



II FORO DE BIOECONOMÍA  
DE CASTILLA Y LEÓN  
25 · 26 octubre 2023 SORIA



# "Cooperación regional y el desarrollo de ecosistemas de innovación en bioeconomía

Soria 25.10.2023

Inazio Martinez de Arano

**BIOREGIONS**  
Forest bioeconomy in action



EFI

  
**BIOREGIONS**



# General Context

## ***Contexto***

Cambio global. Sabemos que necesitamos un cambio de modelo. Doughnut

## ***Que es la Bioeconomia***

tres aproximaciones  
Mas que eso

## ***Que es especifico***

- biologizacion de sectores económicos
- La biomasa viene de la tierra
- énfasis en la cross-sectorialidad
- énfasis en symbiosis industrial
- eficiencia circularidad

***Porque las regiones son importantes***

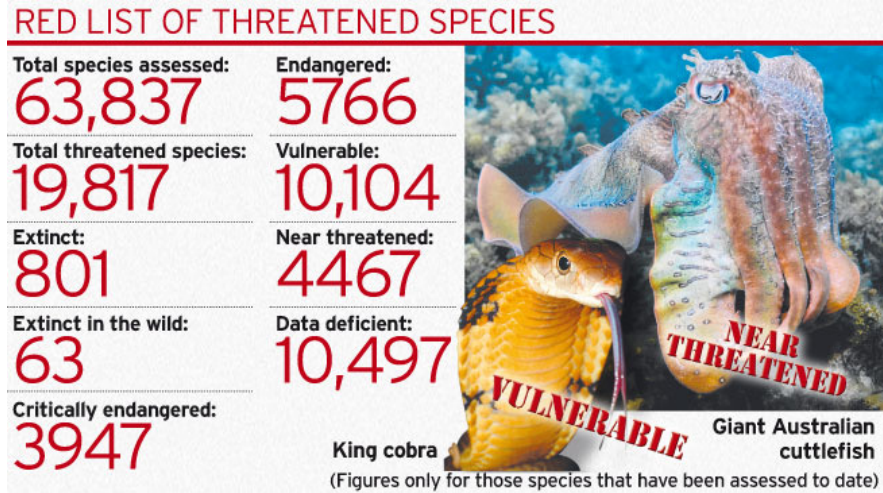
***Cuales son las principales barreras y principales drivers positivos***

**Como lo conceptualizamos desde Bioregions?**

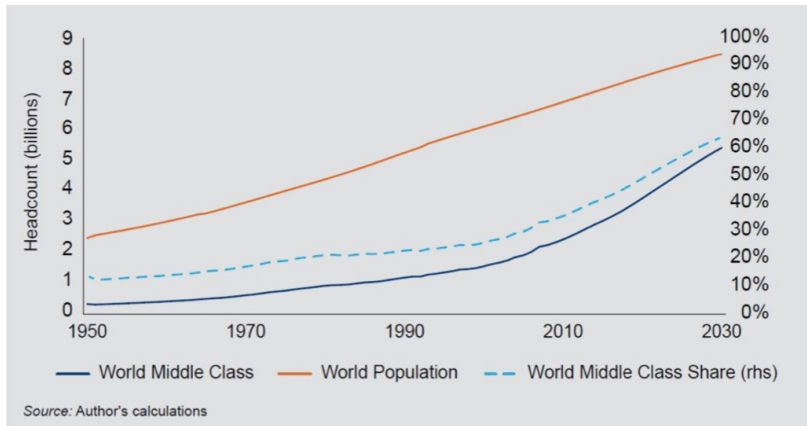
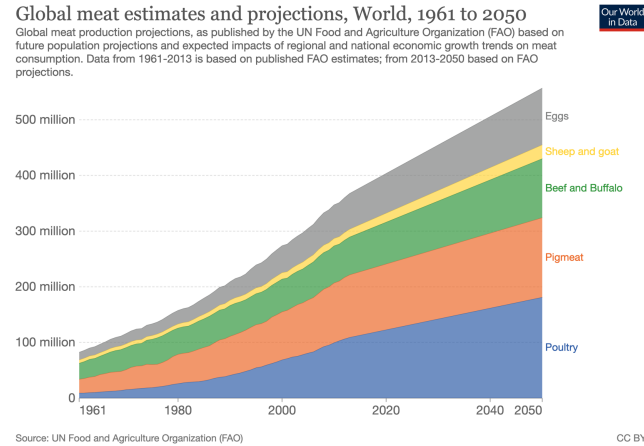
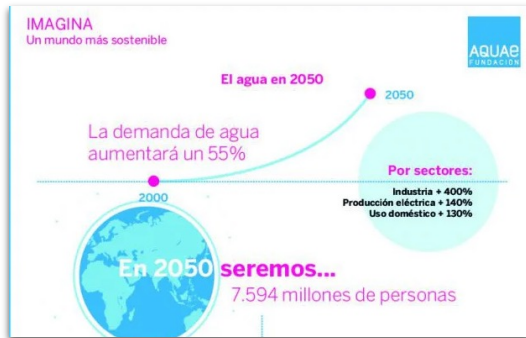
**Que aporta la colaboración interregional**



