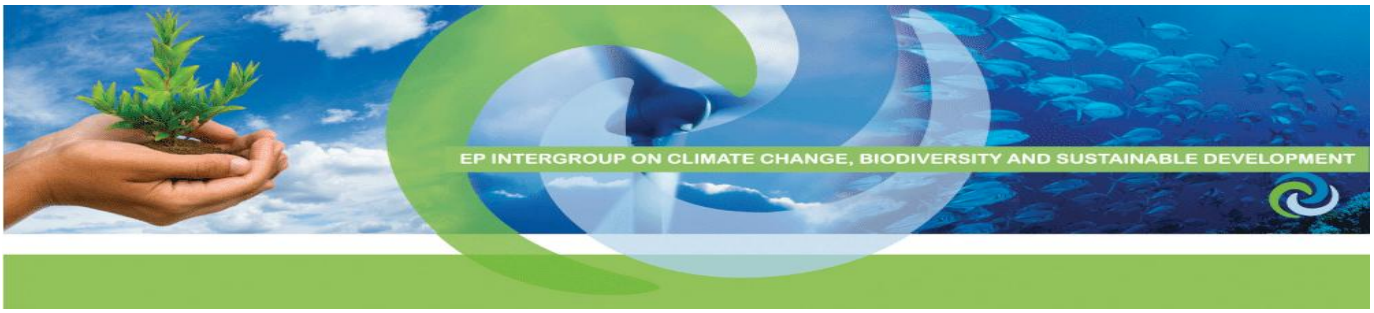

From research to reality:
How Europe's bioeconomy is leading the way to a truly circular economy

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Event Report



Across Europe, innovative companies are helping the bio-based economy bloom, contributing to the creation of jobs, spurring research and improving people's lives. This debate, chaired by MEP Miapetra Kumpula-Natri, put into the spotlight four European bioeconomy players, who have moved beyond research, and are already helping create a truly circular economy, showing a high potential for replication or scaling-up. The panel included:

- **MEP Franc Bogovič**
- **MEP Paul Brannen**
- **MEP Francesc Gambús**
- **MEP Miapetra Kumpula-Natri**
- **MEP Lieve Wiernick**
- **Philippe Dreno,** Algosource, France
- **Borja Fernández-d'Arlas,** Universidad Pública de Navarra, Spain
- **Raimo van der Linden,** Bioprocess Pilot Facility, The Netherlands
- **Stephen Webb,** RTDS Group, Austria

In her opening speech, **MEP Miapetra Kumpula-Natri** welcomed real world bioeconomy success stories, moving from research to ambitious actions. As Ms. Kumpula-Natri underlined, ''bioeconomy is the main contributor enabling a post-fossil fuel area''. Moreover, she welcomed the European Commission MFF proposal to dedicate 10bn € within Horizon Europe to food, agriculture and bio-based products, and mentioned that she will therefore support the proposal in ITRE Committee. Last but not least, Ms. Kumpula-Natri highlighted the upcoming DG RTD Bioeconomy strategy proposal, expected to be public by the end of the year.

EU projects funded under the Bio-Based Industries Joint Undertaking (BBI-JU): SUSFERT and SUSBIND:
Introduced by **MEP Franc Bogovič, Stephen Webb** from RTDS Group in Austria shared experiences from two EU-funded projects under the BBI-JU. SUSFERT is developing multifunctional fertilisers for phosphorus and iron supply from renewable resources. Likewise, SUSBIND is substituting fossil-based chemicals with renewables, and will present a new means to bind furniture particle board, resulting in better indoor air quality. ''While new technologies are needed to bring products to the market, classifying waste as a material is an approach that already provides excellent potential'', according to Mr. Webb. However, he stressed the fact that consumers are willing to pay more for bio-based products. ''Bioeconomy provides great opportunities to create new jobs, also in rural and pre-urban areas", added **MEP Bogovič,** committing to support the European Commission's proposal within AGRI and REGI Committees.

