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Mid and long term potential for advanced biofuels in Europe

Report of EC DG RTD

Research and Innovation (R&I) plays a central role in developing advanced biofuels technologies to help achieve the EU's climate and energy targets. This study examines the R&I potential for feedstock production, advanced biofuels production, and use of advanced biofuels. The study quantifies R&I potential under future scenarios where EU targets are met. Improving feedstock supply and reducing conversion costs through research and innovation resulting in an increase of feedstock availability by 40-50 %, will contribute to the development of advanced biofuels.

With successful R&I and attainment of the 2050 EU targets, advanced biofuels could achieve (i) close to a 50 % share of the overall transport sector energy mix, (ii) achieving 330 Mt of net emission savings, in case they replace fossil fuels, or 65 % of the required emission savings needed, compared to 1990 levels, in order to meet the target of the transport sectors emissions by 60 %¹, (iii) a market volume of 1.6 % of EU's GDP, and (iv) significantly improve energy security. This would result in a net increase of 108 000 jobs, even taking into account the 11 000 jobs reduction in fossil fuel sectors and the reduced employment in other sectors, without impacting negatively EU's GDP. This is a particularly noteworthy positive impact, considering that it mainly comes from the substitution of currently existing energy demands.

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