



# BUTANEXT

Next G

ButaNexT will develop processes for feedstocks in of biobutanol



PROJECT

# BUTANEXT

## Next Generation Bio-butanol

ButaNexT aims to develop and validate a cheaper, more energy saving, social and environmentally-friendly integrated process, able to convert efficiently second generation sustainable feedstocks (lignocellulosic biomass and wastes) into biobutanol, and define optimal biobutanol blends with fossil fuels and conventional biofuels (ethanol and biodiesel).



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 640462

# 10

PARTNERS

# 1

PILOT INTEGRATED PROCESS (100L FERMENTATION SCALE)

# 50%

COST REDUCTION OF BIOBUTANOL PRODUCTION

# 85%

GHG EMISSIONS REDUCTION COMPARED TO FOSSIL FUELS (PETROL/GASOLINE).



IN ONE CLICK

Coordinator	Programme	Period
GREEN BIOLOGICS (UK)	HORIZON 2020	2015-2018
Sector		PDF Download
BIOFUELS		<a href="#">BUTANEX</a>

01

### The Challenge

Biobutanol is an attractive advanced biofuel with superior fuel properties. It fits the existing fuel infrastructure; has a higher energy density (similar to petrol/gasoline) and has shown better performance properties than ethanol and biodiesel. However, it has not yet been established in the market due to some technical and economic barriers.

02

### Solutions

A two-step (mechanical-micronising & chemical-enzymatic pretreatment) versatile (for different types of lignocellulosic feedstocks and wastes including recalcitrant materials) and low cost (with a reduced energy demand between 15-25%) hydrolytic process. A tailor-made enzyme cocktail with reduced enzyme dosage and costs (up to 25%), adapted to the Clostridium butanol fermentation process. Improved next generation homo-fermentative microorganisms/strains using non-GMO techniques. High productivity fermentation with in-situ product recovery (ISPR). Techno-economic and sustainability assessment of the integrated process.

03

### Impacts

A process adapted to use a wide range of lignocellulosic feedstocks and wastes (agricultural residues, organic fraction of municipal solid waste -MSW-, regionally adapted energy crops) will facilitate commercial plant supply planning with subsequent improvements in economic benefits as well as overcoming sustainability concerns. The development of rural areas is considered as a direct consequence of the successful development and implementation and scale-up of the process using locally produced versions of the above-mentioned feedstocks.