Bioplastics from wool residues:
Introducing this best-practise case from Spain, **MEP Francesc Gambús** reminded participants that ocean pollution is well-addressed across Europe, while EU policy-makers are currently addressing this within several legislative files, such as the circular economy package and the single-use plastics proposal. From Mr. Gambús' point of view, it is of paramount importance to improve our communication as well as to join forces in order to transition to a more sustainable economy, and to start thinking circular. Mr. Gambús then welcomed **Borja Fernández-d'Arlas** from the Public University of Navarra, Spain, whose innovative case could be part of the solution. ''Most plastics we use today are based on imported oil, and are high in processing and CO2 emissions. When they reach the end of their life-cycle, they are recycled, burned or disposed, leading to landfill and damage to the environment. An alternative are compostable bioplastics; although based on plants, they compete with food production and could increase deforestation''. Mr. Fernández-d'Arlas' research is focussed on bioplastics made of residues, using wool and feather from chickens. In Spain, chicken is part of the daily diet, so the amount of feather is high. Therefore its potential is great, as ''it could substitute around 7% of the plastic on the national market''. Furthermore, wool keratin biofilms present a high potential for bioplastics as they are flexible and transparent. ''Fostering innovation, combined with a stronger policy on recycling, can lead to having a great impact'', he concluded.

Micro-Algae and the Blue Biotechnology:
Introduced by **MEP Lieve Wiernick, Philippe Dreno,** President of Algosource, presented Algosource's microalgae technologies and innovations around the blue biotechnology. Representing half of the Earth's biomass with more than 30.000 known species, microalgae produce oxygen on Earth (1kg of Algae's absorbs 1.8 kg of CO2) and have a high added value for the economy, too. Algosource develops economic use of microalgae for food, feed/aquaculture, food supplement, nutraceuticals, bitumen key component, pharmaceuticals, cosmetics and buildings. While providing sustainable products to society, hydrothermal liquefaction is being used to transform residues from microalgae biorefining into bio bitumen for road construction. Moreover, Mr. Dreno presented Algosource's contribution to the 'In Vivo' biofacade project in Paris related to innovative engineering. Last but not least, another advantage of Algosource is integrating the whole value chain of nutritional products, contributing to "passive buildings" in terms of heat and CO2.

Scale down approach for biochemical engineering:
Welcomed by MEP Paul Brannen, Raimo van der Linden from the Bioprocess Pilot Facility (BPF) presented the innovative scale-down approach of their pilot plant in the Netherlands, a partnership between researchers and industries to develop bio-based products. ''BPF is a non-profit and independent organisation which started as an EU-funded project in 2012. The organisation is offering a validation of processes and markets to researchers by using their public pilot facility, with pre-installed equipment and experienced engineers, thus limiting the costs for investments. Their expertise lies in pre-treatment, fermentation, downstream processing and food grade. For externals using their facilities, this currently presents the quickest way to reduce the risks of scaling up, to validate the technology and check the market's interest''. Mr. van der Linden also stressed that although piloting is essential to scale-up, public

funding for this process is less than sufficient. The BIOFOREVER project, funded under BBI2020 was presented as an example of setting up new innovative and sustainable value chains. Mr. van der Linden concluded by calling for national governments to help take up the risks for piloting, in order to foster innovation.

During the discussion with the audience, moderated by MEP Paul Brannen, the main challenges for up-scaling of the individual projects were raised. To **Mr. Webb**, the regulatory framework is not keeping up with the speed of innovations, which is hindering new technologies from entering the markets. **Mr. Fernández-d'Arlas** stressed that more funding for extended research would be needed, to test the final products and materials. The importance of a regional research network like ERRIN was also highlighted by **Mr. Dreno,** as it provides an excellent platform to access knowledge and share ideas. **Mr. van der Linden** would welcome more funding, but also earlier information about proposals' calls, in order for interested stakeholders to have more time to prepare their application. **MEP Paul Brannen** reiterated the need to invest in education around bioeconomy, as well as to underline its benefits and contributions. Further discussions pointed out that there is still a confusion amongst consumers about the term "bio" and "biobased products" vs. "biodegradables", which needs to be handled with care.

While addressing the closing remarks, **MEP Lieve Wierinck** stressed that bioeconomy and circular economy will become critical for Europe's economy in the future. Bioeconomy should be central in Horizon Europe including within the European Research Council. From Ms. Wierinck's point of view, there are currently three main challenges to tackle, in order to help innovative bioeconomy players scale up; (1) as production costs can be high, it is difficult for producers to remain in the market, and it is challenging to convince the consumers to pay more; (2) there is an urgent need for Member States to provide support to local companies to shift towards low-carbon economies; (3) there is still a lack of a strong European network to increase knowledge and create cross-border co-operation. During her intervention, Ms. Wierinck highly valued this European Parliament debate, which played a key role in raising awareness and aimed at strengthening the European bioeconomy network. Last but not least, it was stressed that she will transfer the arguments deriving from the debate to the future discussions with reference to Horizon Europe.

This debate was co-organized with the European Bioeconomy Alliance (EUBA) and the European Regions Research and Innovation Network (ERRIN).

Documents of the meeting can be found here.