EERA Bioenergy presented its position paper on 'Bioenergy, biogas and biofuels: Research and innovation gaps in the European Union'

Marseille (France), 27th June, 2024.- In the framework of the 32nd European Biomass Conference & Exhibition (EUBCE), the European Alliance for Excellent Research in Sustainable Bioenergy -EERA Bioenergy- released a new report on 'Bioenergy, biogas and biofuels: Research and innovation gaps in the European Union', an update of the EERA Bioenergy Strategic Research and Innovation Agenda published in spring 2019, drafted to respond to the current momentum the energy landscape is going through from a scientific-technical perspective.

This document was elaborated by the EERA Bioenergy members, its Management Board and Secretariat in the first semester of 2024. **Myrsini Christou** (CRES), EERA Bioenergy Coordinator, explained that it identifies the main current R&I gaps in the fields of bioenergy, biogas, and biofuels (as well as bio-based products such as chemicals and materials), covering the whole value chain: From sustainable production of biomass, thermochemical and biochemical processes, stationary biomass, sustainability/techno-socio-economic analysis and public acceptance. She indicated that this document includes valuable suggestions regarding the way forward.

Wolter Elbersen (WUR), Subprogramme 1 Coordinator, introduced the first part of the position paper that addresses sustainable biomass production in the European Union. Elbersen highlighted the need to manage biomass commodities in the EU biomass markets, that "commodities are the solution, if there are too many standards, none of them will become a commodity". He analyzed the importance of mobilizing feedstock, "fully understanding the concept of circularity". Likewise, he indicated the need for supporting decisively innovative cropping systems to develop biomass-dedicated crops hybridised with agricultural crops and PV.

Berend Vreugdenhil (TNO), Subprogrammes 2 and 4 Coordinator, explained the research gaps for the thermochemical platforms. To speed up "we need up to 15 platform technologies demonstrated on a reasonable scale with distinct differences, we need these demonstrations to run at least 15 years, we need all relevant actors to collaborate within these demonstrations and we need complete value chains from feed to product be demonstrated".

Marcelo E. Domine (ITQ-CSIC), Subprogramme 3 Coordinator, highlighted that "the next generation of biorefineries will have to integrate schemes via cascade-type processes to co-produce more than one biofuel/bioproduct. In this line, he stated that "biorefinery products versatility is key for economic feasibility, we need also the same versatility in the plants to process the feedstock".

Raquel S. Jorge (NTNU), Subprogramme 5 Coordinator, dealt with the sustainability, economic and social aspects. Regarding sustainability criteria, she mentioned that "we also want to move to a most resilient system, in a more integrative way". In addition, she reflected on the macro-economic implications of bioenergy scale-up, how the development and widespread adoption of innovative bioenergy technologies can be funded, or "the need to analyse under which conditions are companies willing to invest in renewable technologies and which is the right moment to undertake investment decisions, given uncertainties in prices, demand, regulations/policies, existence of mature technologies".

Margarita de Gregorio, EERA Bioenergy Secretariat, highlighted the importance of this document to fastmoving R&D&I in bioenergy, biogas, biofuels and bio-based products in the EU to substantially contribute to the ambitious targets of key policies such as RePowerEU (which put forward a Biomethane Action Plan) and ReFuel Aviation as the sector has the capacities to do so. "Biocircularity solutions are the most direct applications (existent right now) in the energy transition we are immersed in as fossil gasses can be directly substituted by renewable (bio)gases, fossil fuels can be substituted by renewable (bio)fuels, and the same happens with other fossil-derived products (chemicals, etc.), those fossil molecules can be substituted by renewable (bio)molecules; which will allow our societies to phase out from a fossil-based economy to a bio-based economy".

Download: 'Bioenergy, biogas and biofuels: Research and innovation gaps in the European Union'

EERA BIOENERGY

EERA Bioenergy is the European Alliance for excellent research in sustainable bioenergy. The main European universities, research alliances, technology centres, scientific agencies, institutes and associations involved in R&D&I in bioenergy and bioeconomy are part of EERA Bioenergy, which currently comprises 46 members. Its main focus is addressing the challenges of the European energy and environmental policies from a research and innovation perspective and promoting international cooperation to accelerate the SET-Plan priorities.

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