## Estamos superando los límites operativos del planeta

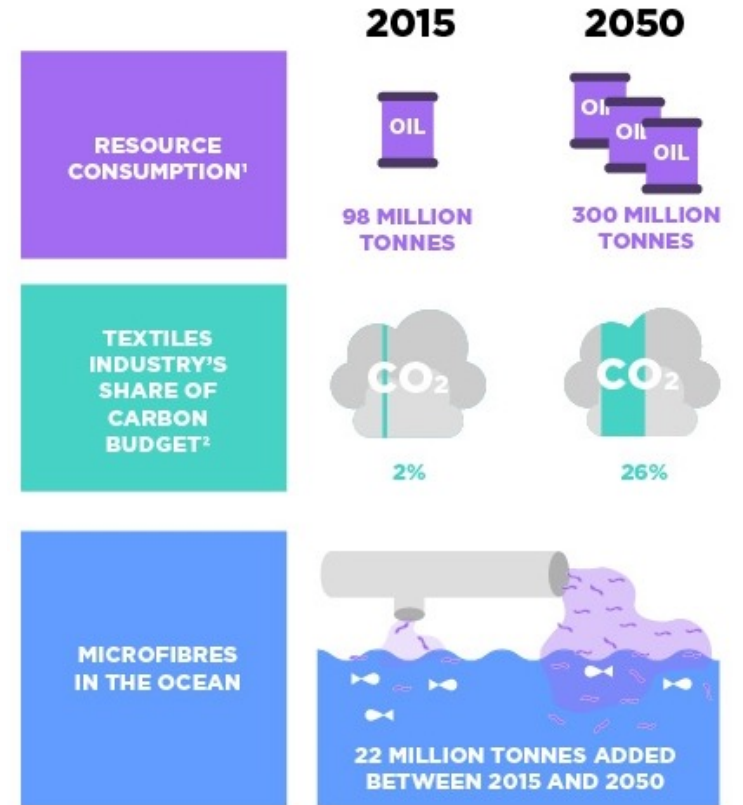


# ... que acelera!



From Hetemäki 2017

## Expected impacts of textile industry



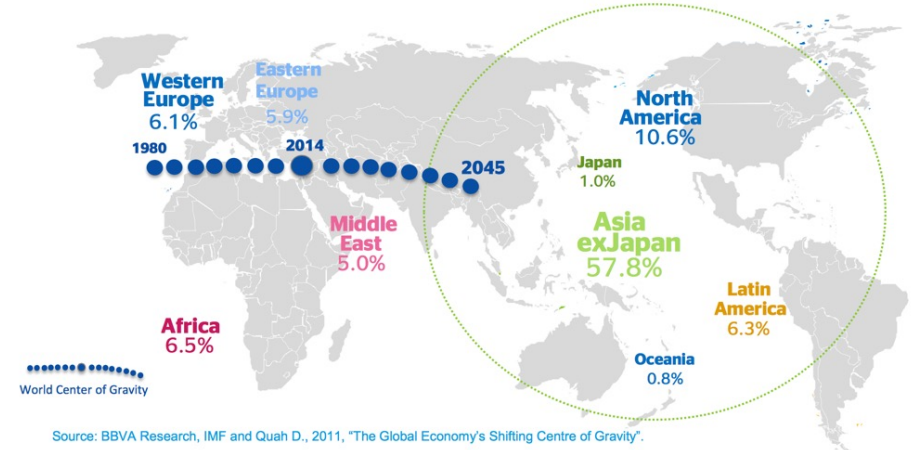
# Europa Pierde centralidad

*Desequilibrios entre sectores y regiones*

- *Economías emergentes*
- *Reducción brecha tecnológica y de productividad*
- *El fin de un coste energético plano*
- *Revolución digital*
  - *Industry 4.0*
  - *AI*
  - *Sharing economy*
- *Revolución biotecnológica*

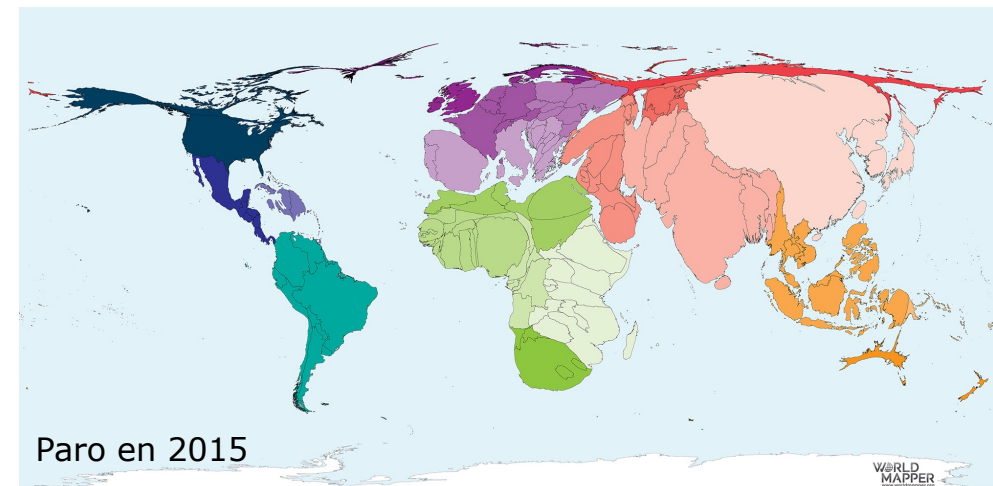
BBVA | Shifting the economic centre of gravity from the Atlantic to the Pacific area

