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# **Political aspects of biomass utilization and bio-based product chains**

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# Biomass Utilization Options

Regulated

Food/ Feed	traditional	
	bio-based	Green Biotechnology
Fuels	traditional	
	bio-based	White Biotechnolgy
Materials	traditional	
	bio-based	White Biotechnolgy
Chemicals		White Biotechnolgy

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# Relevant Policies and Programmes

- Biomass Action Plan
- Biofuels Directive
- Renewable Energy Directive
- Lead Market Initiative
- New Common Agricultural Policy (CAP) post 2013
- Europe 2020

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# Biomass Action Plan

Communication from the Commission of 7 December 2005 – Biomass Action Plan  
COM(2005) 628 final

The Commission identified 3 sectors in which biomass use should be prioritised

- heat production
- electricity production
- transport



Focus is on energy

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# The Renewable Energy Directive

DIRECTIVE 2003/30/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the promotion of the use of biofuels or other renewable fuels for transport

1. By 2020, 20% of all energy used in the EU has to come from 'renewable sources', including biomass, bioliquids and biogas. This translates into different targets for individual Member States.
  2. By 2020, each Member State must ensure that 10% of total road transport fuel comes from 'renewable energy', defined to include biofuels and biogas, as well as hydrogen and electricity from 'renewable energy'.
  3. A very small list of a few purely environmental 'sustainability standards' will apply to biofuels and biogas for transport and to liquid biofuels for heat and power. There are no social, not even basic human rights standards and most environmental aspects are also being ignored. .
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# Europe 2020 Strategy

Vision of Europe's social market economy for the 21<sup>st</sup> century puts forward 3 mutually reinforcing priorities:

- Smart growth: developing an economy based on knowledge and innovation
- Sustainable growth; promoting a more resource efficient, greener and more competitive economy
- Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion

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# The Lead Market Initiative

Brussels, 21.12.2007

COM(2007) 860 final

## **COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN PARLIAMENT, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS**

### **- A lead market initiative for Europe -**

- 1. Legislation related to biomass**
- 2. Public Procurement for bio-based Products**
- 3. Standards, labels and certification**
- 4. Financing and funding of research**

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## Lead Markets

- Are highly innovative
  - Provide solutions of broader strategic, societal, environmental and economic challenges
  - Have a strong technological and industrial base in Europe
  - Depend more than other markets on the creation of favourable framework conditions through policy measures
    - E-health
    - Protective textiles
    - Sustainable construction
    - Recycling
    - **Bio-based products**
    - Renewable energies
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# Definition of Bio-based Products

In the Lead Market Initiative, bio-based products refer to **non-food products derived from biomass** (plants, algae, crops, trees, straw, marine organisms and biological waste from households, animals and food production).

Bio-based products range from high-value added fine chemicals such as

- pharmaceuticals
- cosmetics
- food additives

to high volume materials such as

- general bio-polymers
- chemical feedstock

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# Lead Market Initiative - Instruments

## Legislation related to biomass

Legislation and policies must allow renewable raw materials for industrial use to be available in sufficient quantity of good and guaranteed quality and at competitive price

## Public Procurement for bio-based Products

Preference should be given to bio-based products unless the products are not readily available on the market, the products are available only at excessive cost, or the products do not have an acceptable performance

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# Lead Market Initiative - Instruments

## Standards, labels and certification

Develop clear and unambiguous European and international standards. The standards will help to verify claims about bio-based products in the future (e.g. bio-degradability, bio-based content, renewable carbon, recyclability, and sustainability)

## Financing and funding of research

Continue to stimulate and enhance technological innovation and the development of technology: setting up demonstration projects via public-private partnerships

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# Europe 2020 – A European Strategy for a sustainable development

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# New „Common Agricultural Policy“ post 2013

## European bioeconomy

- Already today, vibrant economic sector:
  - €2 trillion in annual turnover, high added value products
  - More than 20 million jobs= 9% of the work force.
  - approximately 17% of European GDP
- Commission Communication on a strategy and impact assessment to be adopted beginning 2012, efforts:
  - to improve the EU's resource efficiency
  - to move to a zero biowaste economy
  - to re-use biomass starting with the use for RRM and putting the energy use at the very end of the biomass lifecycle.

The Commission, as required by the Renewable Energy Directive, will closely follow the impacts of the renewable energy policy on other biomass using sectors.

