

## “Introduction to the EU Bioeconomy Strategy and SCAR (Standing Committee on Agricultural Research)”

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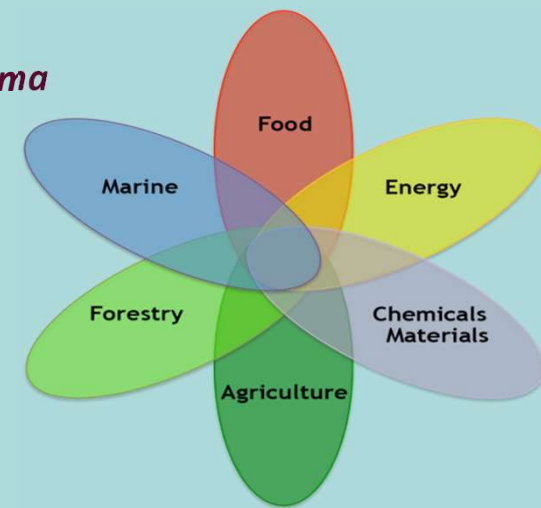
# What is the bioeconomy?

*The next wave in our economic development*

**All sectors and systems that use, produce, process, are driven by biological resources:**

- ecosystems on land and sea
- primary production sectors (agriculture, forestry, aquaculture and fisheries)
- all bio-based industries, processes, services

*e.g. food, paper, textiles, building and construction, chemistry and bio-pharma*



Using biological resources to produce "more and better, from less".

# The Bioeconomy

## Definition of the Bioeconomy Concept (EU BioE Strategy, 2012):

- The Bioeconomy encompasses the *production of renewable biological resources and the conversion of these resources and waste streams into value-added products, such as food, feed, bio-based products and bio-energy.*

## Addressing cross-cutting societal and environmental challenges:

- increasing global *population*;
- rapid depletion of many *resources*;
- increasing *environmental* pressures;
- *climate* change.

## Aim of the Bioeconomy Strategy:

- To pave the way to a more *innovative, resource efficient and competitive society that reconciles food security with the sustainable use of renewable resources for industrial purposes, while ensuring environmental protection.*



## 2012 EU Bioeconomy Strategy

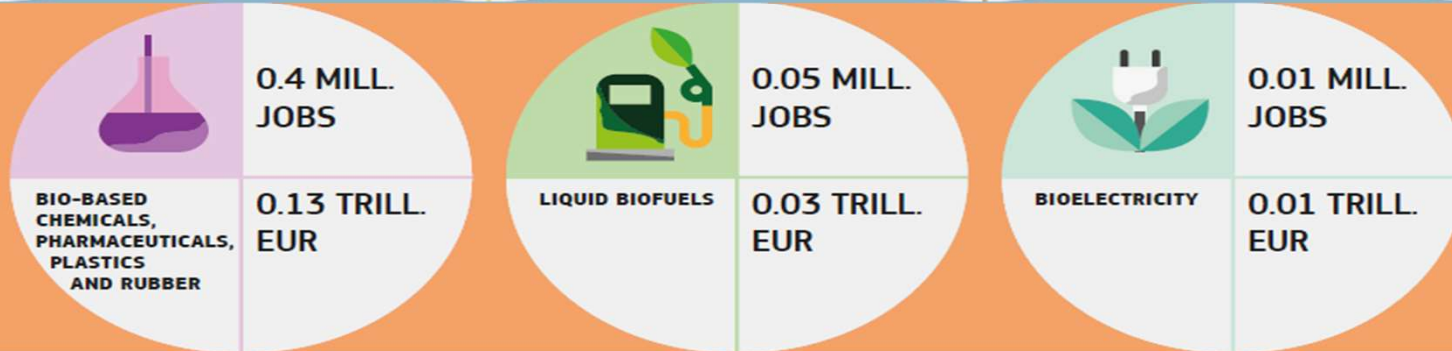
COM/2012/060 Final; SWD/2012/011 Final

Europe's  
**bioeconomy**  
weaving it all together

# The Bioeconomy in the European Union



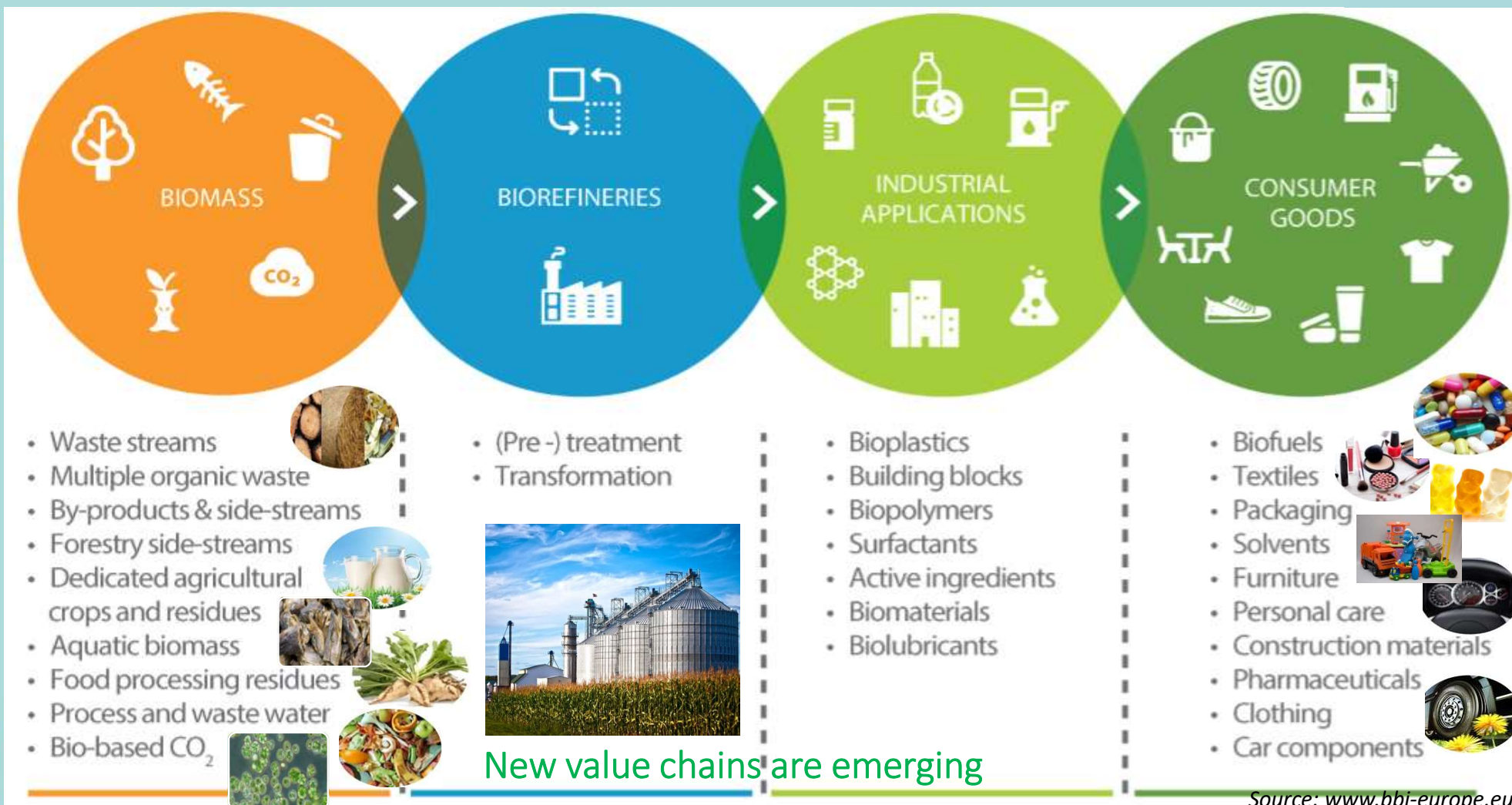
- **18,5 million jobs**  
(~8% of EU's workforce)
- **2,3 trillion Euro**  
turnover



