# A körkörös gazdaság és a bioökonómia a mezőgazdaságban és az erdészetben

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Bay Zoltán Alkalmazott Kutatási Közhasznú Nonprofit Kft.

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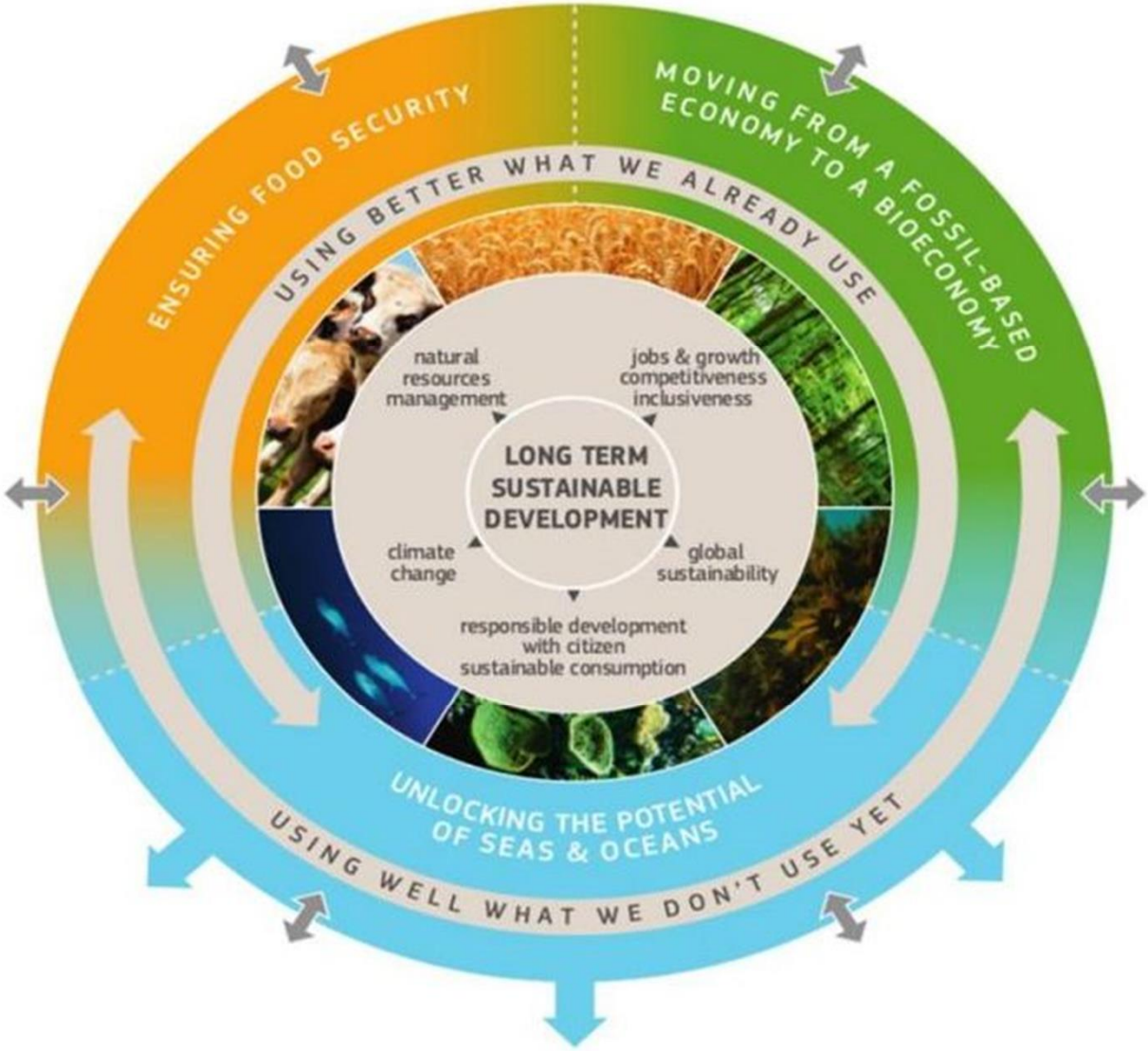
# Lineáris gazdaság

