



A Bioeconomy for Europe

Using resources from land and sea
for a post-petroleum economy

EU Bioeconomy strategy updating

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THINK FOREST EVENT - BERLIN, 10/05/2017



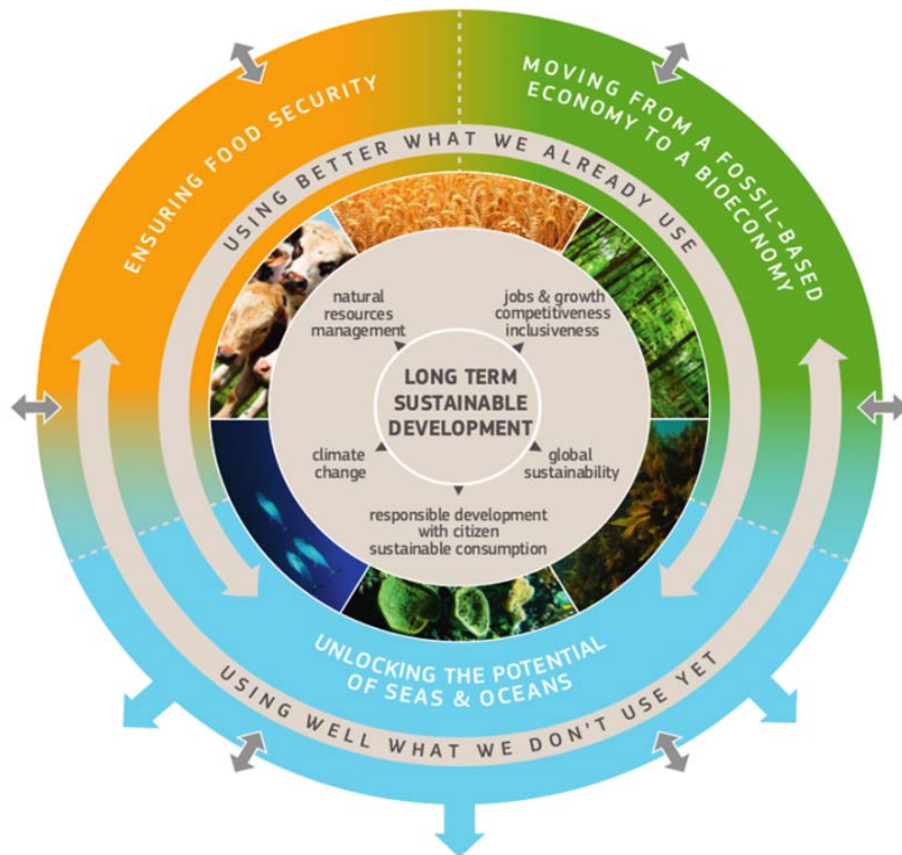
European
Commission

Bioeconomy encompasses the production of **renewable biological resources** from land and sea and the conversion of these resources & waste streams into value added products (e.g. food, feed, bio-materials, bio-energy and bio-products).

EU bioeconomy strategy, 2012

CHALLENGES:

- ✓ Feed 9 billion people by 2050
- ✓ Unlock the potential of seas & oceans
- ✓ Mobilise rural and coastal economies
- ✓ Boost bio-based markets



2012 EU Bioeconomy Strategy & Action Plan

Investment in R&I



- **Horizon 2020 (€3,8b SC2)**
- Increase multi-disciplinary & cross-sectoral R&I
- ESIF - Smart Specialisation
- EFSI

Policy interaction & stakeholder engagement



- EU Policy coherence
- Development of regional and national bioeconomy strategies
- Bioeconomy Panel
- Bioeconomy Observatory
- International cooperation

Enhancement of markets & competitiveness in bioeconomy



- Sustainable intensification of primary production
- Expansion of new markets
- Increase EU competitiveness
- **BBI JU**

Bioeconomy Strategy



Source: German Bioeconomy Council, Feb 2017



IN EUROPE: Several MS have adopted **national Bioeconomy Strategies**.

France FEB 2017,
Italy MAR 2017!

AT and EE under development.

Committee of Regions report on BE this week!

R&D FUNDING: HORIZON2020 & BBI



HORIZON2020

- EU R&D funding doubled from FP7 to reach €3.8 billion under Horizon2020.