Source: Bioeconomy Report 2016, Joint Research Centre, EC

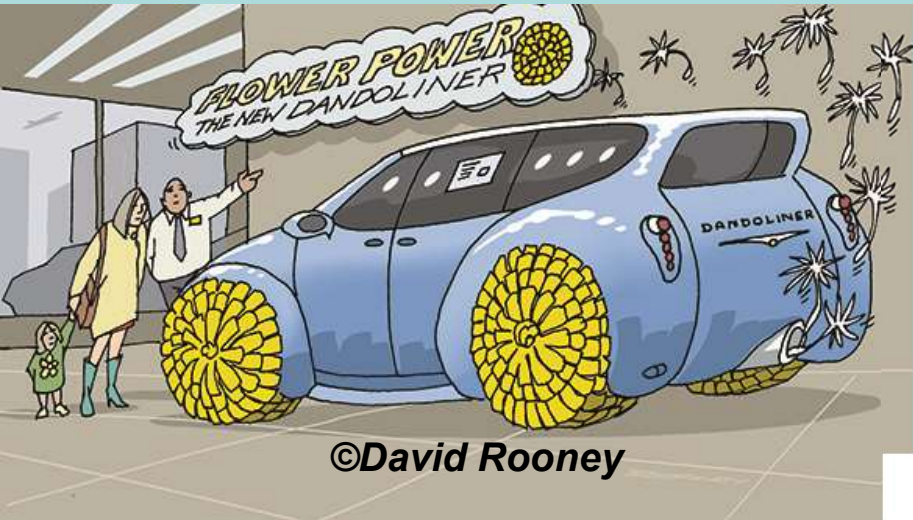


# Bio-based industries value chains



Source: [www.bbi-europe.eu](http://www.bbi-europe.eu)

# Bioeconomy in everyday life - The Innovation Opportunity



©David Rooney

## CAR TYRE



What can you do with a dandelion? They are weeds for most people. In the right sort of quantity, dandelions are an alternative source for a raw material in high demand: natural rubber, the fundamental ingredient in products, such as car tyres. Up until now, the European rubber industry has been dependent on fluctuating Asian supplies or synthetic rubber. Today, producers have developed the first prototypes of dandelion tyres.

## T-SHIRT



Dutch company Avantium has developed a 100% bio-based polyester by turning carbohydrates into chemical building blocks. The bio-polyester can be melted down and turned into thin fibers for spinning and weaving using the same technology used to make polyester clothing. T-shirts are one of the most versatile products.

## PAINTS



Until now, most additives in exterior paints were based on synthetic polymers, sourced, primarily, from oil. Within the BBI-funded project Exilva, Norwegian biorefinery specialist Borregaard has developed Microfibrillated Cellulose (MFC) as a natural paint additive. In doing so, it not only improves the CO<sub>2</sub> footprint of the product, but also strengthens the anti-cracking properties of paints.

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The product ...



... is environmentally friendly



... is cost-efficient



... is energy-saving



... is innovative



... reduces the use of fossil resources

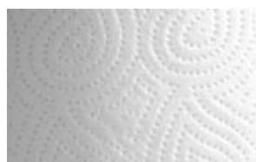


# Next generation bio-product Mill in Finland



**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**



Source photo: [metsaboard.com](https://metsaboard.com)

## EU context

- **Communication on the Bioeconomy – 2012**

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

- **EP Resolution – 2013, CoR Opinions – 2013,2017**

- **Renewed Industrial Policy; Circular Economy Action Plan**

- **Commission Work Programme 2018**

Continue to evaluate the bio-economy strategy of 2012 and we will examine how best to take it forward

- **Review of the Bioeconomy Strategy – 2017: Good delivery, increasing importance, objectives still relevant, more focussed actions for evolved context (SDGs, circular)**

- **Update of the EU Bioeconomy Strategy & Action Plan - 2018**





# EU Bioeconomy Action Plan (2012)

## Investment in R&I



- Horizon 2020:
  - 3.8 bn €
- Increase multi-disciplinary & cross-sectoral R&I
- ESIF - Smart Specialisation
- EFSI

## Policy interaction & stakeholder engagement



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

## Enhancement of markets and competitiveness in bioeconomy



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



## Deliver the EU Bioeconomy

Horizon 2020 research and innovation programme:  
SC 2 (3.8 bn € 2014-2020) "Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy"





## Bio-based Industries Joint Undertaking (BBI JU)



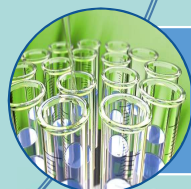
Public-Private Partnership between the European Commission & BIC supporting R&I for bio-based industries. EU body - operates under Horizon 2020 rules.



BBI Budget: € 3.7 billion (25% EU - 75% industry).  
Fund R&I projects from technology development to full scale.



Developing sustainable and competitive bio-based industries in Europe, based on advanced bio-refineries that source their biomass sustainably.  
(400 000 skilled jobs by 2020 rising to 700 000 by 2030. 80 % in rural areas.)