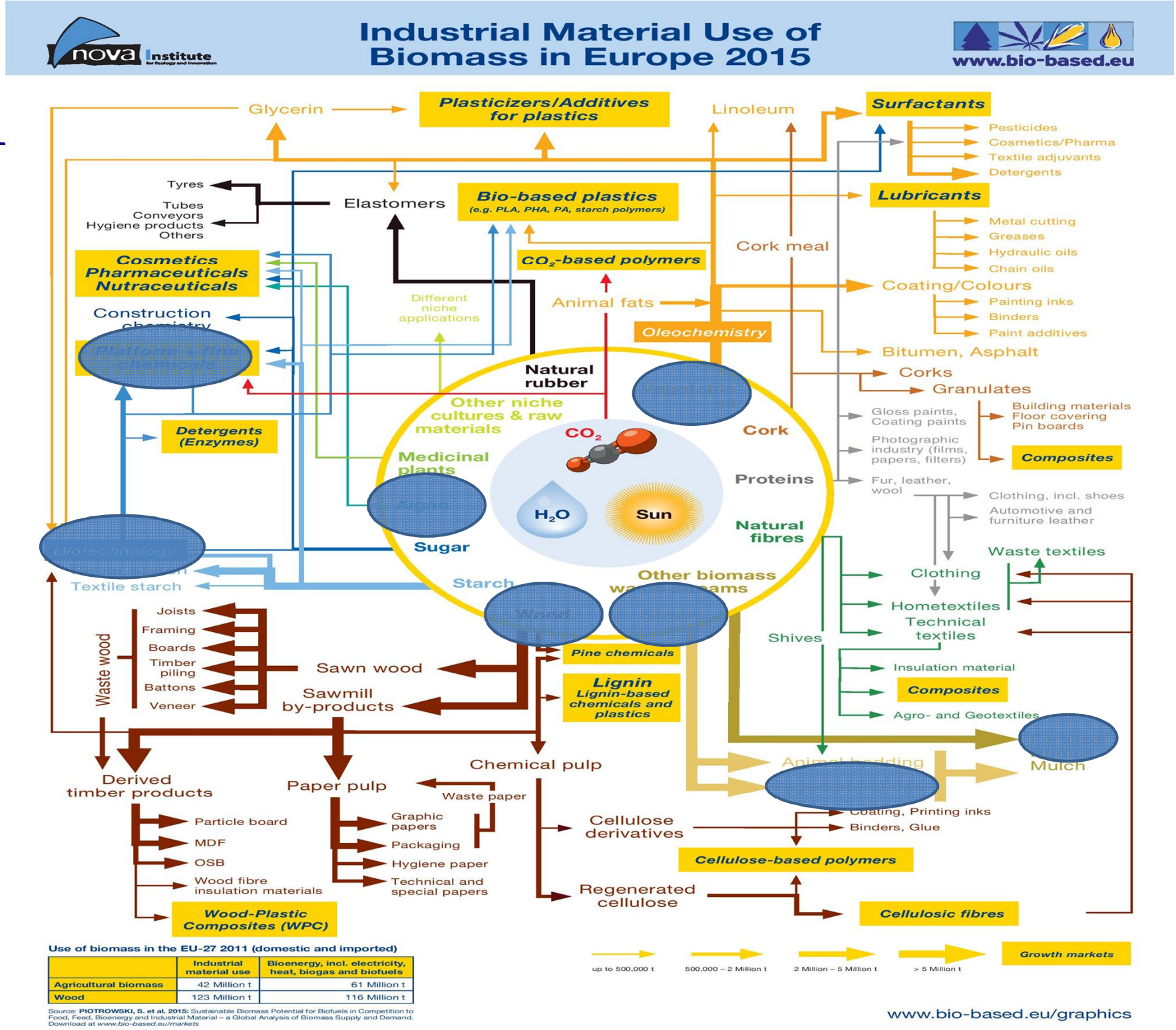
# Bioökonómia ???

" The Bioeconomy encompasses those parts of the economy that use **renewable biological resources** from land and sea to produce food, bio-materials, bio-energy and bio-products."