Regional contribution to world growth in the next ten years (%)

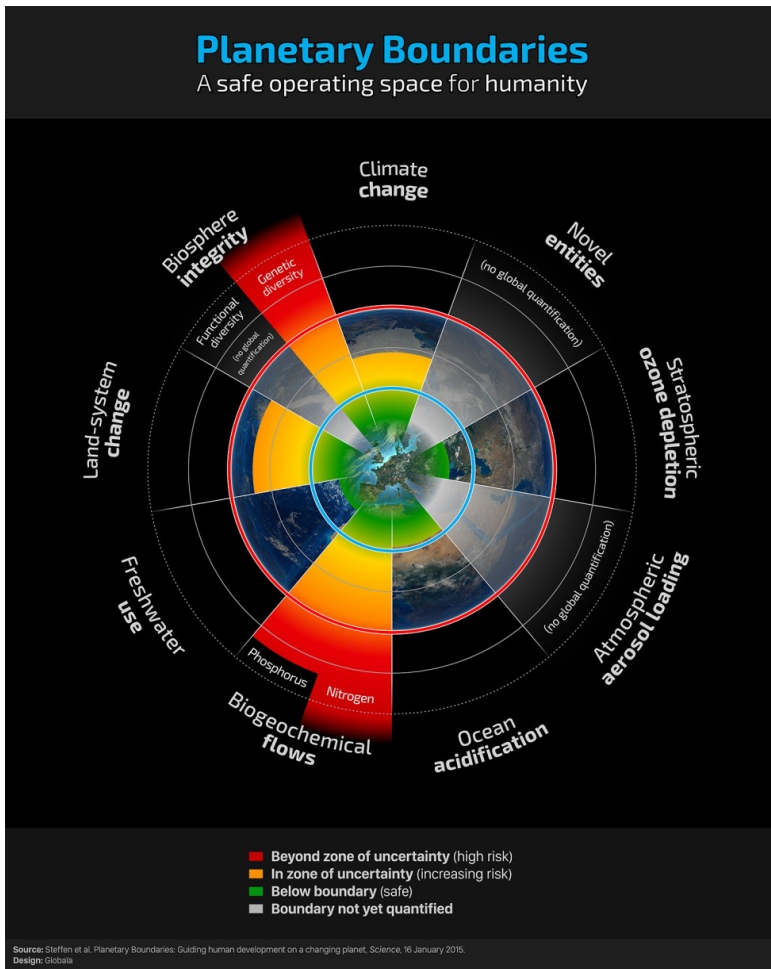


Global growth will be concentrated in the **Asia-Pacific** region, which will account for **76.5%** of the increase in GDP between 2014 and 2024.