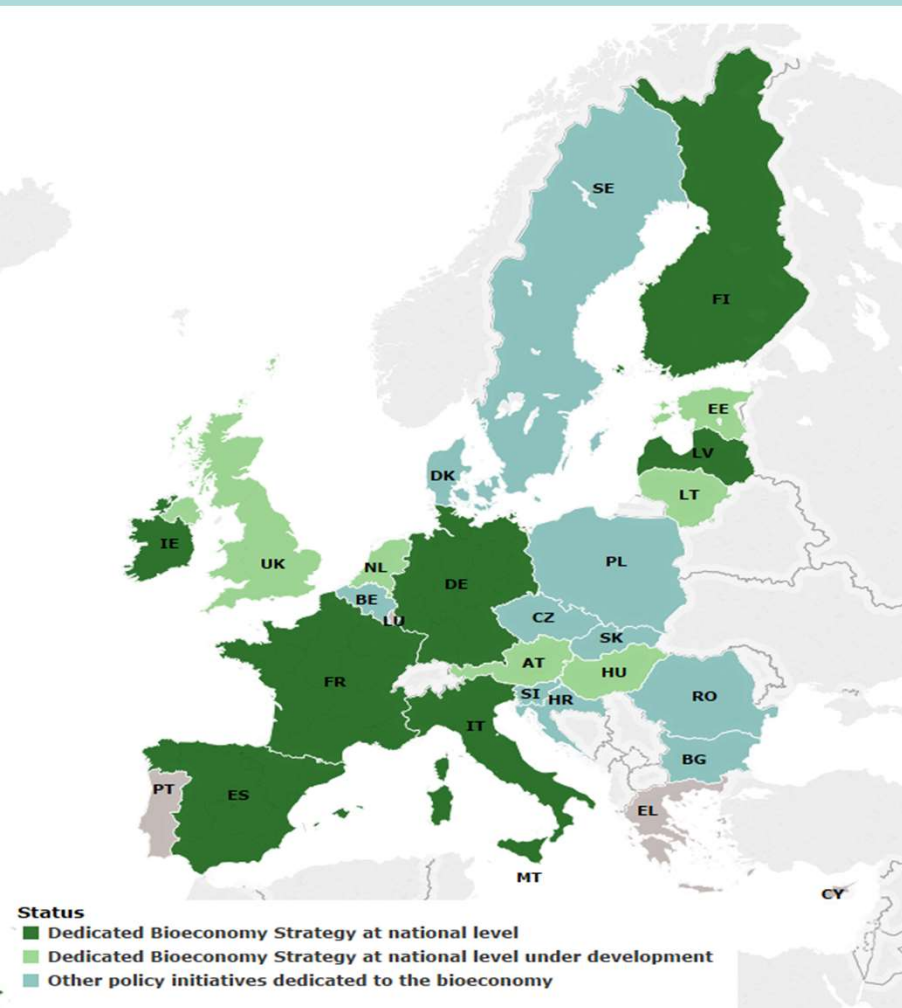
Demonstrate new technologies. Develop business models. Set-up flagship bio-refinery plants.  
De-risk investments. Organize the value chains. Bring critical mass to this “emerging” sector.



# Bioeconomy in the EU

*Great diversity... - Wide variety...*

- **7 MS** have a dedicated bioeconomy strategy  
*(Finland, Latvia, Germany, Italy, France, Spain, Ireland)*
- **6 MS** in the process  
*(Austria, Estonia, Hungary, Lithuania, the Netherlands and UK)*
- **7 MS** from CEE plan to develop such a strategy under the Bioeast initiative  
*(Bulgaria, Croatia, Czech Republic, Poland, Romania, Slovakia and Slovenia)*
- **>50 regions** have a bioeconomy-related strategy  
Almost all foresee R&I in their RIS3 *(CoR Opinion)*



Europe's  
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weaving it all together

Source: European Commission's Knowledge Centre for Bioeconomy

## Bioeconomy development in EU regions

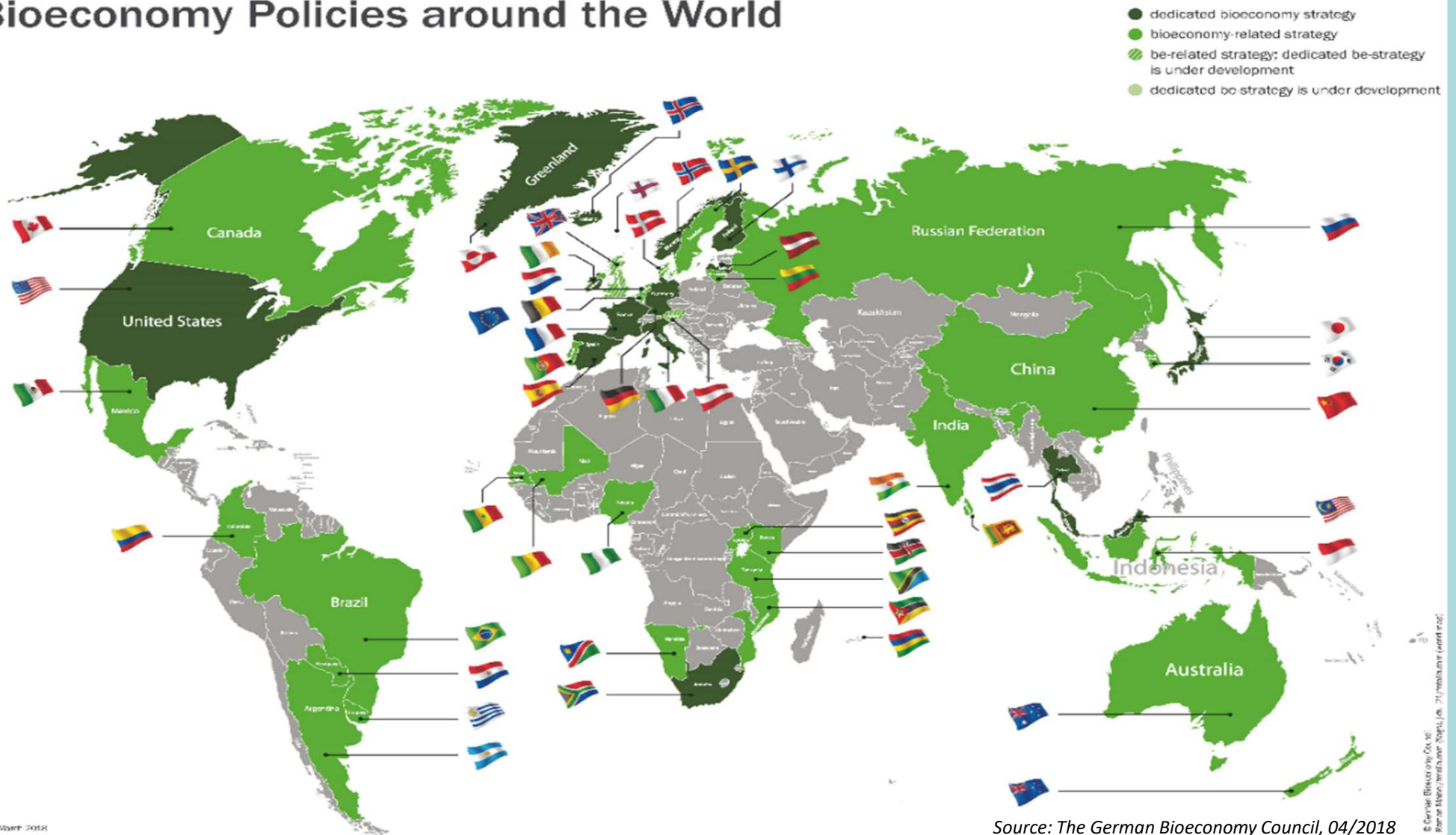
**Results of the EC Study: “Mapping of EU Member States'/regions' Research and Innovation plans & Strategies for Smart Specialisation (RIS3) on Bioeconomy for 2014-2020” (2/2017)**

**The analysis shows that around 36% of regions in Europe have a low level of bioeconomy maturity.**

**Regarding a better deployment of the bioeconomy at national and regional level in Europe, five main areas of recommendations can be derived:**

- **Bioeconomy strategic planning and governance,**
- **Value chain/cycle development, in particular SME engagement,**
- **R&I on technologies, knowledge transfer and new bioeconomy skills,**
- **Coordinated funding and synergies between instruments,**
- **Public awareness and acceptance.**

## Bioeconomy Policies around the World



As of March 2018

Source: The German Bioeconomy Council, 04/2018

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# Bioeconomy and its contribution to....

