



# FACCE SURPLUS

## SUSTAINABLE AND RESILIENT AGRICULTURE FOR FOOD AND NON-FOOD SYSTEMS

FACCE SURPLUS (Sustainable and Resilient agriculture for food and non-food systems) is an ERA-NET Cofund, formed in collaboration between the European Commission and a partnership of 15 countries in the frame of the Joint Programming Initiative on Agriculture, Food Security and Climate Change (FACCE-JPI).

FACCE SURPLUS is committed to improve collaboration across the European Research Area in the range of diverse, but integrated, food and non-food biomass production and transformation systems, including biorefining. Among other things, the ERA-NET Cofund aims to support innovation and value creation from biomass and biorefineries and organises joint calls between funding bodies from Member States and the European Commission.

It contributes to the strategic objective of FACCE-JPI to build a European Research Area in the domain of agriculture, food security and climate change as well as to the scientific objective of enhancing resilience in agricultural production systems. In turn, this will contribute to tackling the Grand Challenge of ensuring food security and agricultural production in the face of climate change.

### FACCE SURPLUS First call and Second call

The first call for transnational research projects was launched in January 2015 with an indicative total available budget amounted to 17M€. In November 2015, 14 projects were selected to receive funding in the frame of FACCE SURPLUS.

Recognising that other initiatives are considering the scope and application of large-scale biorefineries in the EU context, the second call of FACCE SURPLUS focuses on the small-scale biorefinery concepts and their potential role in enhancing the sustainability and productivity of EU agriculture, as well as their scope to benefit the rural economy. 10 partners joined this call for transnational research projects with an indicative budget of 6,25M€. The deadline for submission of pre-proposals was March 7, 2017, while the deadline for full proposal submission is July 17, 2017.

For further information please visit [facesurplus.org](http://facesurplus.org) and [facejpi.com](http://facejpi.com)



Subscribe to the FACCE SURPLUS newsletter on [facesurplus.org](http://facesurplus.org) and stay updated on the latest news from the ERA-NET Cofund.



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# BioC4

## New integrative sustainable system from C4 photosynthetic miscanthus to biological synthesis of valuable C4 compounds

Because of the finite nature of fossil fuel resources and the imminent climate change caused by their intensive use, the demand for renewable materials and bio-based chemicals for industrial applications, as well as for renewable energy, will steadily increase.

Due to the inherent techno-economic challenges of biochemical compound commercialization, the project **BioC4**, funded within the frame of FACCE SURPLUS, focus on developing technologies around 'bio-isobutanol', a powerful compound platform from which multiple products with high market potential can be launched.

Isobutanol can be converted synthetically into many valuable building-block chemicals or directly used in fuel with multiple advantages. It can be converted easily to isobutylene or can replace n-butanol as industrial solvent.

The aim of the BioC4 project is to develop an industrial production process for bio-based Isobutanol, which can be used as raw material for biofuel, solvent, or bioplastics. For that purpose, a strong isobutanol-producing industrial yeast strain will be developed. It will have the ability to ferment both hexose and pentose sugars under the harsh conditions present in lignocellulose hydrolysates. In parallel, promising miscanthus genotypes with high saccharification potential will be identified and the most interesting ones will be analyzed and evaluated as eco-friendly raw material.

The overall aim of the project is to develop a novel bio-based value chain with minimized environmental impacts and maximized benefits for all stakeholders. This will help policy makers to identify other products and raw materials with a significant reduced carbon footprint.



### Coordinator

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**Project partners:** Johann Wolfgang Goethe-Universität Frankfurt, Germany; GlobalYeast, Belgium; University of Hohenheim, Germany and INRA AgrolImpact, France.

**Total funding:** 967.900 €

**Project period:** 2016 – 2018

For more information, please visit: [facceturplus.org/research-projects/bioc4](http://facceturplus.org/research-projects/bioc4)