The European circular economy package
Position of the Bio-based Industries Consortium

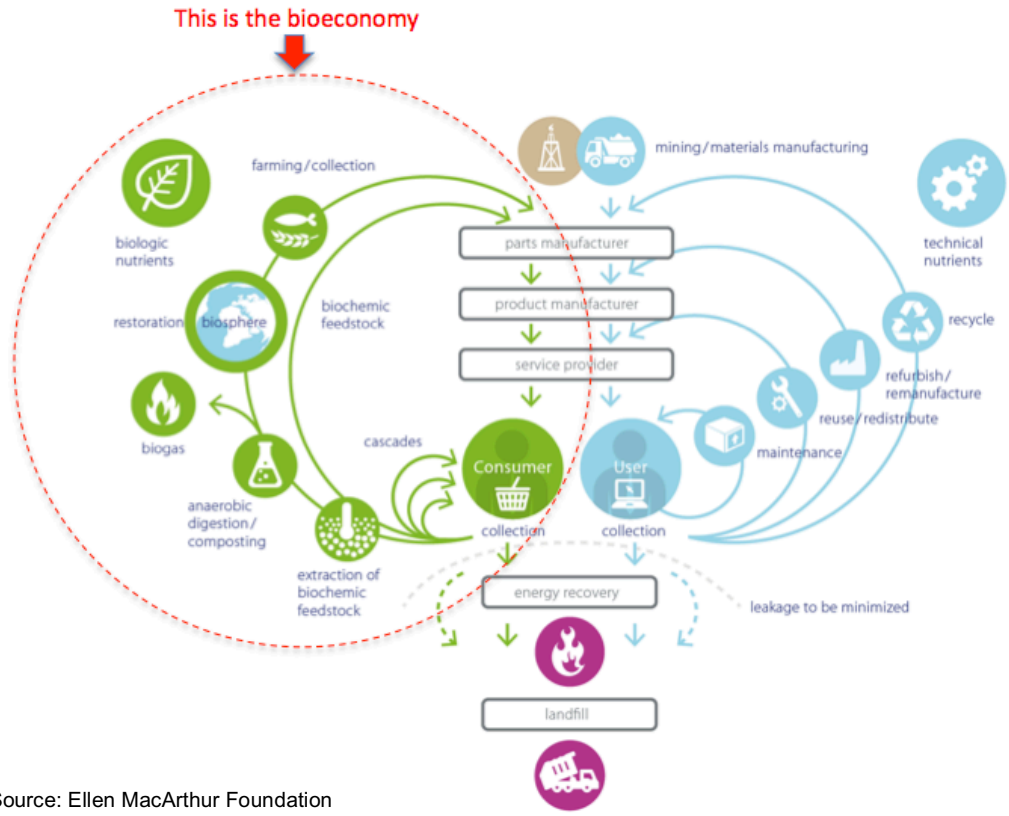
The bioeconomy: circular by nature

The concept of the circular economy is about using the planet's resources efficiently and sustainably to prevent irreversible environmental degradation and resource depletion. The circular economy seeks to break away from the linear economy characterized by "make, use, dispose" in favour of a more circular model based on "reuse, recycle or biodegrade". The bioeconomy is a perfect illustration of circularity in that it regenerates CO2 and uses renewable raw materials to make greener everyday products.

A waste management system that fully considers the potential of agricultural, forestry and municipal (biogenic) wastes will be essential to enable the circular economy.

While the circular economy focuses mainly on the efficient use of finite resources and ensures that those are reused or recycled as long as possible, the bioeconomy also integrates the production of renewable resources, in particular renewable carbon. The bioeconomy is circular by nature with carbon being sequestered from the atmosphere by plants, and after uses and reuses being cycled in soil carbon or atmospheric carbon again.

The principle of the circular economy is thus complementary to the renewable character of the bioeconomy and must facilitate the recycling of carbon after efficient uses.



Source: Ellen MacArthur Foundation

Growth of bioeconomy = growth of the *renewable* circular economy

- The bioeconomy uses renewable resources instead of fossil resources. Biorefineries play the central role of intelligently converting biomass and biogenic waste through efficient and innovative technologies into a plethora of bio-based products such as food, feed, fibers, materials, chemicals and bioenergy.
- The bioeconomy is not new. It is already worth about €2 trillion and is responsible for over 22 million jobs in Europe. It has become an EU strategic priority in recent years for its recognised potential in stimulating sustainable growth and jobs; using renewable resources in a smart, sustainable and efficient way; making Europe more self-sufficient; and in reducing global GHG emissions.
- Since 2014, the EU and industries across sectors have joined forces to kick-start a 10-year investment of €3.7 billion through the Public-Private Partnership on Bio-based Industries (BBI). The BBI focuses on 1) securing sustainable supply of biomass, 2) optimising/building new value chains and biorefineries, and 3) creating new markets for bio-based products. The BBI is needed to de-risk an emerging sector and to create the framework conditions required to leverage Europe's renewable resources, innovative technologies and industrial know-how. This is important if the EU wishes to establish itself as a competitive force in the global bioeconomy race, especially with the US, Brazil and China.
- Bio-based products and materials have the benefit of achieving a more balanced carbon cycle in comparison to fossil alternatives. Indeed the rate at which CO2 is emitted from bio-based products matches the rate at which it's been sequestered in the biomass. The rate at which CO2 is released from fossil based products (1-10 years) is significantly higher than the millions of years it took for CO2 (organic matter) to be fossilised and sequestered into petroleum, natural gas or coal.[1]
- In other words, the bioeconomy and the BBI are instrumental in demonstrating and commercialising sustainable bio-based ingredients, products and materials that can feed the EU's circular economy. Indeed, the circular economy is not just about waste management. Upcoming policy will have to factor in criteria beyond conventional approaches, and reflect on the cross sector nature of bio-based industries, markets, products and processes to maximise the EU's circular economy potential.