## Juncker Priorities

### 10 priorities

- |    |  |   |    |  |   |
|----|--|---|----|--|---|
| 01 |  | A new boost for jobs, growth and investments                            | 06 |  | A reasonable and balanced free trade agreement with the United States |
| 02 |  | A connected digital single market                                       | 07 |  | An area of justice and fundamental rights based on mutual trust       |
| 03 |  | A resilient energy union with a forward-looking climate change policy   | 08 |  | Towards a new policy on migration                                     |
| 04 |  | A deeper and fairer internal market with a strengthened industrial base | 09 |  | Europe as a stronger global actor                                     |
| 05 |  | A deeper and fairer Economic and Monetary Union (EMU)                   | 10 |  | A Union of democratic change  |

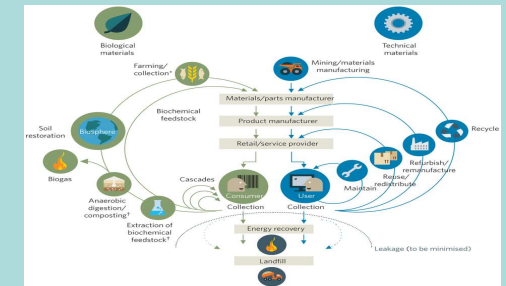
## SDGs Post-2015



## COP21



## Circular Economy



✓ **Renewed EU Industrial Policy Strategy** COM(2017)479-13.9.2017.

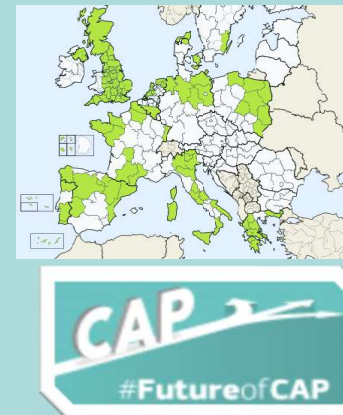
✓ **EU COM on the Future of Food and Farming, FOOD 2030**

✓ **Creation and expansion of markets**

## Energy Union



## Smart Specialisation



**Political 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".*

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# Review of the 2012 EU Bioeconomy Strategy

## Main Findings

- BioE R&I investment doubled from FP7 to Horizon 2020
- BBI PPP developing transformative technologies for circular BioE
- Bioeconomy policies taken up in MS, regions, cities ...
- 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 (biomass supply/demand)



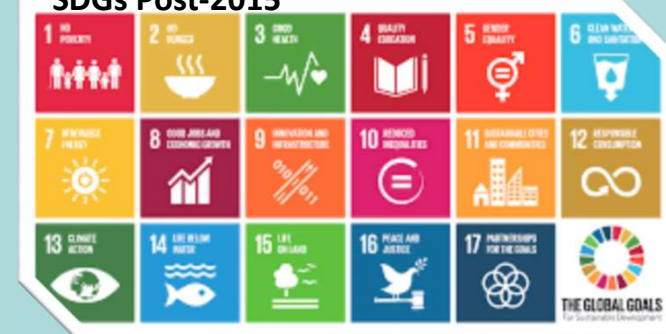
# Commission Communication: Updating the European Bioeconomy Strategy & Action Plan

- The Commission WP 2018 foresees the update of the EU Bioeconomy strategy as a major initiative, in response particularly to the renewed Industrial Policy, Circular Economy, as well as other EU and international policies such as the SDGs and the Paris Climate Agreement.
- Councils: AGRI-FISH (19 Feb)
- Roadmap: published 20 Feb - 20 March – 90 replies
- Adoption: Q III 2018 (tbc)
- Presidency Conferences: 22 Oct 2018, under AT Presidency; Sept 2019, under FI Presidency

COP21



SDGs Post-2015



European  
Commission



# WHAT does the initiative aim to achieve?

- Deliver **SUSTAINABILITY** and **CIRCULARITY** in the EU Bioeconomy policy and practice
- Focus on **IMPACT** on a few actions to embed in R&I policies, education, agriculture, marine, energy, environment, MS/regions/cities..
- Boost EU **COMPETITIVENESS** in new bio-based industries and value chains
- Foster EU **REGIONAL** bioeconomies in rural, coastal, urban areas
- → valorising **LOCAL** resources and adapted to local

NEEDS



## ... and HOW?

- A **SYSTEM** - wide approach  
→ *linking sustainable use with protection/restoration of ecosystems (land, sea)*
- Enhancing EU policy coherence across sectors, addressing trade-offs
- Expanding beyond research and innovation, to **key EU policies, markets, standards...**
- De-risking **investments**, mobilising and scaling up **innovation**
- Going **LOCAL**: Max local/regional actors opportunities in new value chains (CAP, CFP, ESIF)



European  
Commission



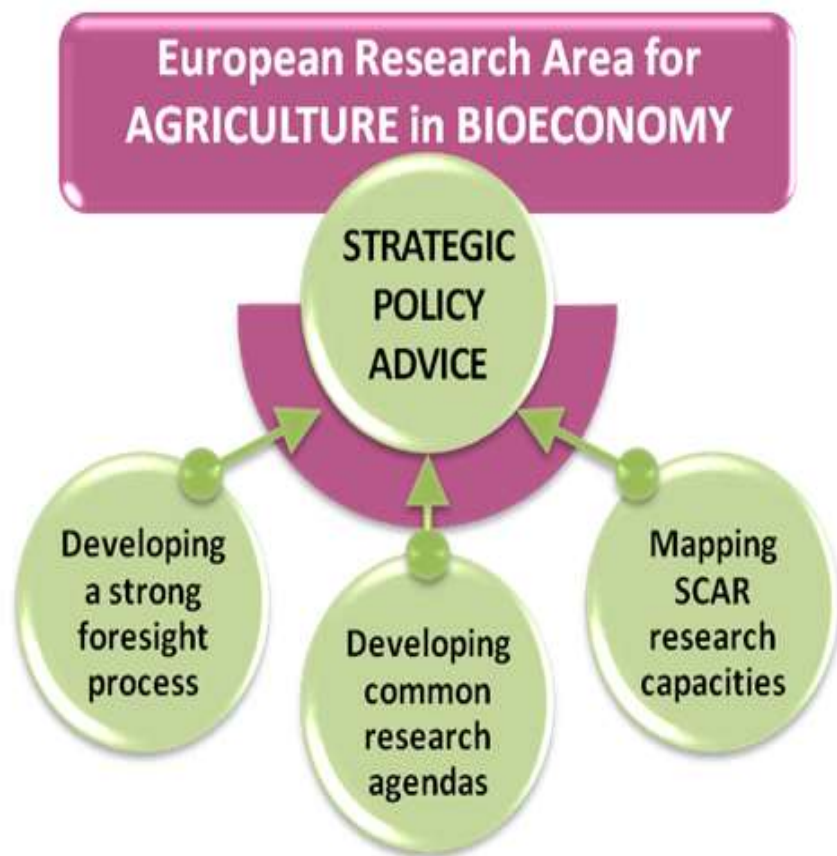
## STANDING COMMITTEE ON AGRICULTURAL RESEARCH

- **1974:** SCAR established (Regulation (EEC) No 1728/74 of the Council of 27 June 1974 on the coordination of agricultural research)
- **2005:** Revised mandate by the Council
- **2012:** Widening of SCAR