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# Challenges

- Economy
  - Budget
  - **Resources availability and efficient use**  
(water, land use and raw materials)
  - Mitigation impacts and adaptation
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Bio-energy production requirements (Mio toe)			
Domestic production for biomass	2005	2030	2050
•Crops	5	53	134
<i>Of which 2<sup>nd</sup> generation crops</i>	0	40	127
•Agricultural residues (including black liquor)	17	32	49
•Forestry	40	51	59
•Waste	25	63	87
•Import	2	12	26
<b>Total</b>	<b>90</b>	<b>212</b>	<b>356</b>

Source: Roadmap Low Carbon Economy 2011

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# What's in for Industrial Biotechnology ?

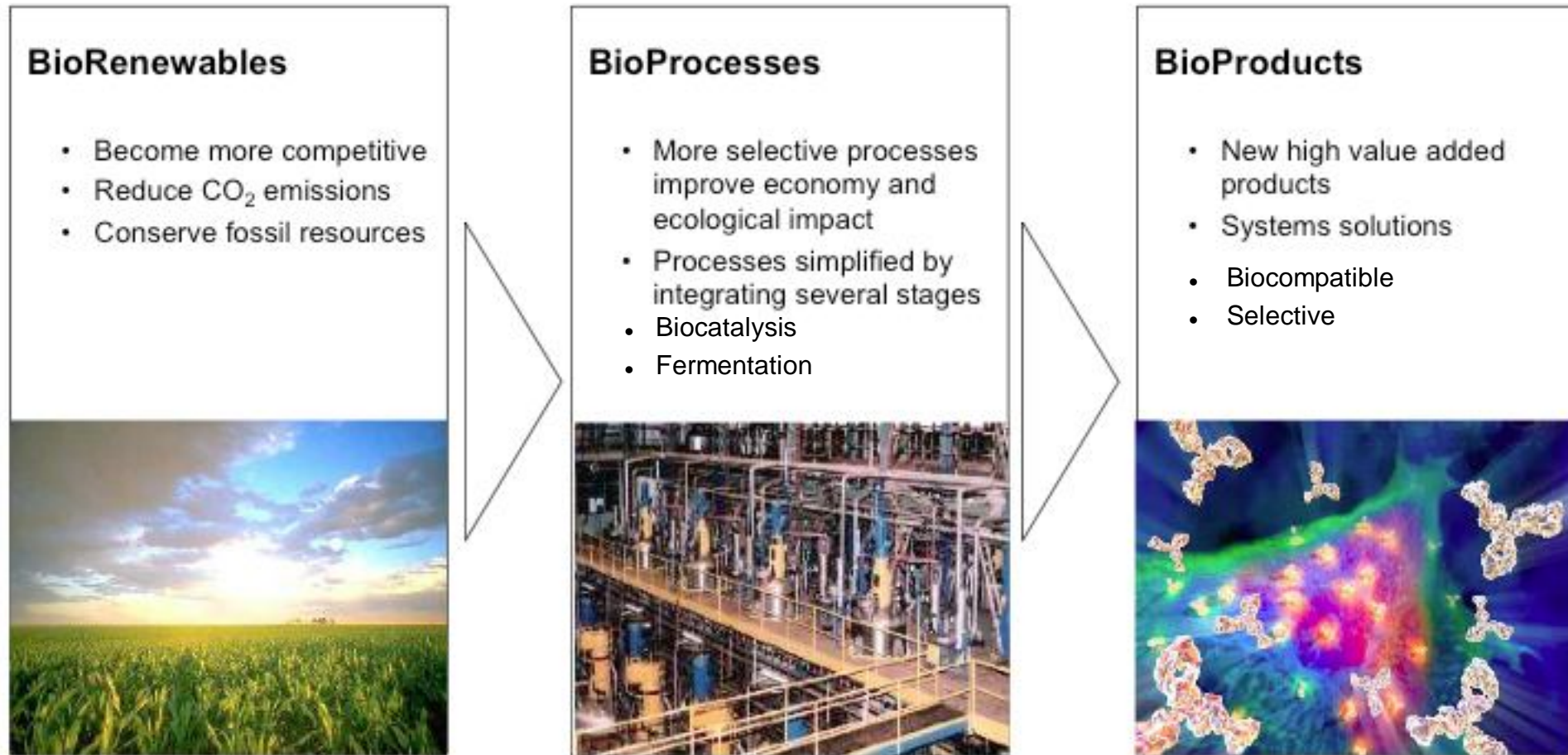
## **Industrial biotechnology - a definition**

Industrial biotechnology is the application of modern biotechnology for the industrial production of chemicals and bio-energy, using living cells and their enzymes, resulting in inherently clean processes with minimum waste generation and energy use.

- Industrial production of chemicals
- Industrial production of bio-energy
- Clean processes with minimum waste generation and energy use.



# Industrial Biotechnology



**Biotechnology is a key science and a major contributor to Europe's future economic development**

Source: Evonik - Degussa

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**Thank you very much  
for your attention !**