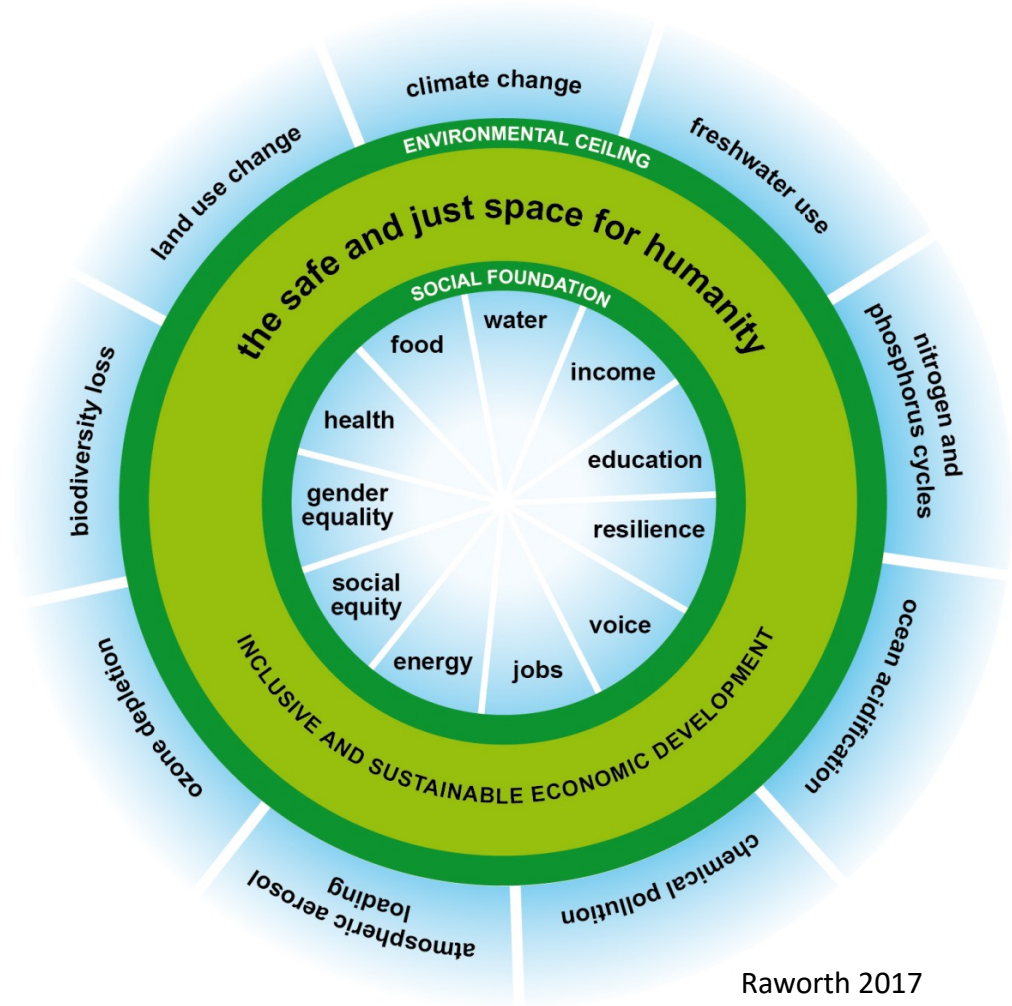
BBVA | RESEARCH



# Un espacio de desarrollo para la humanidad

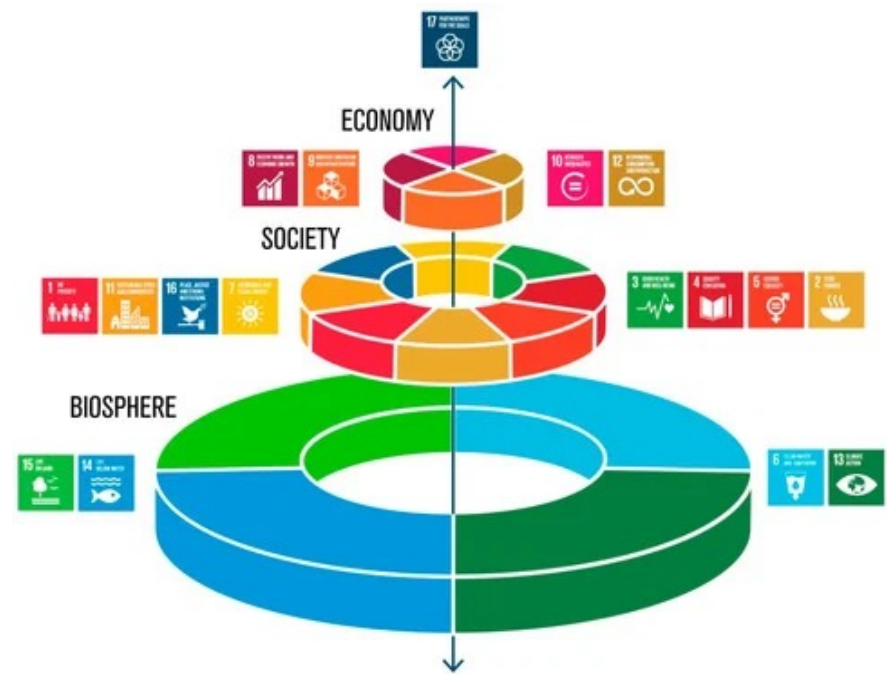
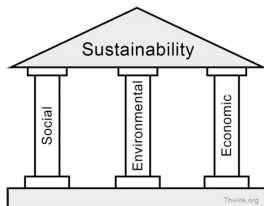


Steffen et al 2015



Raworth 2017

# Los tres pilares de la sostenibilidad ya no sirven

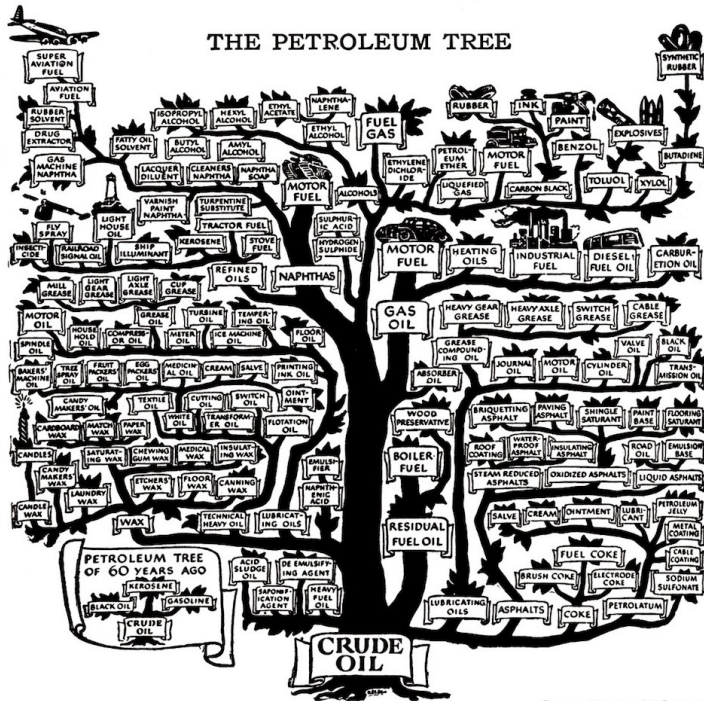
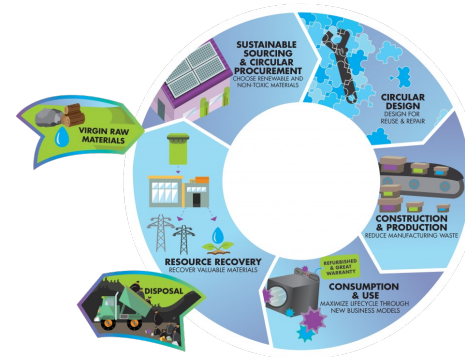


Rockström and Sukhdev (2016).