### Represents 37 different countries

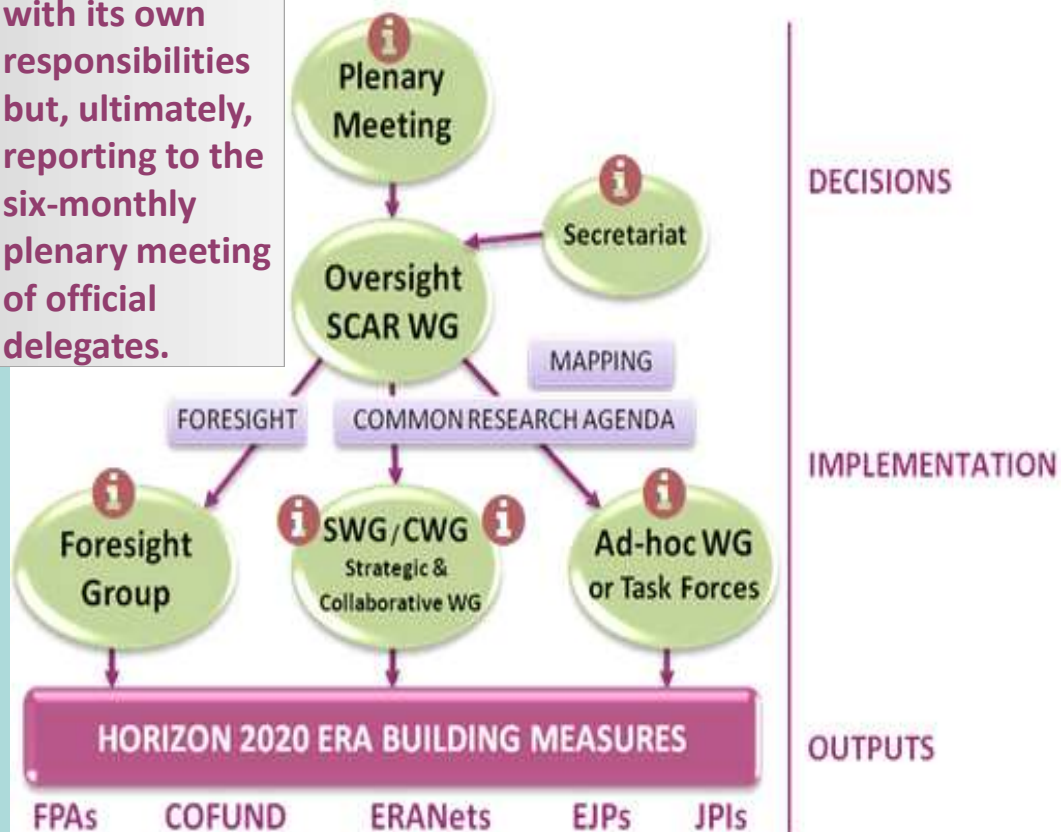
- **EU Member States**
  - Ministries (mainly of Agriculture)
  - Organisations such as research councils
- **Observers: Candidate and Associated Countries**
- **European Commission (secretariat and chair, DG RTD & DG AGRI)**

## Main Activities and Structure



SCAR delivers through various groups, each with its own responsibilities but, ultimately, reporting to the six-monthly plenary meeting of official delegates.

### SCAR ORGANISATION





## Plenary Meeting

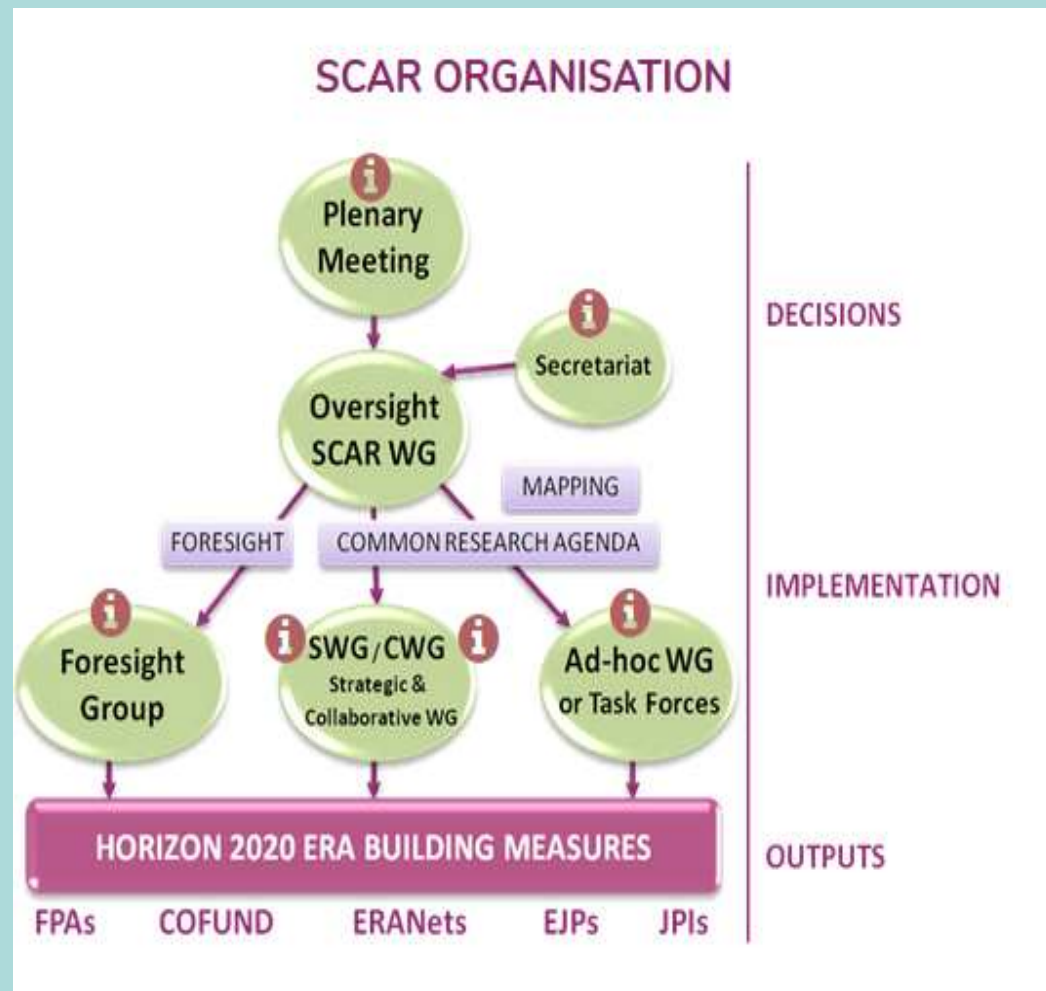
Meetings: 2/year

### Participants:

- SCAR delegates from all EU MS
- Candidate MS
- Associated States

### Main tasks:

- Creation of Working Groups
- Other initiatives proposed by the EC or SCAR SG
- Policy papers
- Actions



