



## ICCE 2019 Session Recycling and resource reuse as tools for efficient circular bioeconomy

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Global economy is so dependent on natural resources that if current consumption patterns are maintained, the degradation and depletion of natural resources will continue, as will waste generation. Current resource use is such that the chances of future generations having access to precious resources is jeopardised. The term Circular Economy (CE) was presented in the EU context in 2011 through the Flagship Initiative under the Europe 2020 Strategy concerning a resource-efficient Europe. The initiative stated that there was a need for a strategy to make the EU a 'circular economy'. In 2015, the European Commission released a CE package, proposing a series of actions towards CE. With the aim to boost efficient production, the roadmap stipulates that Member States should help companies work together to make the best use of the waste and by-products they produce e.g. by exploiting industrial symbiosis. Bioeconomy can be defined as an economy that relies on renewable biological resources (e.g. crops, forests and animals) and their conversion into food, feed, products, materials and energy. The bioeconomy touches a large number of policy areas. It should, thus, be faced through horizontal policies and be taken into consideration at several levels.



Twinning bioeconomy and CE together could lead to strong synergies. Implemented policies shall originate from identified good practices in order to establish a bioeconomy that uses bio-based resources in a circular way, forming the idea of bio-based CE. As an important prerequisite of sustainable future bioeconomy strategies, recycling of both non-renewable and renewable nutrients from organic residues is mandatory. However, there is a huge diversity in organic residues depending on their origin and/or the type of process involved in their production. Application of organic residues as soil amendment and fertilizer will recycle the nutrients contained in the residues but may also imply a dispersal of contaminants on agricultural soils. From soils, contaminants may be absorbed into food and fodder plants, ultimately resulting in animal and human exposure. Due to the attempt to develop suitable production pathways for renewable energy production in recent years, various technologies have been promoted and applied with the potential of uncontrolled emission of anthropogenic pollution.

The here planned ICCE specialised session will provide a platform for scientific discussion on issues related to Circular Bioeconomy issues in the context of bioenergy production, resource use optimization and pollution prevention.

