

Fossiele Koolstof in Materialen

Is uitfaseren een prioriteit in Europa???

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Koolstof wordt gebruikt in vele toepassingen, maar het merendeel voor energie. Gebruik van koolstof voor materialen is < 8% van het totaal.

17.600



Mio Mt of carbon (2022)

% Fossil / Bio

9000	Energy	88%	12%
2400	Transportation	97%	3%
4000	Animal Feed & Bedding	100%	
1000	Food	100%	
1200	Materials & Chemicals	52%	48%

340	250	160	120	105	55	35	20	15	100
Wood for construction & Furniture	Thermo plastics	Pulp & Paper	Bitumen	Solvents, Additives	Manmade Fibers	Lubricants, Paraffin waxes	Rubber	Natural Textiles	Other Chemicals/ Materials

7 basis chemicalien met koolstofverbindingen in de Petrochemische Industry

Global demand: 580Mio Mt **Crude Oil – Natural Gas - Coal**

186 **Ethylene** 129 **Propylene** 91 **Methanol** 55 **Benzene** 32 **Toluene** 74 **Xylene** 13 **Butadiene**

117	Polyethylene Packaging Pipe/Wire	88	Polypropylene Packaging Electronics, Automotive	25	Formaldehyde Resins for durables, Acrylic Fibers	26	Ethyl Benzene Styrene/PS Electro, Auto, Packaging	12	Intermediate To Benzene and Xylene	64	Paraxylene PTA for PET in Packaging and Apparel	4	Polybutadiene Tires
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EU-27

- 6% of world population
- 3x world avg GDP

↓ 18%

105 Mio Mt

WAT IS HET PLAN VOOR PE, PP, PET, METHANOL??

REDUCE

RE-USE / RECYCLE

RENEW

“We kunnen fossiele koolstof niet uitfaseren”

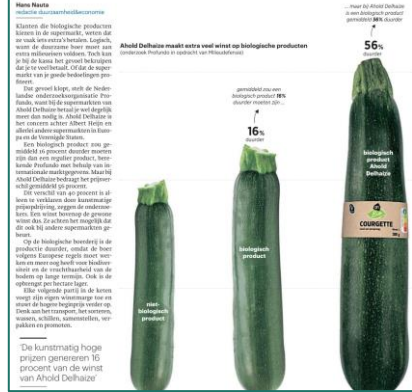
Alternatieven werken niet...



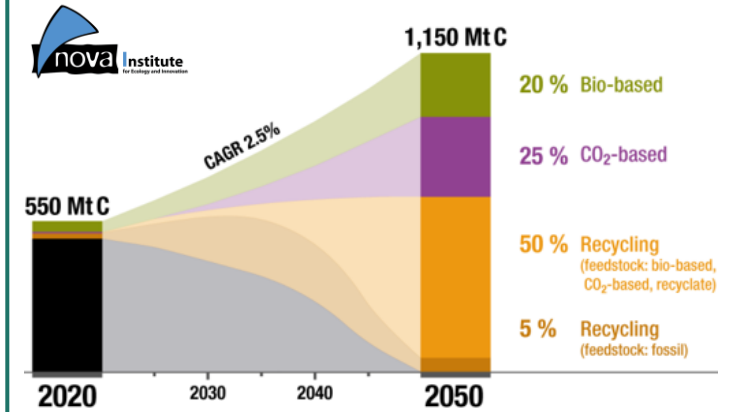
Te duur voor consumenten...

Bij Albert Heijn is biologisch ‘alleen beschikbaar voor de rijken

Prijsopdriving | Biologische producten zijn in de supermarkten van Alhoofd Dehalze veel duurder dan noodzakelijk, stellen onderzoekers. Dit zou het concen honderden miljoenen euros opleveren.



Niet genoeg grondstoffen...



Is dat inderdaad zo...????