European  
Commission





## Steering Group

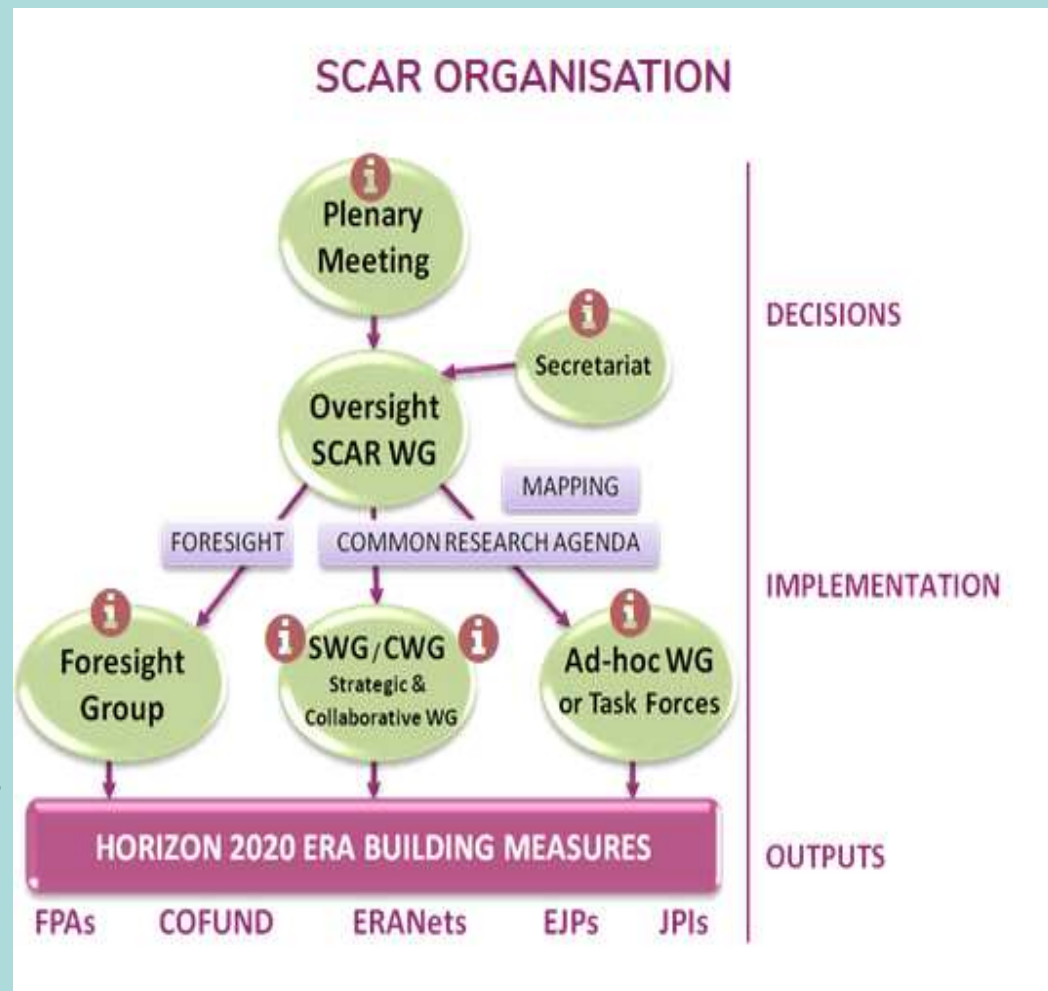
Meetings: 5-6/year

### Participants:

- SCAR delegates from all countries represented in the plenary
- EC staff

### Main tasks:

- Plan and prepare plenary meetings
- Coordination mechanisms in Horizon 2020
- Prioritisation of ERA-Net Co-fund activities
- Organising the establishment of new WG
- Providing support to WG



## Foresight Group

Instrument for public research  
planning and public policy building

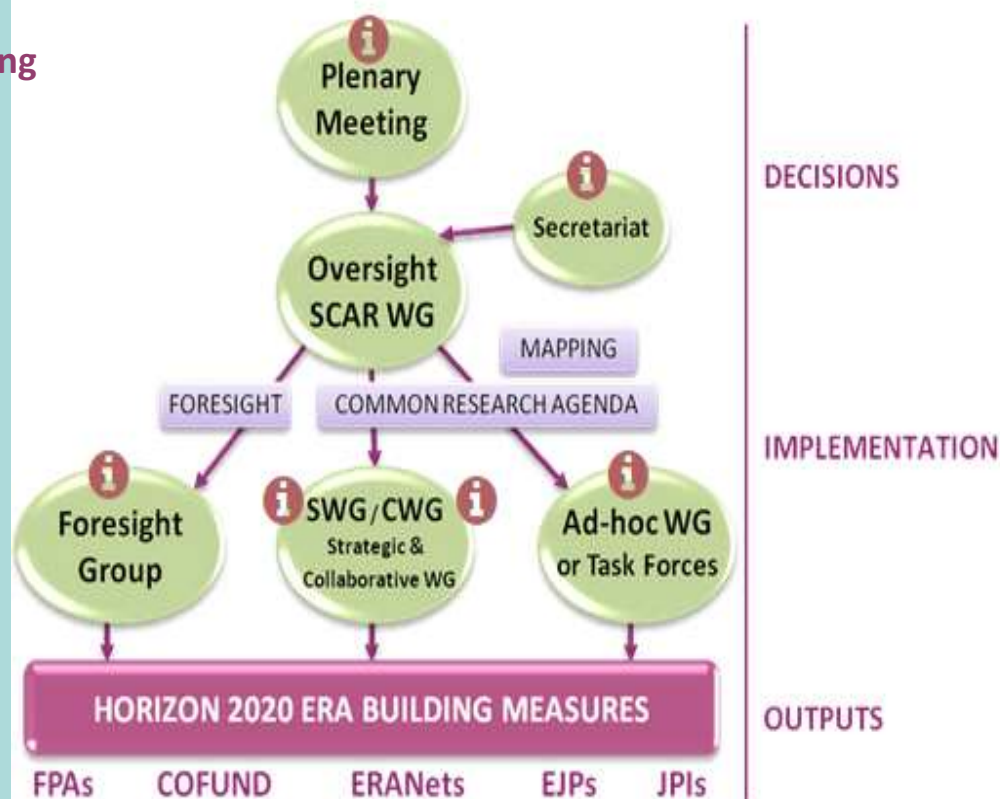
### Participants:

- Long-term experts (approx. 5)
- Short-term experts (approx. 5)
- Advisors from CWGs / SWG / ERA-Nets / JPIs – Representative members are invited as required.