Bio-Based Industries PPP

- A €3.7 billion Public-Private Partnership (PPP) between the EU and the Bio-based Industries Consortium (BIC) – EU contribution of € 975 million
- The BBI PPP funds projects aimed at:
 - Building new value chains based on the development of sustainable biomass collection and supply systems;
 - Unlocking the utilisation and valorisation of waste and ligno-cellulosic biomass;
 - Bringing existing value chains to new levels, thus creating a market pull and reinforcing the competitiveness of EU agriculture and forest based industries;
 - R&D upgrading and building demonstration and flagship bio-refineries





Chemical products made from agricultural raw materials & waste



Source photos: matrica.it

FUNDING: EFSI



Next generation bio-product Mill Finland



METSÄ GROUP | Sales EUR 5.0 billion | Personnel 10,500

METSÄLIITTO COOPERATIVE | Group's parent company | Owned by 122,000 Finnish forest owners



METSÄ TISSUE
Tissue and cooking papers

Sales:
EUR 1.0 billion
Personnel:
2,800



METSÄ BOARD
Paperboard

Sales:
EUR 2.0 billion
Personnel:
3,100



METSÄ FIBRE
Pulp

Sales:
EUR 1.3 billion
Personnel:
850



METSÄ WOOD
Wood products

Sales:
EUR 0.9 billion
Personnel:
2,300



METSÄ FOREST
Wood supply and forest services

Sales:
EUR 1.6 billion
Personnel:
900

€ EU contribution: € 275 000 000 total in loans from EIB, € 75 000 000 via EFSI

Source photo: metsaboard.com



The current EU and global policy context

✓ **Circular Economy Package**

- Food waste, Plastics, Biomass and bio-based products, cascading use of biomass, investments in biorefineries

✓ **Revised legislative proposal on waste**

- Separate collection of biowaste, ban on landfill of waste that is separately collected, waste to energy

✓ **Plastics Strategy**

- Replacing fossil by bio-based feedstocks. Development of biodegradable and bio-benign plastics. Reduce marine litter

✓ **SDGs, COP 21 and Energy Union**

- Reducing agriculture emissions, boosting carbon sink, deployment of biorefineries

✓ **Modernisation of CAP; FOOD2030**



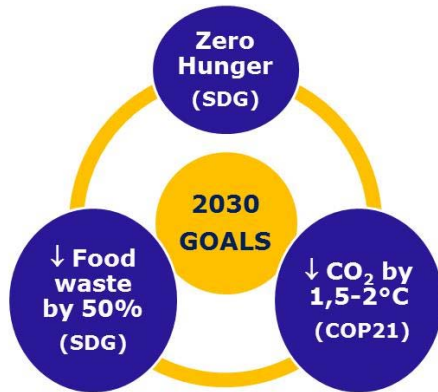
CHALLENGES:



Today's agro-food system: A perfect Storm



2 billions people are obese, 795 million are hungry or malnourished



1/3 of all food wasted: 1.3 billion tons or 10% of global biomass supply



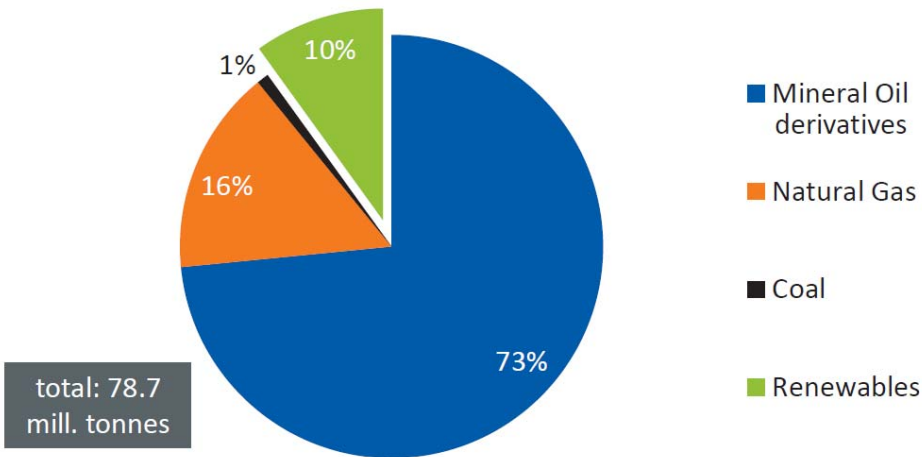


DRIVERS: The bioeconomy/bio-based chemicals

Organic raw material use Draft results shares



Shares in total organic raw materials – material (feedstock) use only
EU chemical industry, 2014



Source: CEFIC 2014

Chemical industry – underpins nearly all sectors of the economy – 1,2 million jobs in EU – 3rd highest source of industrial emissions after steel and cement (and they both rely on chemicals)

Transforming the EU chemical industry into an industry based on renewable carbon.

90% of EU chemical industry feedstocks for non-energy material use come from fossil resources.

COP21 calls for net zero emissions during 2nd half 20th century, but "net zero emissions cannot be met by using fossil resources for materials" (OECD).

