissions in 2014.



[1] https://ec.europa.eu/energy/en/news/reference-scenario-energy

2. The total *underestimation* of transport GHG emissions resulting from the Commission proposal compared with a 'proper' phase-out is 478 MT, the difference between the draft Commission proposal 800 MT and 322 MT in our phase-out proposal. The difference is equivalent to France's total GHG emissions in 2014.

What should happen now

- The Commission's proposal should ensure that biodiesel is completely phased out in 2025 and bioethanol in 2030;
- The 'phase-out' needs to mean that all 1G biofuels above the EU-wide cap cannot count towards member states' renewable energy targets. This is already the case with the current 7% cap
- 1G biofuels should not count towards member states' climate targets under the Effort Sharing Regulation (ESR). As long as member states can count all 1G biofuels as having zero emissions under the ESR, they will have a strong incentive to keep blending them in their transport fuels, because on paper this contributes to their ESR obligations. In reality, zero counting of emissions results in an increase of GHG emissions. As explained above, the draft proposal would introduce a 478 MT loophole, the size of France's annual emissions, compared to a 'proper' phase-out.

Further information

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