### Main tasks:

- Foresight activity
- Execution of relevant studies & Review ongoing studies
- Research prioritisation

## SCAR ORGANISATION



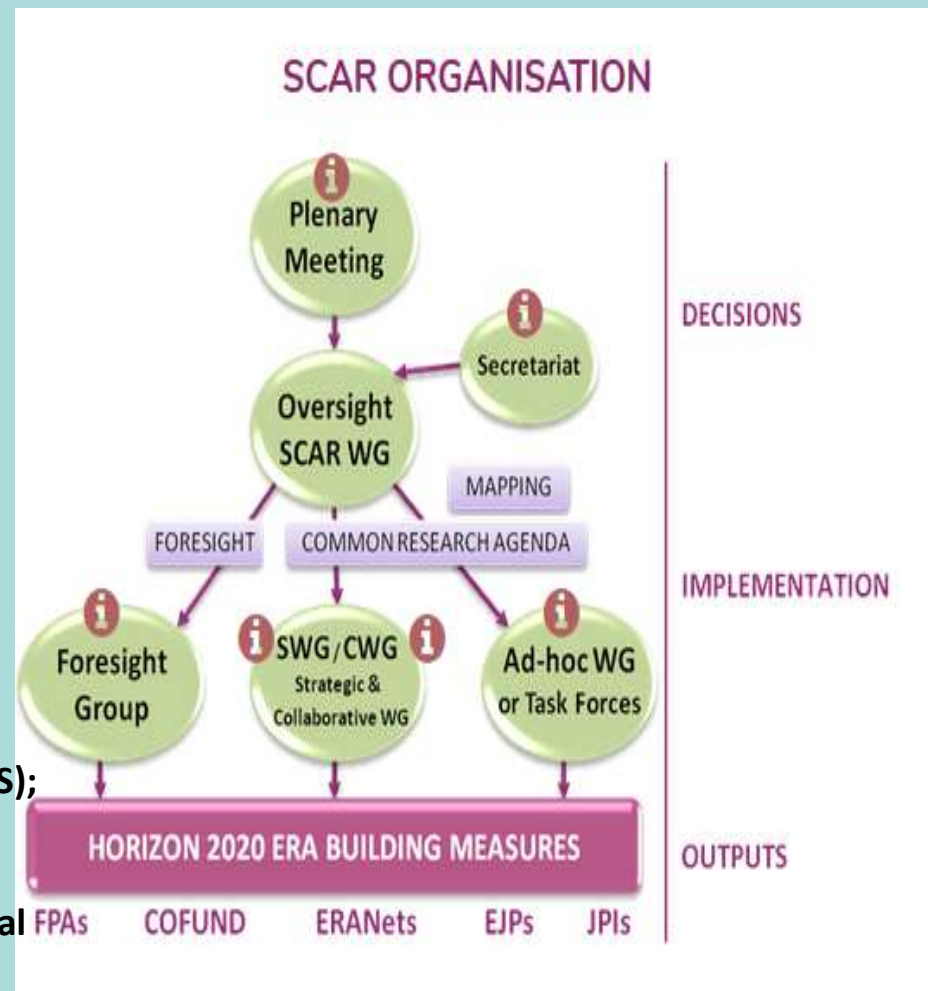
## Strategic Working Groups (SWG)

### Participants:

- SCAR members and EC Staff

### Main tasks:

- Discuss strategic matters on broad issues.
- Contribute to medium long-term research and innovation policy.
- Formulating research policy advice on:
  - Food Systems (SCAR SWG FOOD SYSTEMS)
  - Fisheries and aquaculture research (SCAR SWG FISH);
  - Agricultural knowledge and innovation systems (SCAR SWG AKIS);
  - Sustainable bioresources production (SCAR SWG Bioeconomy);
  - Forestry research and innovation (SCAR SWG Forest);
  - European Agricultural Research towards greater impact on global challenges (SCAR SWG ARCH).



## Collaborative Working Groups (CWG)

### Participants:

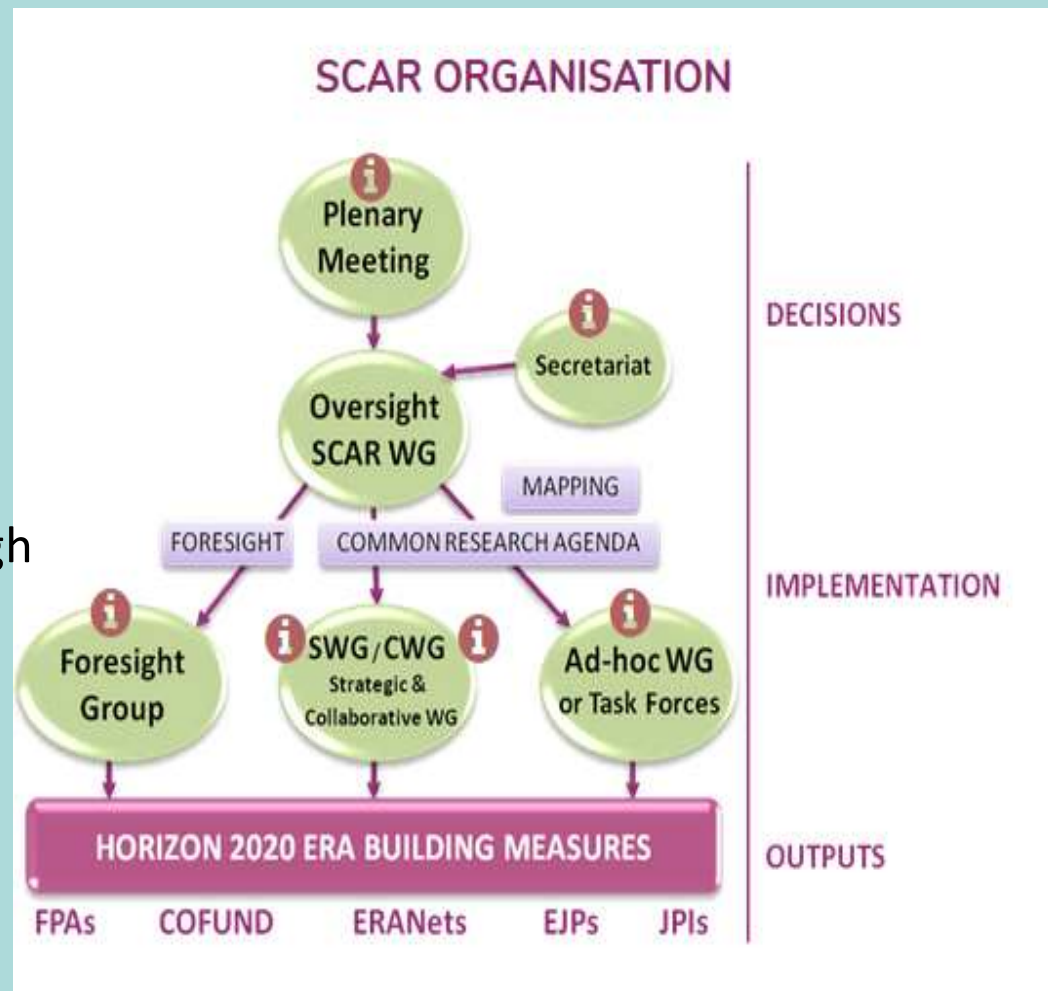
- SCAR members
- EC Staff

### Main tasks:

- Develop Strategic Research Agendas, highlighting priority research topics through mapping activities and gap analyses, all of which potentially lay the groundwork for future ERA-NETs

### Existing CWG:

- Sustainable animal production
- Animal health and welfare







## Benefits of being a SCAR member

### Extend your network:

- Meet with experts from other countries.
- Create partnerships on common research priorities.

### Exchange of knowledge:

- Acquire mutual knowledge of activities, institutions and facilities in Member States and Associated Countries.
- Help align national research programmes, avoid duplication of activities and ensure efficient use of resources.