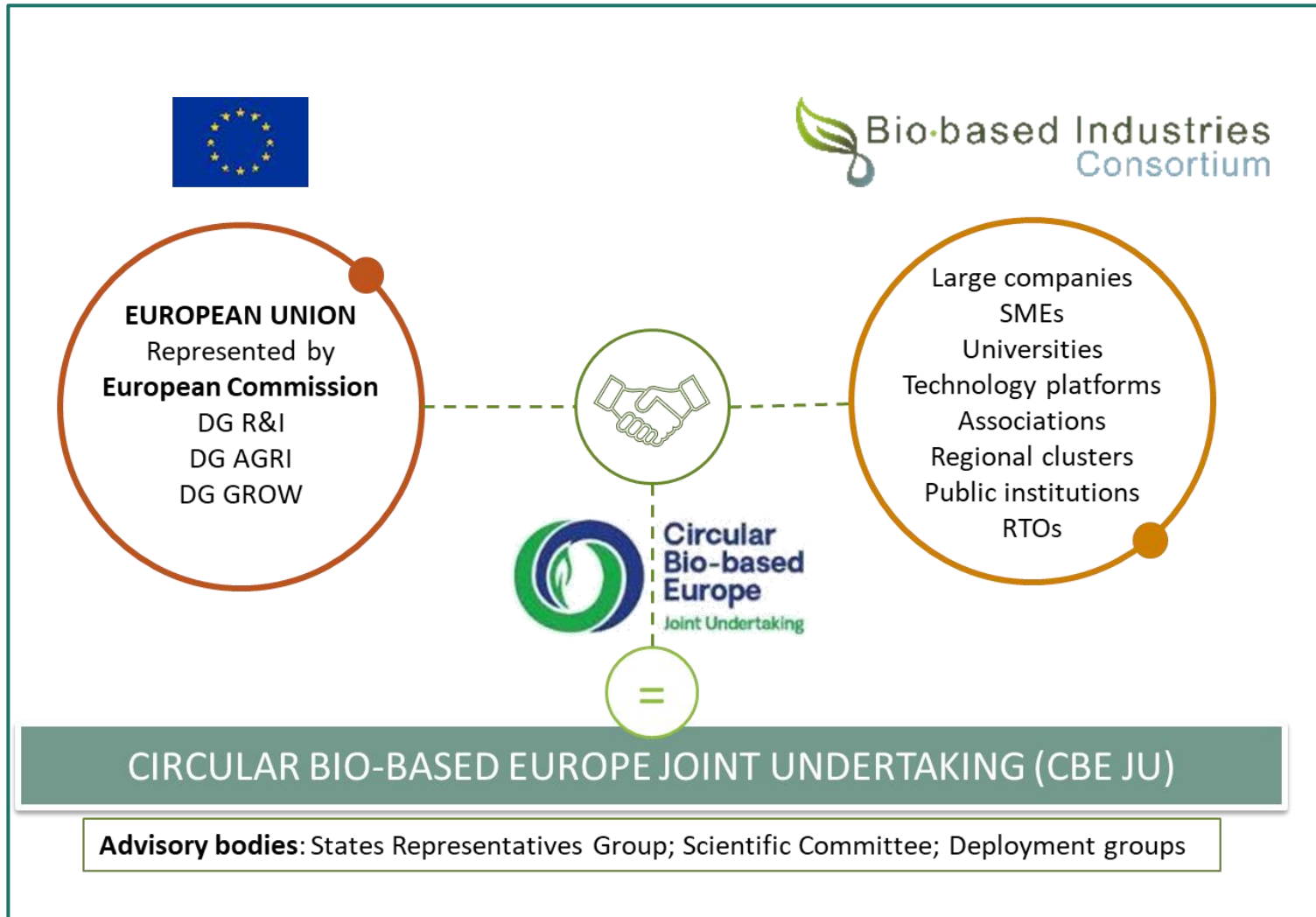
- Petrochemische industrie zoemt graag in op de uitdagingen van bio-based
- Zolang doorgaan met fossiel als optie blijft bestaan, zal er weinig beweging uit deze sector komen



- 120g polyester sport-shirt verkoopprijs € 20,-
- PET polymer cost € 1.5/kg heeft nauwelijks invloed op prijs shirt
- Zelfs al zou bio-polymer cost het dubbele zijn, dan wordt het shirt slechts 20 cent duurder....

