



An open letter to the European Institutions

September 2022

In an interview published in the Financial Times on 9th July 2022, the former CEO of Google, Eric Schmidt, declared that the “*next big thing is the bioeconomy*” not the internet; were he to start out investing today, it would be in “*biological processes to make use of things that we consume and manufacture, essentially advances in molecular biology have allowed us to do new techniques and grow new things*”.

He concluded that “*we are going to have a number of trillion-dollar companies in this bioeconomy*” speaking about the USA specifically.

This declaration of optimism for the bioeconomy will not come as a surprise for those involved in industries using plants (biological or renewable resources) to make products through chemical and biological processes. Nor will it come as a surprise to those in the European institutions who have helped foster investments into academic and industrial collaborative research relative to those processes.

The long-running BBI JU, now the [CBE JU](#), has co-funded research including that undertaken by the [Usable Packaging](#) partners since 2019. This project grant has funded the recovery of by-products from agro-industrial processes to transform them into a toolbox of compostable materials for uses including in the packaging of those same industries and others. Whilst there are still considerable technological difficulties in bringing such processes to scale, projects like Usable have proven the concept- a by-product from (for example) pasta can be used as a base for producing the packaging in which the pasta is sold, and which, once used, can be returned to soil through an industrial composting process. We call this the circular bioeconomy. It directly links, in a circular loop, the use of soil resources to grow food whose by-products help produce the packaging of that food and return to soil with food waste as a component of a closed nutrient and carbon cycle.

In its progress report on the Bioeconomy Strategy¹, the Commission identifies the development and deployment of sustainable and circular biobased solutions as a main action area to maximise the contribution of the bioeconomy to the European policy priorities. Similarly, in its Communication on ‘Sustainable Carbon Cycles’², the Commission proposes that at least 20% of the carbon used in the chemical and plastic products (together) should be from sustainable non-fossil resources by 2030 to help reaching climate neutrality. The Taxonomy Regulation and its Delegated Acts on Climate Change Mitigation and Adaptation already set out criteria for recognising investments in the production of biobased plastics as long as they align with sustainability criteria similar to those applicable to the energy sector (as foreseen in the Renewable Energy Directive³) and have lower life cycle GHG emissions compared to those of their fossil counterpart⁴.

At the time of writing, the European Commission is scheduled to publish its Policy framework on biobased, biodegradable, and compostable plastics, which aims to lay down the framework within which these materials should be placed upon the EU market. The growth of the industry making these materials is, as Eric Schmidt has recognised, very fast. However, much of that growth, which in its early phases was in the EU, is now being seen in China and the USA as policies in these markets propel the sector. These include mandating the use of compostable products for certain applications, banning the use of non-biodegrading plastics in others, and public procurement such as the USDA Bio Preferred Programme⁵. India too has laid down a pathway to the reduction of traditional plastic usage promoting biobased and compostable plastics in many applications.⁶

¹ COM (2018) 673. In its action 1.6, it promotes the development of substitutes to fossil resources, in particular biobased, recyclable, and marine-biodegradable substitutes for plastic.

² COM (2021) 800

³ [EUR-Lex - 32018L2001 - EN - EUR-Lex \(europa.eu\)](#)

⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R2139>

⁵ <https://www.usda.gov/media/press-releases/2016/02/18/fact-sheet-overview-usdas-biopreferred-program>

⁶ <https://www.european-bioplastics.org/single-use-plastics-and-compostable-biopolymers-the-india-story/>

Similarly, we are seeing the adoption of these materials from many leading and intermediate sized brands operating on the EU and international markets. These include products like teabags (Unilever), sweet wraps (Nestle and Wrigley), coffee pods (Lavazza) and of course rigid applications linked to food stuffs like catering ware, yoghurt pots etc.

Countries such as Italy, Spain, Austria, Ireland, and in other areas of the EU are promoting the use of compostable materials especially in food collection applications and in applications where food stuffs are likely to be attached to the packaging. Italy now has the world's first EPR systems for compostable plastics, BIOREPACK⁷, ensuring producers' contributions are funnelled back to local authorities to promote food waste collections through which compostables return to composting installations.

Moreover, as the United Nations and the Commission have stated the use of soil biodegradable agricultural plastics have advantages in reducing plastic pollution in soils and reducing the amount of soil stuck to plastics when they are themselves stripped away (e.g., soil mulch). Other uses in agriculture, fishing and industrial purposes are evident where biodegradability is an asset.^{8 9}

It would seem that now the momentum is behind biobased alternatives to plastics and that this is a golden opportunity for the EU to grasp to restore Europe to the leadership for the production of such materials. However, policy has to be aligned and clear.

Those participating in the Usable Packaging project fear that the slow pace of policy change in the EU to promote and enhance the growth of biobased and compostable or biodegradable plastics, will lead to production growing outside of the EU. The emphasis on the mechanical recycling of plastics, while laudable, fails to grasp the opportunity of substitution of traditional plastics which biobased and compostable materials offer, creating a whole new industrial base. In addition to this, the mechanical recycling strategy of non-degrading plastics does not tackle the growing concerns associated with microplastics. The "Breaking the Plastic Wave" report from 2020 shows how all avenues must be explored to reduce plastic pollution of the global commons¹⁰ including substitution.

The partners of the Usable Packaging project therefore call upon the European Institutions to

1. Relaunch the Bioeconomy Strategy along the lines of the ambitious programme laid out by the Finnish Government. "The (Finnish) strategy's measures are divided under four headings: a. Higher value added from bioeconomy, b. A strong knowledge and technology base, c. A competitive operating environment and d. Usability and sustainability of bioresources and other ecosystem services. The strategy also includes sector-specific measures.
2. Recognise the value innovative industries producing biobased and compostable materials offer to Europe and avoid the offshoring of this production to Asia and the USA. This includes promoting the use of agricultural wastes and by-products as feedstocks as well as new sources such as seaweed, waste CO₂, fungi.
3. Recognise the advantages biobased and compostable plastics can bring to ensure clean food waste collection systems and develop the infrastructure for composting and digesting food waste alongside certified compostable materials. This leads to reduced costs for citizens and reduced dependence upon landfills and incinerators.
4. Mandate the obligatory use of biobased and compostable materials in applications in which traditional plastics can only ever be contaminants (e.g., food waste collection bags, teabags, sticky labels, non-aluminium coffee pods and bags, catering ware in closed loop situations)
5. Promote policies which ensure market space for innovation in materials manufacture. Closing marketplaces to innovative materials, as mooted by the Commission, stifles research, investments and only benefits non-EU nations which have no such restrictions.

⁷ <http://www.biorepack.org/>

⁸ <https://www.eunomia.co.uk/reports-tools/conventional-and-biodegradable-plastics-in-agriculture/>

⁹ <https://www.fao.org/policy-support/tools-and-publications/resources-details/en/c/1460015/>

¹⁰ <https://www.pewtrusts.org/en/research-and-analysis/articles/2020/07/23/breaking-the-plastic-wave-top-findings>

6. Promote clearly identifiable labelling to help avoid cross contamination of compostable plastics into traditional plastic recycling and of plastic into food waste collections. One of the biggest cost burdens that food waste processors face is extracting and disposing of non-compostable plastics entering their processes.
7. Promote consumer communications, as BIOREPACK is doing in Italy alongside the plastics consortium COREPLA, to develop public understanding to ensure compostable plastics are truly collected and recycled back through composting to soil. BIOREPACK reports over 50% recycling rate in its first year of operations. That should be a 2030 target for the EU.

Signed this day, 26th September 2022



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