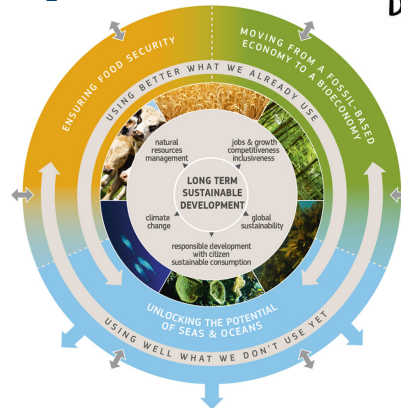


# A transition is needed

Fossil, non-renewable, linear economy



Socony-Vacuum Oil Company  
Crude oil has as many by-products as there are leaves on a tree. Sixty years ago, most of them were unknown.

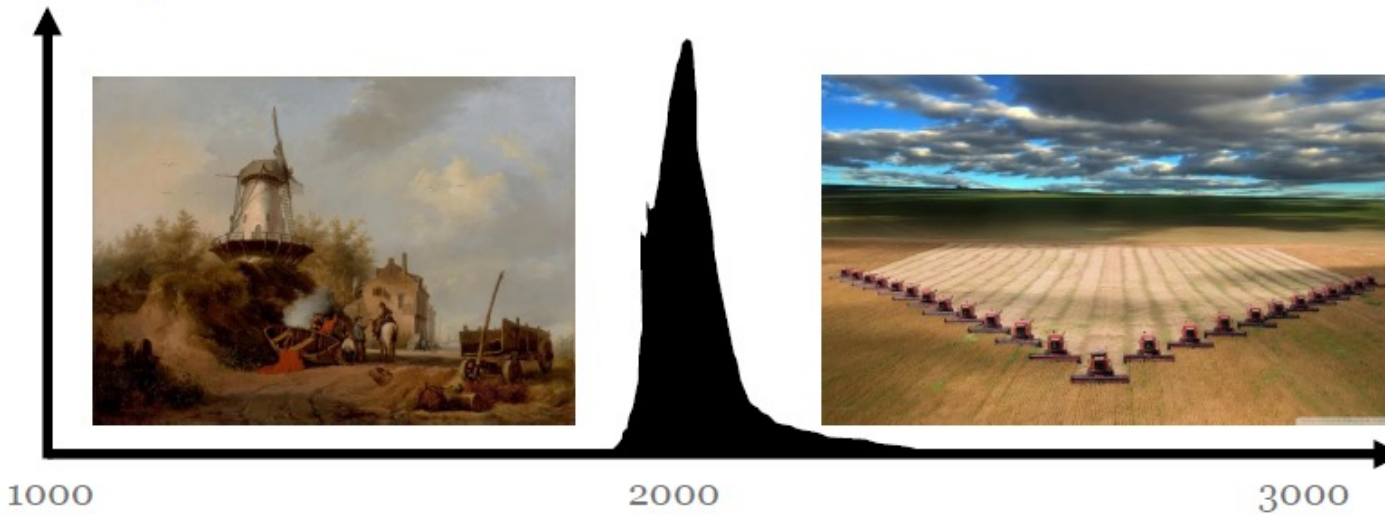


# A transition is needed



From bioeconomy to bioeconomy

Oil  
consumption



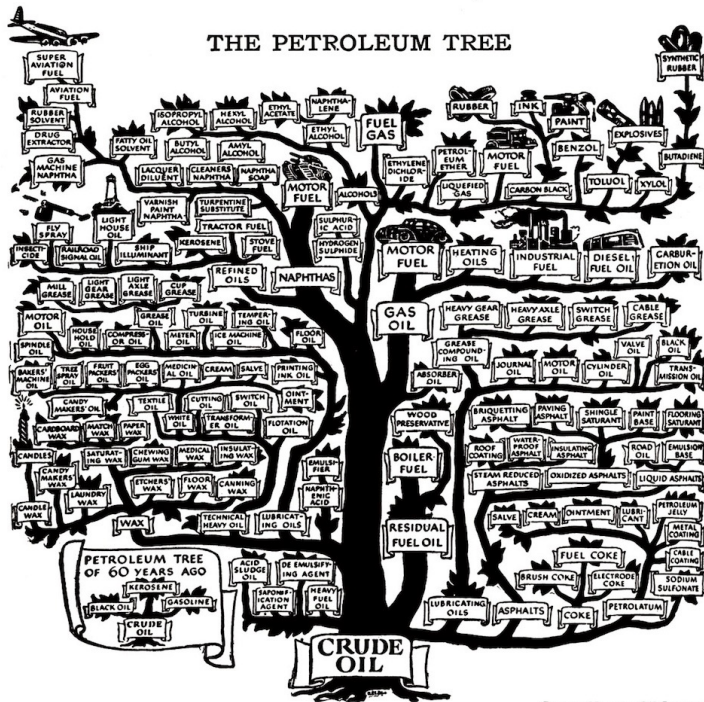
*Living off the land*

*A brief moment  
in history*

*Living off the land*

# A transition is needed

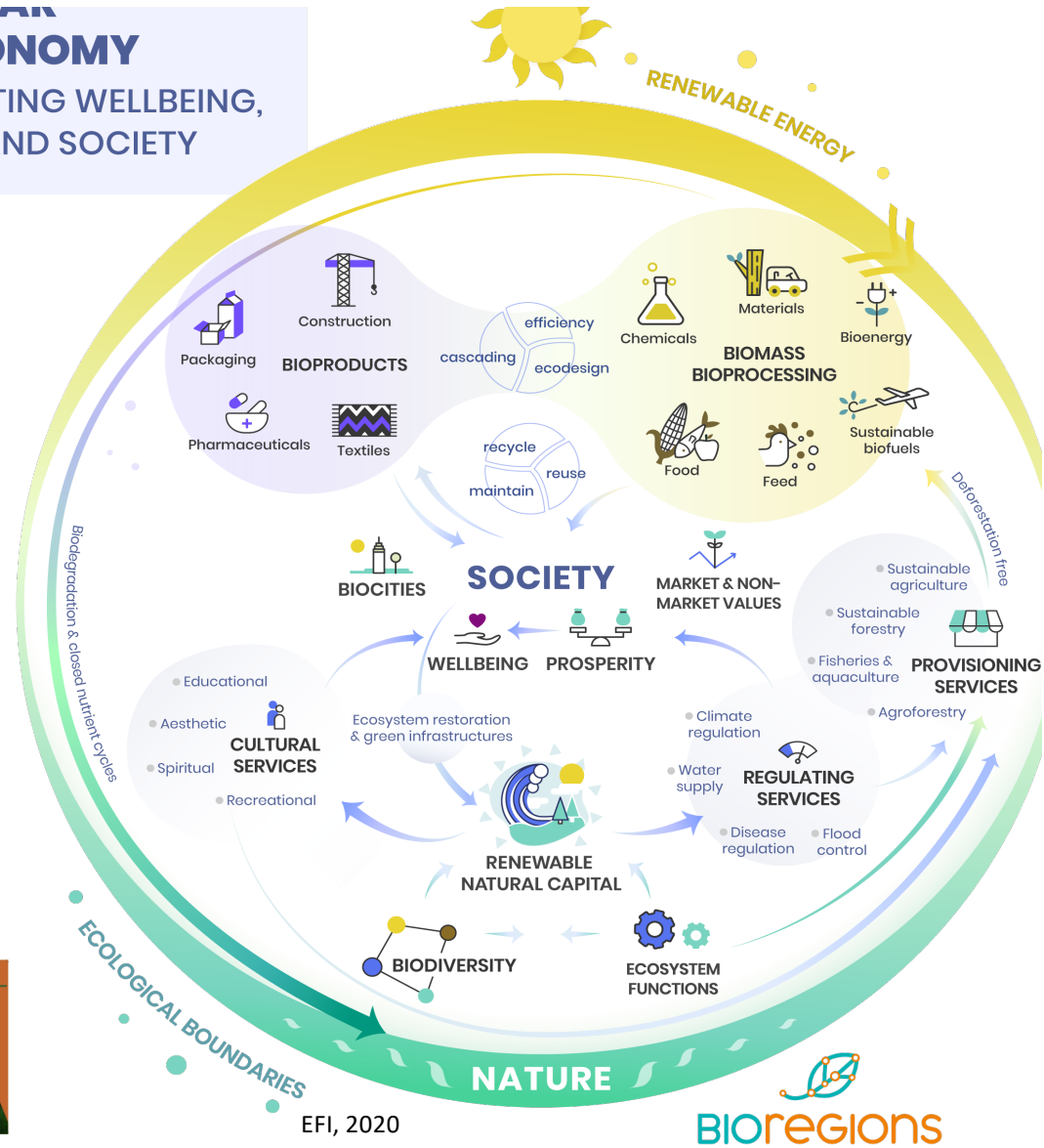
Fossil, non-renewable, linear economy