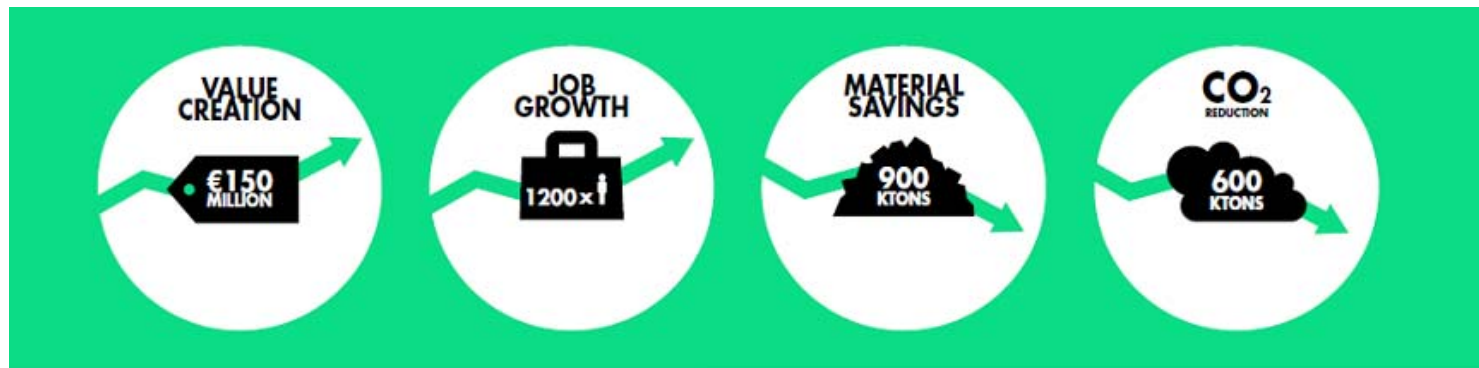
Today biomass is the only source of renewable carbon present in vast quantities.

REGIONAL DRIVERS

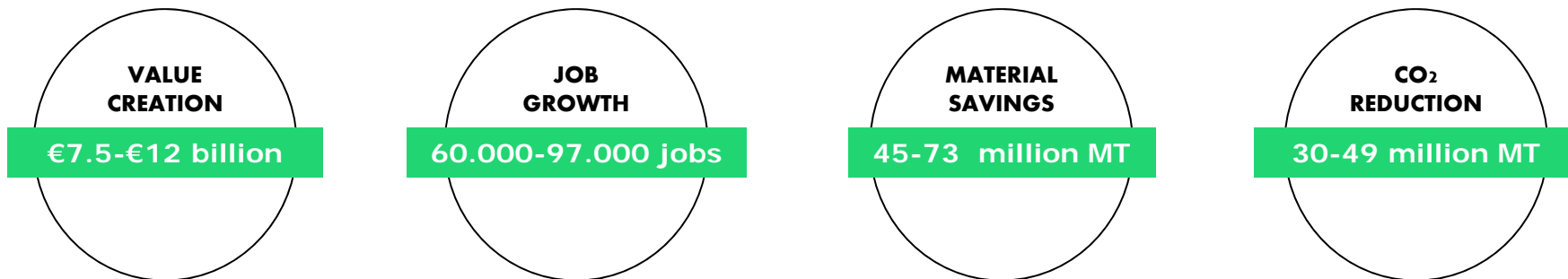


VISIONS:

Predicted gains from high value recycling of organic residue streams in Amsterdam



Scaling up: the total gains if the top 50 EU cities were to copy Amsterdam's vision...



Lower estimate assumes that effects are the same size for each city irrespective of its population. Higher estimate assumes that effects increase in proportion to population size of city. The combined population of the 50 largest EU cities is 56 million, about 11% of the total EU population.





Mandate:

- *Circular Economy action plan 2015:*
"the Commission will examine the contribution of its 2012 Bioeconomy Strategy to the circular economy and consider updating it if necessary".
- *Conclusions of ENV council June 2016:*
"assess the contribution of bioeconomy to circular economy and update the bioeconomy strategy accordingly".
- *Accelerating Clean Energy Innovation 2016:*
"The corresponding role of the bioeconomy (for decarbonisation) will be considered in the upcoming review of the bioeconomy Strategy and its possible update".





Timetable Bioeconomy review

June 2017:

- ***Report from Expert Group Review***
- ***BioE stakeholders Manifesto***
- ***Mapping BioE in the MS (JRC+SCAR)***

16 November 2017:

- ***Conference on BioE review report,***
- ***Manifesto and showcasing BioE (SC2)***

Q1-Q2 2018:

- ***Council Conclusions (tbc)***
- ***Decision on revision/update of BioE strategy***





'Bioeconomy Policy Day'

Brussels, Charlemagne building

16 Nov 2017

- Session on Bioeconomy Stakeholder Manifesto
- Presentation of BE review followed by discussion sessions led by relevant DGs; looking forward
- Save the date link:
<https://ec.europa.eu/programmes/horizon2020/en/news/horizon-2020-societal-challenge-2-infoweek-including-high-level-policy-events>





TOWARDS A SUSTAINABLE AND CIRCULAR BIOECONOMY

- Optimising flows (biomass supply, waste), while reducing impacts and maintaining stocks and functions (soil, biodiversity)
- Not only fed, but nourish
- Realise potential of bioeconomy for more sustainable and circular industries
- Support transformation of rural areas and cities
- Coherence of policies and synergies between EU, national and regional strategies





Bioeconomy:

**"A unique opportunity
to reconnect economy, society and
the environment"***

*The title of the newly launched IT bioeconomy strategy