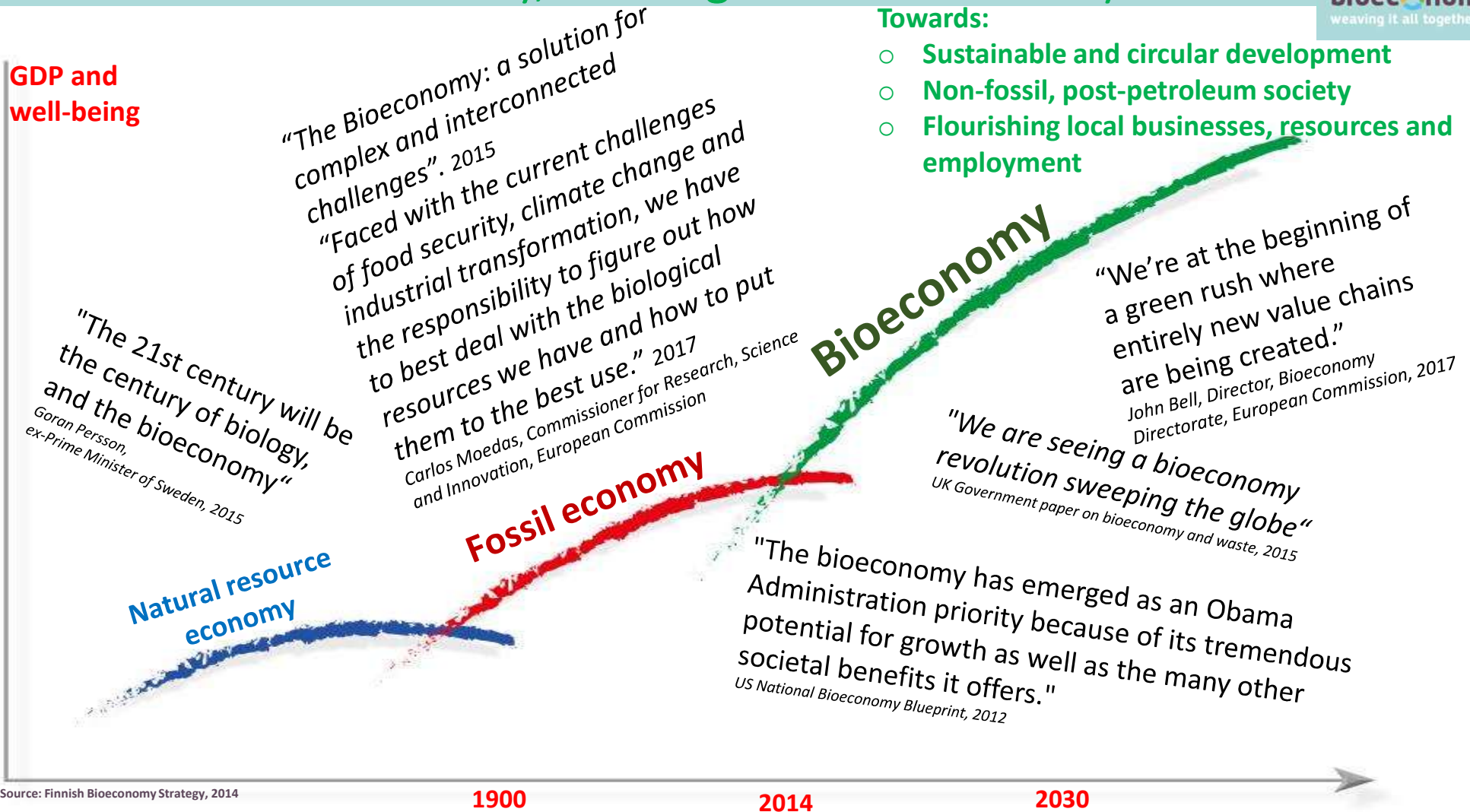
### Participate to the Strategic Programming

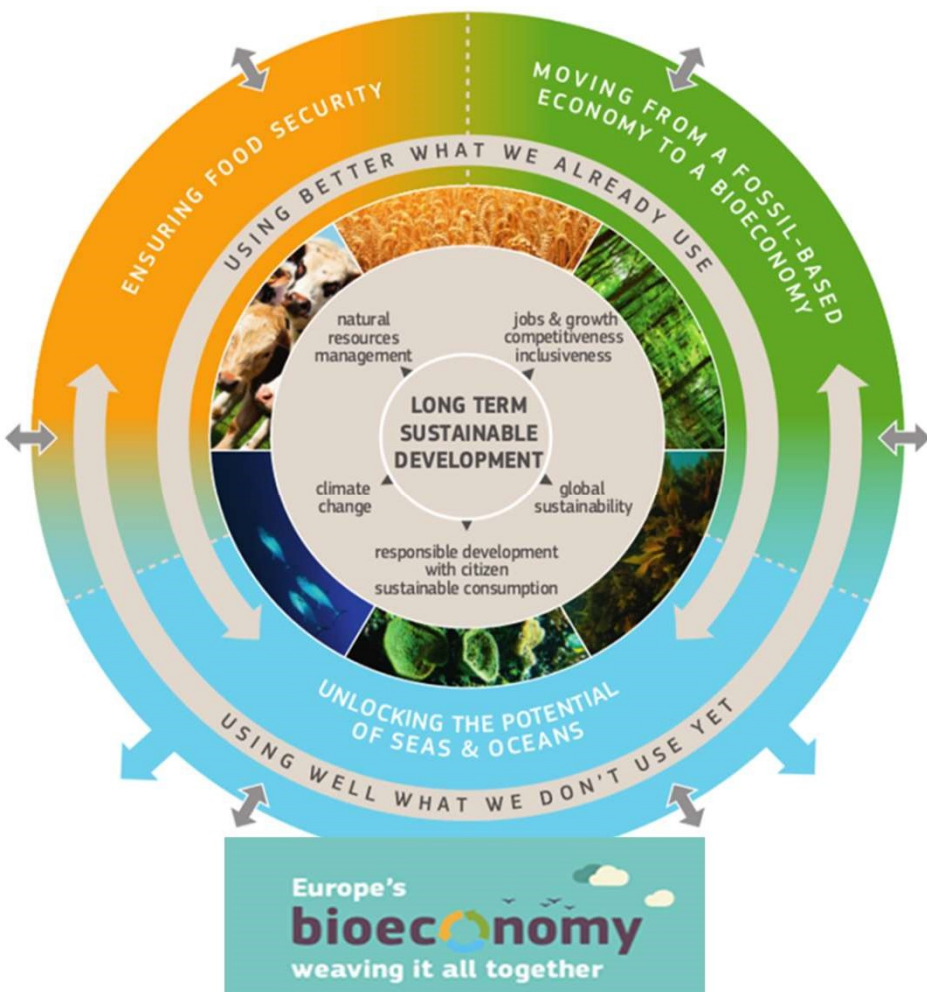
- Provide advice and support for the development of European initiatives such as the Joint Programming Initiative, the Commission Research Framework Programmes, development and the national programme coordination mechanism ERA-Net Co-fund.
- Bring in the debate your national/regional specificity and priorities.



# The Bioeconomy, building the next economy now

**GDP and  
well-being**





Thank you for your attention

*Using biological resources from land and sea for a post-petroleum economy – the Bioeconomy.*

*A new opportunity for EU, MS, regions and cities!*

For more information:

[www.ec.europa.eu/research/bioeconomy](http://www.ec.europa.eu/research/bioeconomy)