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## CIRCULAR BIOECONOMY

CONNECTING WELLBEING, NATURE AND SOCIETY



EFI, 2020

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¿Sueño o realidad?

## Aproximaciones a la Bioeconomía

- ***Bioteconológica***: centrada en *pharma* ingeniería genética aplicada a la agricultura y la bio-technologías industriales (OCDE 2009)



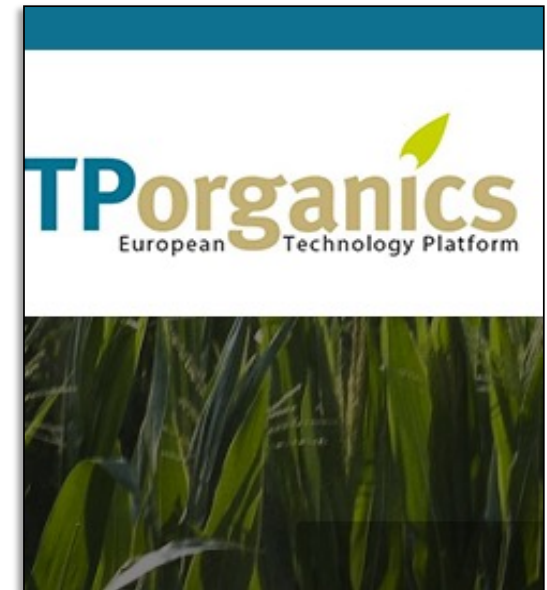
## Aproximaciones a la Bioeconomía

- ***Centrada en biomasa:*** transformación de biomasa en carriers energéticos y productos manufacturados (EU 2012)...
- Cada vez mas emphasis en la circularidad y el uso material de los recursos (EU 2018)



