

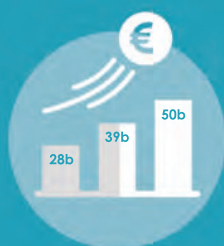
THE ECONOMIC OPPORTUNITIES OF THE BIOECONOMY

Industrial Biotechnology is one of Europe's strengths. It enables the EU to manufacture over half of the world's enzymes which help deliver solutions to many of the world's grand challenges, including using resources more efficiently, reducing CO₂ emissions, producing healthy and nutritious food and improving our energy security.

The European bioeconomy, enabled by industrial biotechnology, already employs over 22 million people, making up around 9% of the EU's total workforce. But industrial biotechnology has the potential to add much more in terms of value and competitiveness to sectors operating throughout the bioeconomy, from primary production right through to consumer goods.

However, a lack of long-term political commitment and incentives means that investment and development in this area is increasingly migrating to other regions, such as the United States, where more supportive measures and long-term policy support are more consistent; taking potential for the creation of jobs and growth in Europe with it.

6 facts about the potential for economic benefits of industrial biotechnology in Europe:



Recent estimates from the European Project BIO-TIC predict that market value of industrial biotechnology products will increase from €28 billion in 2013 to €50 billion in 2030.¹

Where market stimulation measures are factored in, such as public procurement for biobased products in the United States through the US Biopreferred Program, it is estimated that biobased products contributed approximately \$370 billion and helped create up to 4 million jobs.²



Industrial Biotechnology is revitalising rural, coastal and deindustrialised areas of Europe through the development of biorefineries which bring new jobs and investment.

Building biorefineries enables farmers to generate additional income from their agricultural residues as well as to attract other businesses and infrastructure investments in rural areas.



The bioeconomy reduces dependence on imports of food, feed, energy and other materials by enabling European production of locally sourced bio-based goods.



The bioeconomy brings together people from a broad range of professions and sectors including farmers, food processors, forest owners, technology providers, consumer brands and retailers to create new and novel partnerships boosting innovation across Europe.



References:

1. BIO-TIC roadmap (<http://www.industrialbiotech-europe.eu/new/wp-content/uploads/2015/08/BIO-TIC-roadmap.pdf>)
2. USDA (http://www.biopreferred.gov/BPResources/files/EconomicReport_6_12_2015.pdf)

THE ECONOMIC OPPORTUNITIES OF THE BIOECONOMY

THERE IS POTENTIAL
REVENUE OF
€482 BILLION
FROM ADVANCED
BIOETHANOL PRODUCTION
IN THE EU¹



THE EUROPEAN BIOECONOMY IS
ALREADY WORTH MORE THAN
€2 TRILLION
ANNUALLY²



UP TO 40% GROWTH IN FARMLAND
REVENUE IS POSSIBLE BY PRODUCING
BIOETHANOL FROM WHEAT STRAW
FOR THE BIOECONOMY³

UP TO 1.2 MILLION
MAN-YEARS OF
EMPLOYMENT COULD BE
CREATED IN EUROPE
THROUGH PRODUCTION
OF ADVANCED
BIOFUELS ALONE⁴



11%
collecting
feedstocks



51%
construction



27%
biorefinery
operation



11%
transport

€600 BILLION / 8%⁵

of annual turnover has been
saved for businesses in the EU
through waste prevention,
eco-design, reuse and similar
measures as part of a circular
economy, in which industrial
biotech can play an
important role

THE EU'S BIOPLASTICS
SECTOR REPRESENTS
17.3% OF THE
WORLD'S TOTAL
BIOPLASTIC PRODUCTION⁶



"The main sectors that have continued to create jobs and growth during the recent crisis are what we would call the 'green' sectors of our economy. [...] We have a lot of understanding in industry that the circular economy is European competitive DNA. We are competitive worldwide on the 'green economy' and the demand for green economy is growing."

Karl Falkenberg, formerly Director General, DG Environment European Commission
and now EPSC Senior Adviser for Sustainable Development to President Juncker

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1. Bloomberg New Energy Finance, 2012
2. http://ec.europa.eu/research/bioeconomy/pdf/201202_commission_staff_working.pdf
3. Bloomberg New Energy Finance, "Bioproducts: diversifying farmers' income", 2011
4. Bloomberg New Energy Finance, 2012
5. Karmenu Vella, 2015
6. Production in 2013: European Bioplastics, Institute for Bioplastics and Biocomposites, nova-Institute, 2014