Accelerating the deployment of the renewable circular economy

The Bio-based Industries Consortium therefore calls on EU policy-makers to take account of the following recommendations in the formulation of an ambitious circular economy strategy:

Access to biomass

- It is critical to ensure secure and competitive access to sustainable biomass for the needs of the bioeconomy.
- A level-playing field for the bioeconomy vis-à-vis fossil fuel uses should be ensured (e.g. taxation).

[1] Mauro Graziani and Paolo Fornasiero Edited, *Renewable Resources and Renewable Energy – A Global Challenge*, 2nd edition, Taylor and Francis, 2007.

- Harmful subsidies disturbing competition on the raw material market should be removed, while ensuring a level playing field for the bioeconomy vis-à-vis use of biomass for energy.

Eco-design

- In the process of improving eco-design requirements for the purpose of the circular economy, bio-based solutions and components should be considered in light of their ability to enhance the overall environmental footprint of products and materials.

Boosting the secondary raw materials market & promoting industrial symbiosis

- Circular economy policy should provide a favourable business environment to encourage business to create industrial symbiosis, i.e. collaboration between producers to use each other's by-products.
- Industrial symbiosis can only be created if raw material streams can be transferred to business partners for further uses. Hence, regulatory barriers preventing the utilisation of waste, residues and by-products[2] should be removed. To this end, the EU should:
    - Develop "end-of-waste" criteria for the creation of further transformational from those declassified wastes;
    - Make separation of "bio-waste" mandatory either at the source or at central plants to enable recovery;
    - Include the definition of 'organic recycling` as per Article 3.9 of the Packaging Directive 94/62/EC in the Waste Framework Directive[3].
    - Introduce an EU-wide landfill ban for biodegradable municipal waste to ensure that such sustainable raw materials are effectively made accessible to bio-based industries in deploying the European Bioeconomy, and to the benefit of the circular economy.

Resource efficiency indicators

- Resource efficiency is an important objective for the EU to achieve, but it should not contradict EU targets and objectives on increasing the use of renewables.
- When looking into renewable resources like biomass and biogenic waste, the aim at EU level should be to further increase their sustainable use by promoting the transition towards a sustainable and competitive bioeconomy.
- Resource efficiency indicators/objectives should therefore make a distinction between renewable and non-renewable raw materials and take their environmental impacts into account.

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[2] As defined by art. 5 of the WFD 2008/98/EC "*A substance or object, resulting from a production process, the primary aim of which is not the production of that item, may be regarded as not being waste referred to in point (1) of Article 3 but as being a by-product only if the following conditions are met: (a) further use of the substance or object is certain; (b) the substance or object can be used directly without any further processing other than normal industrial practice; (c) the substance or object is produced as an integral part of a production process; and (d) further use is lawful, i.e. the substance or object fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts*".

[3] *'organic recycling' shall mean the aerobic (composting) or anaerobic (biomethanization) treatment, under controlled conditions and using micro-organisms, of the biodegradable parts of packaging waste, which produces stabilized organic residues or methane. Landfill shall not be considered a form of organic recycling*

Cascading use of biomass

- The principle of 'cascading use' should remain a guiding principle and should not be translated into legal requirements.
- Bio-based industries, the bioeconomy, and Europe as a whole are too diverse and complex to dictate what some understand to be a hierarchy of use for the making of specific products or materials. All products have their own place and value in the market. Local economics, availability and variety of biomass in certain regions, availability of viable alternatives, demand-supply, among others, are all key parameters. The theoretical concept of hierarchy of use is therefore not adequate, and cannot and should not be translated into regulation.

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About the Bio-based Industries Consortium

The Bio-based Industries Consortium (BIC) is the private partner in the new Public-Private Partnership on Bio-based Industries (BBI JU) with the EU. It is made of a unique mix of sectors including agriculture, agro-food, biotechnology / technology providers, forestry / pulp and paper, chemicals, energy and end-users. BIC was established in 2012 to collectively represent the private sector in the BBI JU. To date, BIC has close to 80 full industrial members (large, SMEs, SME clusters) and about 150 associate members (RTOs, universities, associations, technology platforms).

BIC supports the BBI JU with a contribution of €2.7 billion, of which €975 million is used to support research and innovation activities, and another €1.7 is provided in the form of additional activities.

The BBI JU has approved in June 2015 €120 million of new investments in bioeconomy projects.

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