

THE CONTRIBUTION OF BIOFUELS IN TRANSPORT SUSTAINABILITY POST- 2020

EXECUTIVE SUMMARY

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The new Commission 2030 framework on climate and energy excludes mandatory targets for GHG reduction in transport and for the share of renewables in the transport energy mix. This is expected to affect the sustainability of transport. This report provides different scenarios on what the new framework may entail in terms of transport sustainability and CO₂ emissions.

The first scenario forecasts a *'business-as-usual'* development of biofuels following deployment of current legislation (i.e. FQD 2009/30, RED 2009/28). The second scenario (*"no biofuels"*) simulates the impact of the approval of present Commission proposal assuming the same development of energy consumption in transport, yet absence of post 2020 targets leads to gradual shift back to 100% fossil fuels basis and 0% biofuels content is assumed from 2025. The third scenario (*"dynamic"*) provides for an average increase to 80% for biofuels GHG savings in 2040, achieved mainly by reducing the CO₂ intensity of inputs and by diversifying feed-stocks (increased use of waste and residues).

Incidence on biofuels incorporation in transports

The report highlights that if the present Commission proposal was to be adopted, **transport, which represents today 27.8% of total EU man-made CO₂ emissions, would increase up to represent 45% of total EU emissions (all sectors) in 2050.** This could be curtailed to approximately 40% with the use of biofuels. In the medium term, the abolishment of biofuels is projected to lead to an additional 77-90 Mt of CO₂ emissions by 2030, depending on the scenario considered. **This equals to 2.7-3.1% of total man-made CO₂ emissions in 2030 that will otherwise have to be reduced in the other sectors or with other technical means.**

Forecast evolution of CO₂ emissions in transport to 2050

If EU target policies (RED and FQD) will be abandoned in the EU transport sector, then it should be expected that the role of biofuels will decrease, with significant negative consequences on the contribution of transport to total greenhouse gas emissions and increasing risk of failing the renewable energy targets.

If biofuels input was to be substituted by electric vehicles, this would require several million of electric vehicles by 2020 to achieve the same renewable energy contribution (taking into account the higher efficiency of electric vehicles and the sustainability index of electricity). This means that reaching the renewable targets without biofuels requires unrealistic numbers of total electric vehicles circulation, especially in the short to medium term.

Important additional burden shift on other sectors of EU economy (especially non-ETS) to reduce increasing GHG in transport

This study concludes that the softening or abolishment of biofuel specific targets in transport will bring significant additional burden to other transport modes. This becomes increasingly challenging given that the target for total CO₂ reductions has been set to 40% in 2030. Without biofuels in place, the reduction of CO₂ will fall into engine efficiency improvements, alternative fuels, infrastructural changes, and others. Beyond the technical difficulties that this raises, it also results to additional costs and to potential obstacles due to the behavioural changes that such modifications require.

Under present Commission announced strategy, the biofuel use in road transport will shrink and GHG in transport corresponding reductions will have to be reached by other sectors and mainly by non-ETS sectors such as the building and agriculture. The interim targets for GHG reductions in the non-ETS sectors are 30% lower emissions in 2030 than in 2005.