

Quantification of European Biomass Potentials

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Anthropogenic climate change and staggering greenhouse gas (GHG) emissions represent essential topics of our society. With the 2030 Climate Target Plan, European Union (EU) member states ambitiously commit to reducing GHG emissions to at least 55% below 1990 levels by 2030, achieving EU-wide climate neutrality by 2050 [1]. Precise planning of emission reduction activities plays an essential role in the fruition of counter-measures. Especially, the use of biogenic residues in a bio-based circular economy can significantly contribute to the achievement of emission reduction targets. Creating an understanding of the spatial distribution of biogenic residues in the EU is thus of great importance for the transition to a sustainable bioeconomy.

As part of the implementation of the EU funded research project HyFlexFuel (Grant Agreement No 764734), the DBFZ Deutsches Biomasseforschungszentrum gemeinnützige GmbH quantified and spatially analysed the distribution of multiple agricultural and urban residues within EU-27 countries and the United Kingdom. Geographic information systems (GIS) were used to superimpose region-specific statistical information with spatially-explicit geographic datasets to identify the minimum as well as maximum technical biomass potentials for various administrative levels. Information on the availability of eleven feedstocks (cereal straw, grain corn straw, rapeseed straw, rice straw, sugar beet leaves, sunflower straw, cattle excretions, pig excretions, poultry excretions, biowaste from private households, sewage sludge) is included in the downloadable dataset. With this information, regional differences in feedstock availability can be displayed and preference areas identified on national (NUTS-0) as well as on sub-national level (up to NUTS-3).

The data sets provided in this publication are continuously updated and harmonized through further projects. The corresponding metadata file contains additional information about the analysis as well as references. In addition to that, the enclosed flowcharts comprise graphically prepared information on the data sources and calculation methods used for the quantification of biomass potentials.

[1] European Commission, "Kick-starting the journey towards a climate-neutral Europe by 2050. EU Climate Action Progress Report. November 2020.," Available from: https://ec.europa.eu/clima/sites/clima/files/strategies/progress/docs/com_2020_777_en.pdf.