



# The European Bioeconomy Strategy

# CONTEXT

- **Communication on Bioeconomy – 2012**

Food security, sustainable management of natural resources, climate change, reduced fossil-dependence, jobs creation and EU competitiveness

- **Review of Bioeconomy Strategy – 2017**

good delivery, objectives still relevant, increasing importance, more focussed actions for evolved context (SDGs, circular economy, ...)

- **Communication on updated Bioeconomy – 2018**

- **Major initiative under the Commission's 2018 workplan**

- **Co-ordination by the Secretariat General and DG Research together with departments for agriculture, environment, marine, industry, energy and others (DGs AGRI, ENV, MARE, GROW, JRC, ENER...)**

- **Adoption foreseen for Q III 2018**

- **Presidency Conferences : 22 Oct 2018, under AT Presidency  
9 July 2019, under FI Presidency**



# What is the EU's understanding of the Bioeconomy.....

**All sectors & systems that use / produce / process / are driven by biological resources**

- Ecosystems on land and sea
- Primary production systems - agriculture, forestry, aquaculture / fisheries – **incl. waste/side streams**
- Food. feed. fibres. bio-based industry, fuels and bio-energy



## ....and what is the focus of the new EU Bioeconomy Strategy

- Society – driven, socio-economic-environmental balance
- Sustainable, circular and local
- Cutting across sectors and policies, federating



## 2017 Bioeconomy Strategy Review – main findings

- BE R&I investment doubled from FP7 to Horizon 2020
- Bio-based-industries partnership developing transformative technologies for circular BE
- Bioeconomy policies taken up in MS, regions, cities
- Bioeconomy Manifesto established
- Further mobilisation of investment needed
- Better address policy coherence
- Current policy context (CE, SDGs, Paris,..) calls for a sustainable, circular bioeconomy
- Better monitoring and assessment frameworks needed (indicators; biomass supply & demand; ...)



# Manifesto: Guiding principles

## *Addressing Societal and Environmental Challenges:*

- Resource use within the limits of the planet
- Mitigating Climate Change
- Producing for people
- Sustainable management of resources

## *Facilitating Innovation and Business Opportunities:*

- The Bioeconomy needs a stable and predictable legal framework
- Cooperation between sectors and along value chains creates synergies and critical mass
- Long-term research and innovation agenda
- Importance of regional strategies and rural renaissance

Europe's

**bioeconomy**  
weaving it all together



European  
Commission

# WHAT does the new Bioeconomy strategy aim to achieve....

- Link the sustainable use of renewable biological resources for food, feed, bio-based products and bioenergy, with the protection and restoration of biodiversity, ecosystems and natural capital across land and water.
- Step up action to ensure that the Bioeconomy provides a long-term balance of social, environmental and economic gains.

## .... and HOW

- A SYSTEM-wide approach,
- expanding beyond research and innovation,
- delivering on policies across sectors, addressing trade-offs
- strengthening CIRCULARITY and SUSTAINABILITY
- delivering for the citizens - on jobs, sustainable growth, well being - and on planetary health
- in LOCAL contexts, valorising local resources and adapted to local needs



# ACTION LINES PROPOSED (Roadmap):

- Strategic **research and innovation** to support this transition
- **Education and training** for a skilled workforce
- Strengthen the **bio-based sectors**
- Mobilising **investments**
- Creation of **new markets** and value chains
- **Monitoring progress**
- Exploiting the **opportunities** at **local** level
- Protecting and restoring **natural resources**



# LESSONS LEARNT/NEW DEVELOPMENTS:

- SUSTAINABILITY is transforming our (bio-)economies
- Functioning ecosystems are an integral part of the bioeconomy
- Our food systems are facing a major transition – R&I is needed to face the challenges and exploit the opportunities
- The main bioeconomy sectors – agri/food; forestry/paper&wood; marine/fish (&biowaste) – are becoming more and more interlinked
- Bio-based products are not only substituting fossils, but the technologies are key for turning waste into value and achieving circularity
- Bioeconomy is closely interlinked with other policy areas and objectives – identifying trade-offs and achieving policy coherence is a challenge



# Bioeconomy and Circular Economy

PRINCIPLE

1

Preserve and enhance natural capital by controlling finite stocks and balancing renewable resource flows  
ReSOLVE levers: regenerate, virtualise, exchange



