Biobased Industries Consortium

Sustainable bioenergy contributes to the EU's long-term decarbonisation target

Position of the Bio-based Industries Consortium on the EU Renewable Energy Directive, April 2017

The European Commission's proposal for a recast of the Renewable Energy Directive (RED II)[1] for the period 2020-2030 promotes renewable electricity, cleaner heating and cooling and decarbonising of the transport sector to achieve the EU's 27% renewable energy target by 2030. RED II includes specific measures to promote sustainable bioenergy and renewables in the transport sector. The aim is to accelerate the deployment of low-emission and renewable energy such as biofuels and electricity for transport.

The role of sustainable bioenergy, biogas and biofuels in the bioeconomy

The bio-based industries offer solutions to global challenges, such as climate change mitigation, scarcity of raw materials and population growth, by substituting fossil-based products with bio-based alternatives made from renewable raw materials. One of the aims of the bioeconomy is the sustainable transition towards a post-petroleum society. Sustainable bioenergy and biofuels are an integral part of the bioeconomy and are key to supporting the shift to a more sustainable society.

Sustainable bioenergy plays an important role in climate change mitigation. In the EU, bioenergy represents about two-thirds of renewable energy production. Most bioenergy is produced from agricultural and forestry residues. For example, the forest industry is a significant producer of bioenergy produced from harvesting residues and industrial side streams. Combined heat and power is a very cost- and resource-efficient way to produce bioenergy.

Sustainable biofuels also contribute to climate mitigation and reduce dependence on oil. In 2014, 64,5% of the oil consumption was used in the transport sector.[2] Renewable ethanol transport fuel reduces greenhouse gas (GHG) emissions; EU Member States have reported net savings of 64% on average in GHG emissions resulting from the use of renewable energy in transport, mostly coming from the use of biofuels.[3] Today, the share of biofuels in transport is 5%.

The biorefinery concept[4] is analogous to the basic concept of a conventional oil refinery: biorefineries produce a variety of bio-based products, bioenergy, biogas and biofuels from renewable feedstocks. Over the past years, the bio-based industries have been growing in several areas including hygiene and packaging solutions, new bio-based products and bioenergy in the form of combined heat and power.

However, a series of innovative bio-based products such as advanced biofuels face a number of barriers, which have shifted from technological to policy and financing. The commercialisation of bio-based products depends on policy, as it must be acknowledged that new innovative technologies are not yet cost competitive with fossil alternatives. Moreover, in recent years, investors and lenders have become increasingly risk averse.

A level playing field for the bio-based industries

Access and availability of sustainable biomass are critical for the bio-based industries. EU policies should promote:

- A level-playing field for the bioeconomy vis-à-vis fossil fuel uses (e.g. taxation);
- A level-playing field between the different sustainable uses of biomass. Support schemes for bioenergy and biofuels should not distort bio-based markets;
- A resource-efficient use of valuable raw materials, which takes into consideration the availability of sustainable raw materials and circular economy aims as well as cascade use principles.

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[1] https://ec.europa.eu/energy/en/topics/renewable-energy/renewable-energy-directive

[2] https://www.iea.org/publications/freepublications/publication/KeyWorld2016.pdf

[3] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017DC0057&qid=1488449105433&from=EN

[4] http://biconsortium.eu/sites/biconsortium.eu/files/downloads/BIC_fact_sheet_Biorefeneries_Sep2016.pdf

Promoting a level-playing field and efficient use of biomass does not mean no longer supporting sustainable bioenergy. It means ensuring that other sustainable bio-based products also benefit from favourable frameworks (similar or different depending on Technology Readiness Level and specific needs) and access to biomass at a competitive price (and in a market where prices are not distorted).[5]

Renewable energy in transport and sustainable use of raw materials

The RED II aims to accelerate the deployment of low-emission and renewable energy for transport by promoting advanced biofuels, biogas and electrification. The RED II sets a specific quota share for fuel suppliers (6.8% by 2030) and a sub-target for advanced biofuels and biogas (3.6% by 2030). Advanced biofuels are defined by a limited list of feedstocks set out in Annex IX, part A.

The transport sector needs to be decarbonised in a cost and resource efficient way. To achieve the EU's climate and energy targets, all sources and solutions of renewable energy need to be considered. At the same time, it is important to ensure that policies are technology neutral, as low-carbon technologies are developing fast.

The bio-based industries currently produce renewable energy sources (RES) such as advanced biofuels and biogas – transport solutions and energy – from sugar, starch, waste and residues, as well as from excess electricity from bio-based pulp and paper mills.

Based on experience in the EU and around the world, the use of binding targets or blending mandates have proved essential for the commercialisation of biofuels. These mechanisms have helped in carving out a market share for biofuels in an environment dominated by fossil fuels. It has also helped the innovation cycle to go further and reduce the cost of technology.

Today, the same is needed for advanced biofuels and biogas. They have reached the necessary Technology Readiness Level (TRL) to be deployed and commercialised and progressively reach economies of scale. In the past, the European Commission has tried to support them through the introduction of a multiple counting mechanism. It has proved unsuccessful. A dedicated, ramping-up obligation for advanced biofuels and biogas by 2030, together with sustainability criteria for raw materials and production of these fuels, would provide a clear, stable and long-term framework, suitable to their deployment. The RED II recast provides the opportunity to introduce such a demand-driven policy by 2030, therefore complementing and reinforcing the objectives of the Bio-based Industries Joint Undertaking (BBI JU) and the Bio-based Industries Consortium (BIC).

At the same time, the policy measures should consider the availability of sustainable raw materials and should not distort competition on raw material markets.

Sustainable conventional biofuels significantly contribute to the EU long-term decarbonisation target. These commercially available biofuels are already part of the bioeconomy, as well as the current EU renewable energy mix, and are contributing to GHG emission reductions in transport, providing a stepping stone towards new technologies. The proposal in the RED II of a gradual phase out of all conventional biofuels would prevent sustainable biofuels from playing a role in decarbonising the transport sector, discourage investment in new technology and lead to job losses. Europe needs sustainable conventional biofuels to meet its EU's climate and energy goals for transport.

About the Bio-based Industries Consortium

The Bio-based Industries Consortium (BIC) is the private partner in the Bio-based Industries Joint Undertaking (BBI JU), a Public-Private Partnership with the European Commission. BIC represents a unique mix of sectors, including agriculture/aquaculture, agri-food, biotechnology/technology providers, forestry/pulp and paper, chemicals, energy and end-users.
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[5] *Financial incentives (like feed-in-tariffs) for burning wood to produce electricity has had negative consequences on access to woody biomass for other bio-based industries and distorted the market with artificially higher prices for non-energy use of the same biomass.*