- Bio-based is essentieel voor de transitie
- Verviervoudiging van hoeveelheid biobased Koolstof nodig in 2050 tov vandaag
- **Nova Biomass Study 2025:** Er is voldoende biomassa om in deze 20% te voorzien

Om innovaties in biobased producten binnen Europa te stimuleren, is de EC een partnership aangegaan met het bedrijfsleven: “Circular Biobased Europe-JU”



Wat is CBE-JU?

- Een Partnership onder het ‘Horizon Europe’ programma
- Funding Research and Innovation projects up to TRL 8 (unicum!)
- 6 annual ‘calls for proposals’ (AWP), van 2022 to 2027
- Budget: € 1 billion of public funding + € 1 billion industry investment

Biobased Industries Consortium (BIC) is de private partner van de EC in de CBE-JU



biconsortium.eu



The Bio-based Industries Consortium (BIC) is a non-profit organisation connecting industry, academia, regions and citizens to transform bio-based feedstocks into novel sustainable products and applications, and create circular bioeconomy ecosystems through investments, innovation and know-how.

320+

industry (full) members

large companies and SMEs

280+

associate members

research organisations, academia and trade associations



1	CBE JU	2	Business
②	BIC represents the private sector in a public-private partnership with the European Commission called the Circular Bio-based Europe Joint Undertaking	②	Facilitating connections and providing market intelligence through activities including networking events and commissioned reports/studies
3	Finance	4	Society
②	Mobilising public and private finance and investors through services such as a regional funding platform and a pitching event	②	Increasing awareness, knowledge, acceptance and education through activities such as a student competition (BISC-E) and positive impact stories on the BIC Investment Portal



BIC also carries out specific activities to achieve a favourable policy, regulatory and financing framework for the bio-based industries, such as representing our members interest vis-à-vis the EU Institutions.

Flagship (€80mio)

- 1 Urban-industrial symbiosis for bio-waste valorization
- 2 Bio-based (smart) drop-in platform chemicals
- 3 Circular-by-design fiber-based packaging with improved properties
- 4 Retrofitting of industrial plants towards higher-value bio-based products

Innovation Action/ Demo (€70mio)

- 1 Sustainable macroalgae systems for innovative, added-value applications
- 2 bio-based solutions to replace hazardous conventional chemicals for textiles production
- 3 Scaling-up nutritional proteins from alternative sources
- 4 Cost-effective and robust continuous biotech bio-based processes
- 5 Bio-based polymers /copolymers unlocking new market applications

**2025
CBE AWP
€172 mio**

RIA (€21mio)

- 1 Valorization of untapped forest biomass
- 2 Bio-based and biodegradable delivery systems for fertilizing products to reduce microplastics pollution & promote soil health
- 3 Alternative biomanufacturing routes for natural and synthetic rubber

CSA (€1mio)

- 1 Develop and deploy new curricula and knowledge exchange practices relevant to bio-based systems

Innovatie is zeker nodig om een transitie mogelijk te maken, maar zonder een drijfveer om fossiele Koolstof te vervangen zal die transitie niet plaatsvinden

Upcoming EU Policy Frameworks



BIC key asks to EU Policy Makers:

1

Accelerate Europe's bio-manufacturing capability from "Lab to Fab"

- Improve approval process, reduce hurdles for new biobased products
- De-risk biomanufacturing infrastructure (pilot, demo, flagship)
- Improve access to finance for biorefineries

2

Increase supply of sustainable biomass for biomanufacturing in Europe

- Apply scientifically sound sustainability criteria for using biomass (primary and secondary)
- Stimulate development and use of underutilized sources of biomass
- Create level playing field between use of biomass for materials and use for energy/fuels

3

Set incentives and concrete targets for the use of fossil free content in products and materials,

- recognize that use of virgin fossil resources is not an option and that recycling of fossil resources is not a sufficient option to become fossil-free

4

Adjust PEF methodology to reflect the difference in biogenic carbon versus fossil carbon

Zo lang er geen producten bestaan met een levensduur van miljoenen jaren, is het gebruik van fossiele koolstof in deze producten per definitie niet circulair