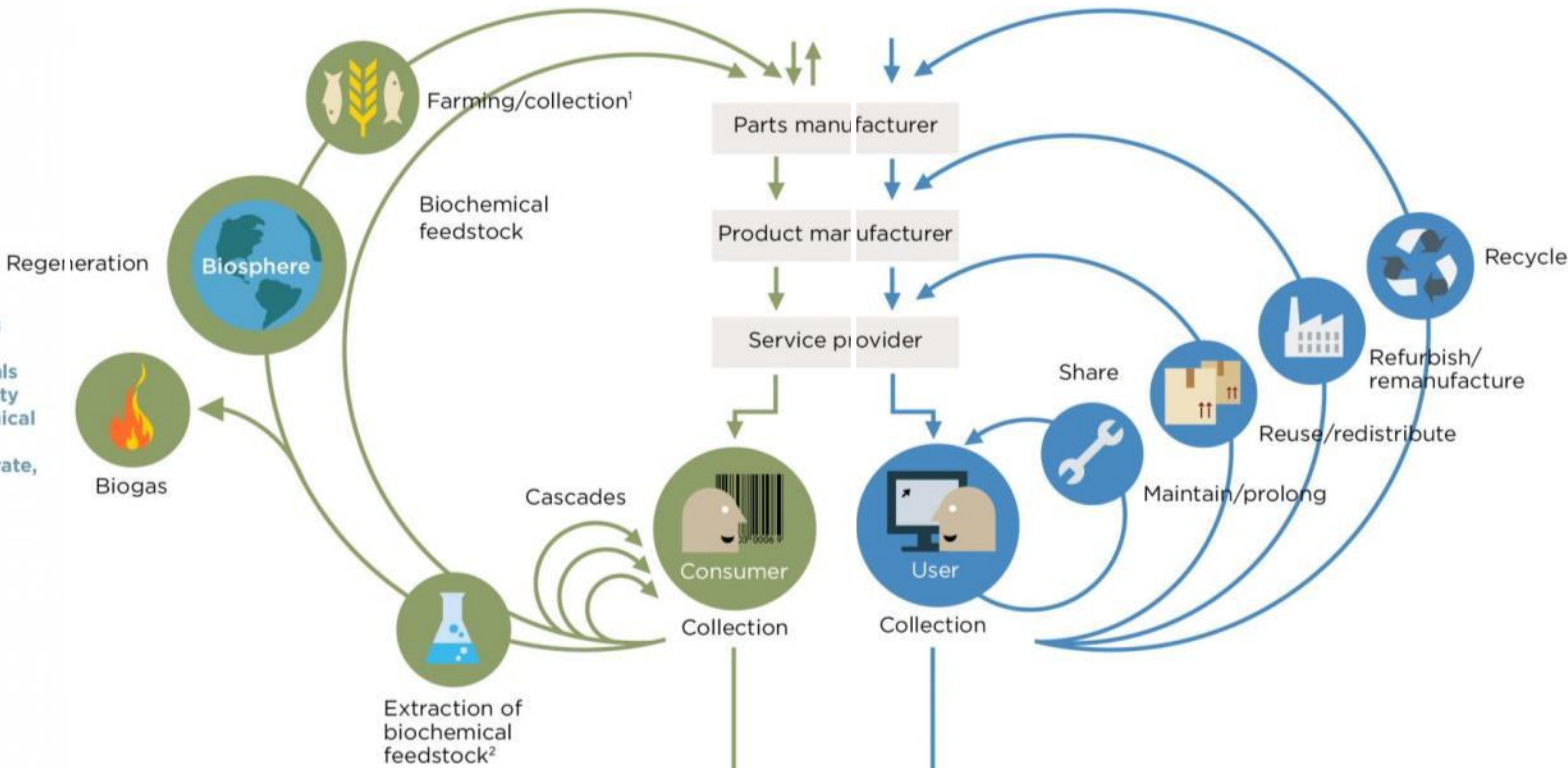
Renewables flow management

Stock management

PRINCIPLE

2

Optimise resource yields by circulating products, components and materials in use at the highest utility at all times in both technical and biological cycles  
ReSOLVE levers: regenerate, share, optimise, loop



PRINCIPLE

3

Foster system effectiveness by revealing and designing out negative externalities  
All ReSOLVE levers

## Bioeconomy

Minimise systematic leakage and negative externalities

1. Hunting and fishing  
2. Can take both post-harvest and post-consumer waste as an input

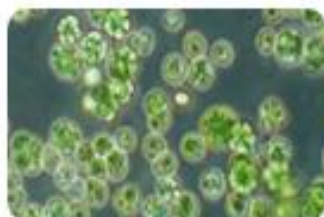
Source: Ellen MacArthur Foundation, SUN, and McKinsey Center for Business and Environment; Drawing from Braungart & McDonough, Cradle to Cradle (C2C).

# OPPORTUNITIES: Creation of new value chains

## Primary sector



Sugar beets



Algae



Wood residues



Biological waste



Fish waste



Cosmetics



Plastic bottles  
Natural colourants  
for candy



Car dashboards



Bio-based plastics



Oils  
Pharmaceuticals

## A 24 story "plyscraper"



Copyright: Rüdiger Lainer

## A tomato farm in the desert



Source: Sundrop Farms

## Energy, crops and fish in one farm?



Source: Smart Floating Farms

# THANK YOU

For more info please contact  
visit

<http://ec.europa.eu/research/bioeconomy>