## Aproximaciones a la Bioeconomía

- **Agro-ecológica:** enfocada en la sostenibilidad, procesos de producción, productos locales, agricultura ecológica



# Aproximaciones a la Bioeconomía

- **Centrada en el territorio:** enfocada en la sostenibilidad, procesos de producción, productos locales, agricultura ecológica







Sector bio vs biologizar sectores

# Biologisation of economic sectors: agriculture and forestry

Innovació alimentària

## Catalunya destinarà 7 milions a un 'hub' de recerca entorn de la proteïna alternativa a l'animal

- Alimentaria Foodtech 2023: Proteïna, Innovació i tecnologia per recuperar la dieta mediterrània
- D'ingredients per fer crispetes amb gust de tripes a màquines per marinar a gran escala: així és Alimentaria Foodtech 2023

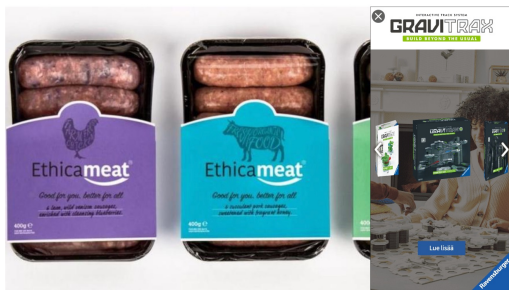


## El gigante brasileño JBS entra en el capital de la firma donostiarra BioTech Foods

La compañía brasileña se ha hecho con una participación de 36 millones de euros.

Efe

18:11:21 | 13:53



Ethica Meat. La carne cultivada de BioTech Foods - L'NIG



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### AgroPaper™

The sustainable and biodegradable solution

Smurfit Kappa have developed a revolutionary new paper to replace PE in sustainably managed forests in Northern Spain, AgroPaper™ enables crop growth but does not need to be removed after harvest as it is fully compostable.

AgroPaper™ is fully compostable according to EN13432 with optimal crop like the polythene. There are lower handling costs as the paper is biodegradable and benefits the ground.

Our collaboration with a well-know Agricultural Institute (INTIA) allow

7th January

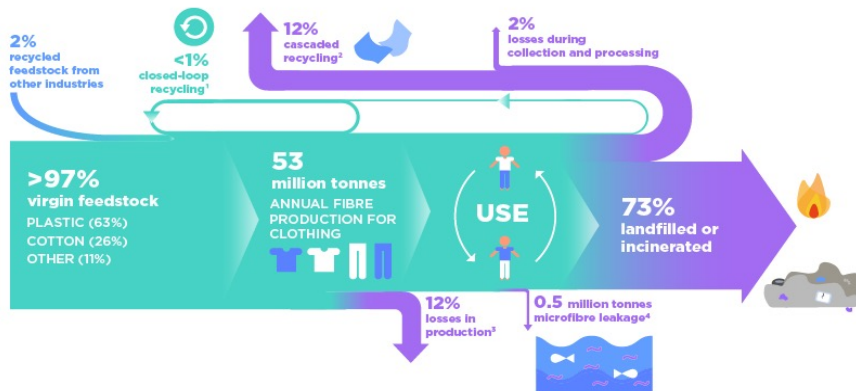
## Decarbonising forestry machines



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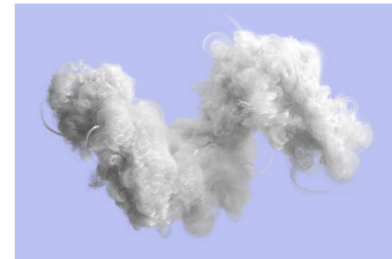
# Biologisation of economic sectors: *advanced textiles*

Global material flows for clothing in 2015



1 Recycling of clothing into the same or similar quality applications  
 2 Recycling of clothing into other, lower-value applications such as insulation material, wiping cloths, or mattress stuffing  
 3 Includes factory offcuts and overstock liquidation  
 4 Plastic microfibres shed through the washing of all textiles released into the ocean  
 Source: Circular Fibres Initiative analysis - for details see Appendix B of the full report

[tiny.cc/fibres](http://tiny.cc/fibres)



## The Kuura<sup>®</sup> fibre

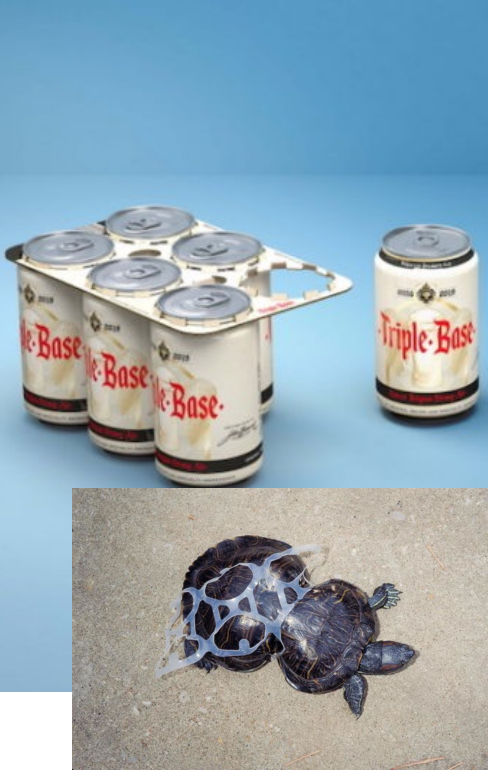
Our raw material is grown under harsh Nordic conditions by local families. This makes the foundation for a unique, responsibly-sourced textile fibre.