*EU bioeconomy strategy, 2012*



# Anyaggáramok




**Use of biomass in the EU-27 2011 (domestic and imported)**

| | Industrial material use | Bioenergy, incl. electricity, heat, biogas and biofuels |
|---|---|---|
| Agricultural biomass | 42 Million t | 61 Million t |
| Wood | 123 Million t | 116 Million t |

Source: **PIOTROWSKI, S. et al. 2015:** Sustainable Biomass Potential for Biofuels in Competition to Food, Feed, Bioenergy and Industrial Material – a Global Analysis of Biomass Supply and Demand. Download at *www.bio-based.eu/markets*

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# Vízió

*„You should define your own long term investment strategy.”*
Lambert van Nistelrooij
(az Európai Néppárt képviselője)

Körkörös gazdaság

↑

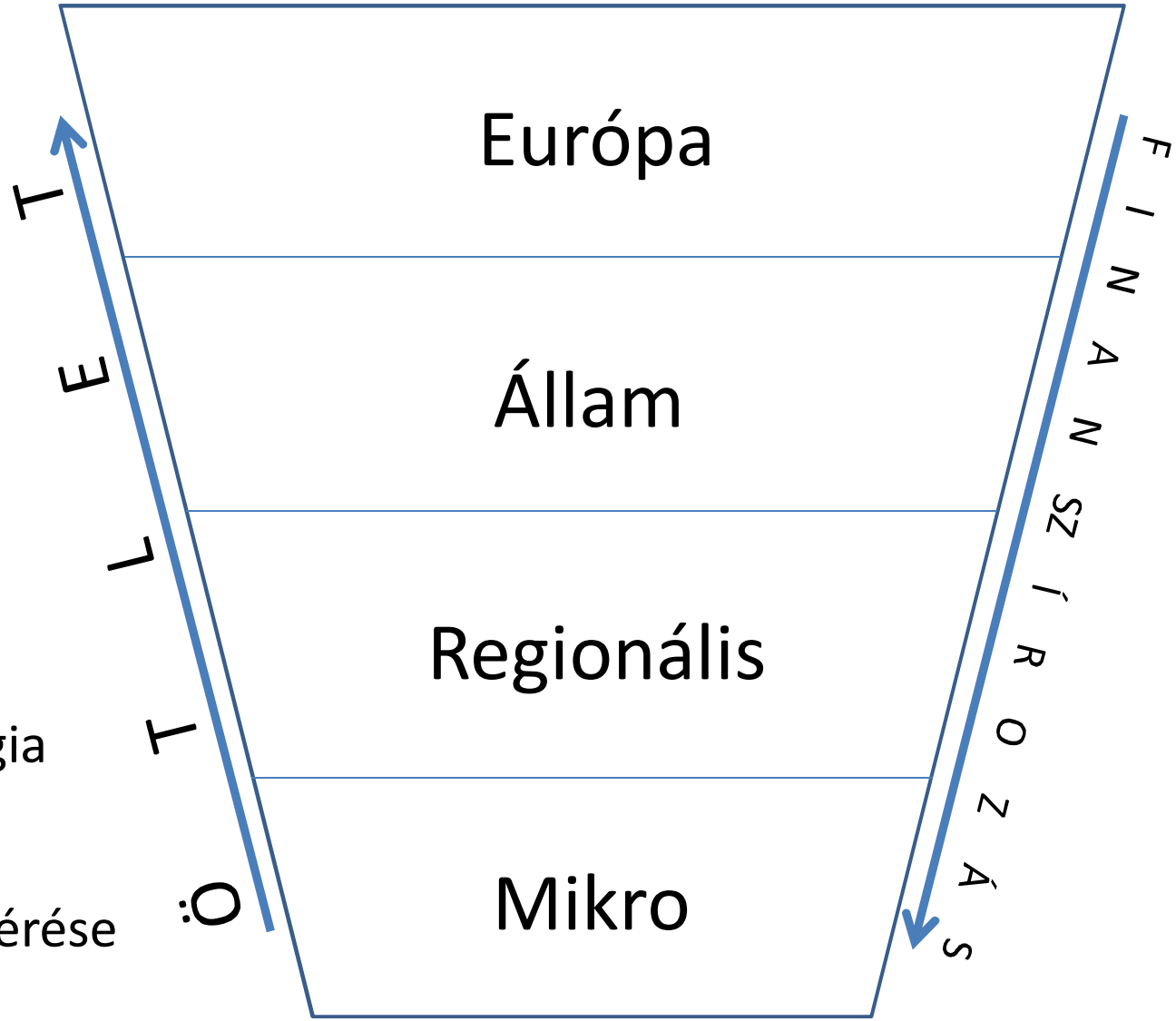
Bioökonómia

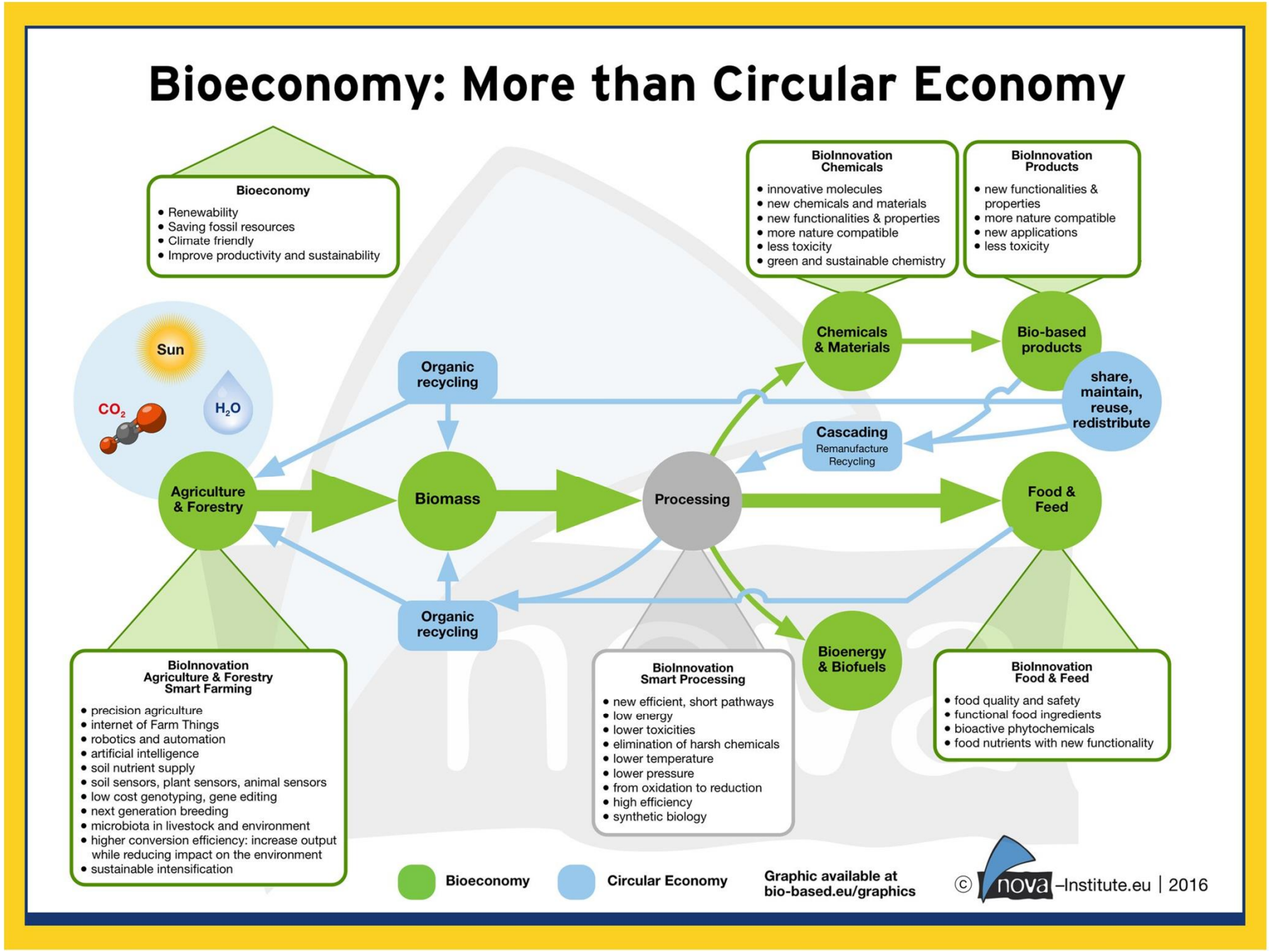
↑

Intelligens szakosodási stratégia

↑

Erőforrások azonosítása, felmérése