[Read more →](#)



Innovative by nature

# Plastic free food!



# Building bio-cities




[constructconnect.com](http://constructconnect.com)



 Adsorbi



 Fiberwood



 woodio



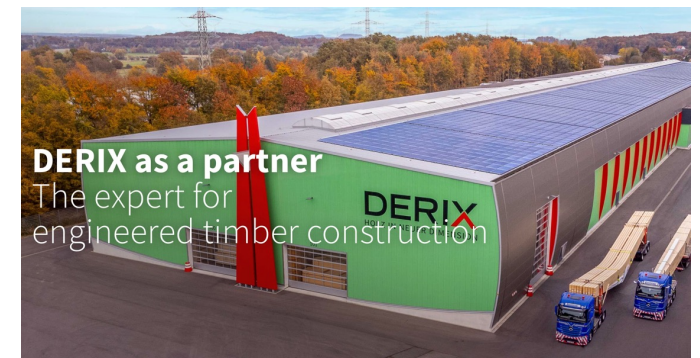
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# Biologisation of economic sectors: manufacturing!

UPM **BIOFORE**  
BEYOND FOSSILS 



# Circularidad y eficiencia



## 7) Most relevant barriers are:

- Lack of Cooperation among different Stakeholders
- Lack of Technical feasibility
- Lack of supportive policy and legislative environment well-tailored to regions

7bis) Lack *social acceptance* is NOT considered relevant

Barriers	North-Karelia	Tuscany	NRW	Castilla y León
Lack of co-operation among different stakeholders	4.13	4.40	4.07	4.21
Lack of supportive policies and legislation	3.13	4.29	3.98	4.22
Lack of balance between different forest uses	3.53	3.74	3.77	3.84
Lack of technical feasibility	4.00	3.69	3.63	4.15
Lack of profitability and market demand	3.67	3.67	3.86	4.11
Lack of general social acceptance	2.80	3.10	3.38	3.49

Table: Importance of barriers as barriers for bioeconomy development in your region. 1 = Not at all important; 3 = Neutral; 5 = Extremely important





¿regiones?

# La biomasa viene de la tierra

- En el territorio se Cruzan múltiples visiones e intereses.
- El suministro depende de miles de productores individuales
- La producción está fuertemente afectada por el cambio climático y social
- Gran diversidad de tipos de biomasa con alto coste de transporte.
- El uso energético o manufactura compite con la alimentación: énfasis en eficiencia, residuos y circularidad

# Porqué las regions lideran la bioeconomía

Bioeconomy is rooted in regional social, economic and ecological structures

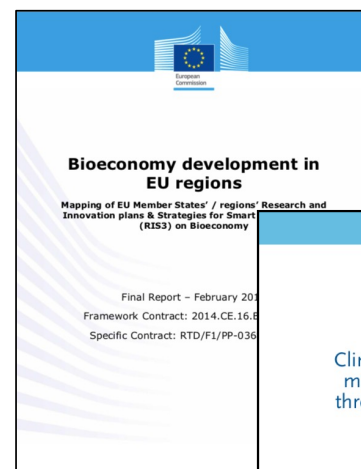
- Biomass availability and types
- Need to tackle specific challenges
- Transform Leading economic sectors
- Societal needs and preferences

Regions have necessary policy tools

- RDPs/ RIS3 / RTD Policies / Land Use and Urban Planning/Forestry...

Regions provide economies of scale

- “Direct to consumer” approaches have shown limitations



# Cómo fortalecer los impulsores de la bioeconomía regional



Inter-regional cooperation to strengthen positive drivers and create framework conditions for forest-based, sustainable and equitable bioeconomy transitions

# Bioregions Facility: areas de Trabajo

Bioregions work together to share ideas, experience and good practice through areas of work, supported by the Secretariat.



... una enorme riqueza de iniciativas



SMART WOOD  
CENTER OWL

**Basque  
BioDesign  
Center**

Biodiseño & Tecnología

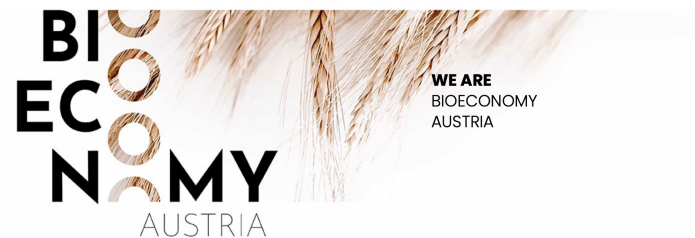


FUTURE FOREST  
INITIATIVE



BOOST

Acceleradora  
de proyectos de  
bioeconomía



# Gracias!!

<https://bioregions.efi.int>

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