Bioeconomy: More than Circular Economy
Bioeconomy
• Renewability
• Saving fossil resources
• Climate friendly
• Improve productivity and sustainability
BioInnovation Chemicals
• innovative molecules
• new chemicals and materials
• new functionalities & properties
• more nature compatible
• less toxicity
• green and sustainable chemistry
BioInnovation Products
• new functionalities & properties
• more nature compatible
• new applications
• less toxicity
Sun
$CO_2$
$H_2O$
Organic recycling
Chemicals & Materials
Bio-based products
share, maintain, reuse, redistribute
Cascading
Remanufacture
Recycling
Agriculture & Forestry
Biomass
Processing
Food & Feed
Organic recycling
Bioenergy & Biofuels
BioInnovation Agriculture & Forestry Smart Farming
• precision agriculture
• internet of Farm Things
• robotics and automation
• artificial intelligence
• soil nutrient supply
• soil sensors, plant sensors, animal sensors
• low cost genotyping, gene editing
• next generation breeding
• microbiota in livestock and environment
• higher conversion efficiency: increase output while reducing impact on the environment
• sustainable intensification
BioInnovation Smart Processing
• new efficient, short pathways
• low energy
• lower toxicities
• elimination of harsh chemicals
• lower temperature
• lower pressure
• from oxidation to reduction
• high efficiency
• synthetic biology
BioInnovation Food & Feed
• food quality and safety
• functional food ingredients
• bioactive phytochemicals
• food nutrients with new functionality
Bioeconomy
Circular Economy
Graphic available at bio-based.eu/graphics
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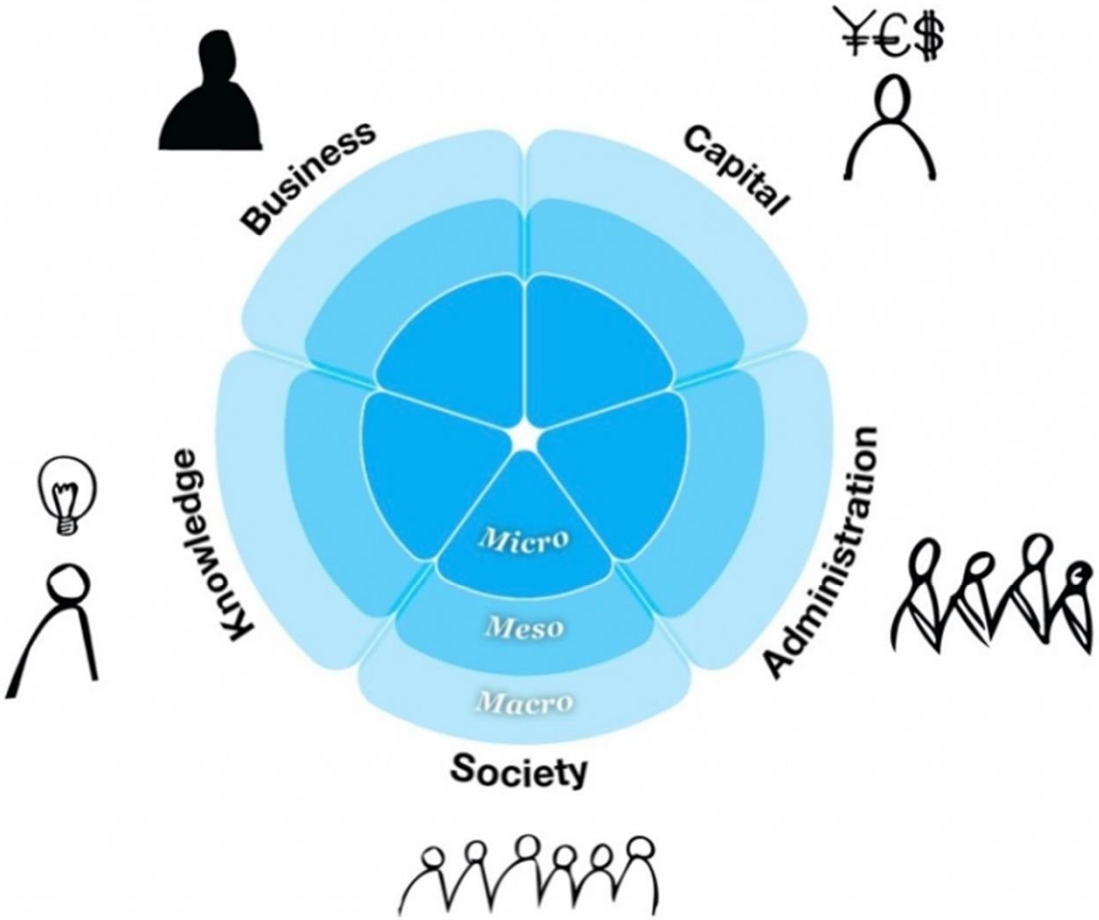
# Kompetenciák

Befektető

Üzlet




Politika

Kutatás

Társadalom, oktatás

# KÖSZÖNÖM A FIGYELMET!

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