



estrategia andaluza de  
**bioeconomía**  
**circular**

# Andalusian Circular Bioeconomy Strategy

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Power4Bio Cross-Visit



# Who we are?

**Total Area:  
9 Mha**

**Agricultural  
Area:  
4,4 Mha**

**Forestal  
Area:  
4,6Mha**

**Population: : 8,4 Million people 37% in rural areas**

**2<sup>nd</sup> European Region in Agricultural Production**

**4<sup>nd</sup> Payment Agency in Europe**

**300.000 Farms**

**5.400 Agroindustries**

**23% of Agrifood Employment in Spain**

**20% of the Spanish Exports**

**Irrigation: 25% Useful Agriculture Area,  
70 % Agricultural Income**

**13% of the Spanish Chemical Industry**



# Capacities in Andalusia for Bioeconomy development

## Political Support

- **Andalusian Circular Bioeconomy Strategy**
- **Rural Development Groups**
- **Technological Centers**
- **Programmes and Structural Funds**

## Production and availability of biomass resources

- **Olive-culture**
- **Intensive horticulture**
- **Algae production**
- **Fisheries byproducts**
- **Livestock byproducts**
- **Forestry biomass**
- **Biowastes**
- **Prunning wastes**
- **Agroindustrial byproducts**
- **Other resources**

## Industrial Capacities

- **Biotech companies**
- **Agroindustries**
- **Biorefineries**
- **Bioenergy plants**
- **Chemical Industries**
- **Forest industries**



## Knowledge network

- **Universities**
- **Research groups**
- **RTD centers**
- **International Campus of Excellence**



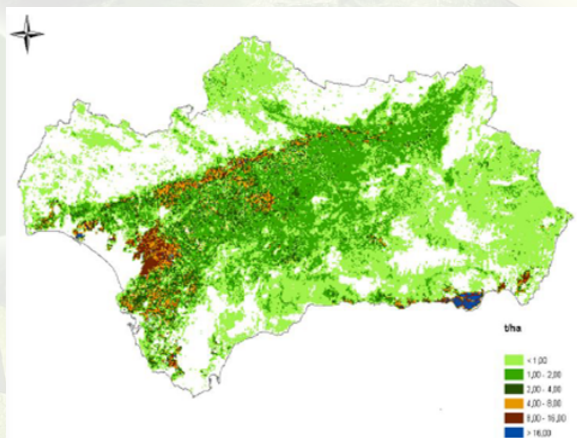
# Which is our bioeconomy positioning?

## Main biomass opportunities

- Olive biomass
- Intensive horticulture
- Seaweed production

## Main Biomass Uses

- Thermal power stations
- Biogas
- Composting
- Animal feeding



Only taking into account agriculture, biomass production reaches 8 million tons a year

There is a need for higher added-value products

Source	Tonnes
Cotton	226,014
Rice	526,183
Strawberry	214,744
Fruit trees	457,791
Sunflower	604,150
<b>Greenhouses</b>	<b>1,217,461</b>
Maize	680,419
<b>Olive groves</b>	<b>1,859,840</b>
Other cereals	523,754
Beetroot	200,522
Outdoor tomatoes	45,927
Wheat	1,322,777
Vines	116,898

## BIOMASS PRODUCTION



8 M Tons/Year

## ANDALUSIAN BIOECONOMY SECTOR



Market Volume: 30.068 M€ (2015)

Employment: 290.968 persons (2015)

# Previous Background

**Model Demonstrator Region in Sustainable Chemical Production 2016-2017**

**BIC Associated Member (Bio-Based Industries Consortium) since 2017**

**Participation in European initiatives:**

**POWER4BIO**



**POWER4BIO**  
REGIONS FOR BIOECONOMY





# Andalusian Circular Bioeconomy Strategy coordinated with:



## European and National Framework:

1. **European Circular Bioeconomy Strategy (2012 revised in 2018)**
2. **United Nations Sustainable Development Goals**
3. **Circular Economy Action Plan (2015)**
4. **Spanish Bioeconomy Strategy Horizon 2030 (2016)**
5. **Spanish Circular Economy Strategy (under elaboration)**

## Regional Framework:

- **Employment Agenda**
- **Andalusian Innovation Strategy: RIS3 Andalusia**
- **Andalusian Plan for Research, Development and Innovation- PAIDI 2020**
- **Energy Strategy Andalusia 2014-2020**
- **Andalusian Strategy for Sustainable Development 2020**
- **Strategic Plan for Agro-Industry 2020**
- **Other cross-nature plans and programmes**



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# Bioeconomy definition according to Andalusian Circular Bioeconomy Strategy:

**Economic model** based on use and production of biological resources and its sustainable and efficient **transformation into bioproducts, bioenergy and services for the society**

## Scope

**ACBE is focused on bioeconomy segments and activities with lower implementation** which claim for a higher institutional support to facilitate its take off and long-term consolidation

**ACBE does not include directly primary production and agroindustrial transformation of food for human consumption. Specifically, sustainable practices for biomass production promoting a resource efficient use are considered**





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# Which sectors are included?

## Resources

Agriculture  
Agri-food

Livestock

Algae

Waste

Forestry

## Logistics

Treatments

Storage

Efficiency

## Transformations

Biotechnology

Chemical  
Industry

Energy

## Markets

Pharmaceuticals

Energy

Food

Agriculture

...



# Andalusian Circular Bioeconomy Strategy

## Objectives

### General objective

➤ **Contribute to sustainable growth and development in Andalusia by fostering target actions to promote the production of resources and renewable biological processes.**



### Strategic objectives

- **1 Increase the availability of sustainable biomass for resource utilization through innovative treatments**
- **2 Rise the number of bioindustries and biorefineries in Andalusia.**
- **3 Boost the markets and consumption of bioproducts and bioenergy in Andalusia.**

# Andalusian Circular Bioeconomy Strategy

## Milestones



### Participation:

- Direct contribution of 4 Regional Ministries
- External collaboration on Working Groups, more than 50 experts

### Structure:

- 4 Strategic Lines divided in: Resources, Logistics, Processing and Markets.
- 4 Transversal Programmes: Communication, R+D+i and Education, Funding and Collaboration
- 17 measures and 39 actions

**Time Frame: 2030**

**Total budget estimation: 1.427.572.722 M€**



# Financial instruments



H2020

European  
Territorial  
Cooperation

ERDF

Own  
resources

EAFRD



# How are we moving forward?

## Some highlighted actions

- **Bioeconomy Website, Social Media, Communication Plan**
- **Creation of the Andalusian Bioeconomy Cluster**
- **Creation of an inter-departmental Commission for boosting and monitoring of actions and measures.**
- **Bioeconomy Regional Observatory establishment**
- **Methodology development to quantify and qualify biomass resources (Indicators)**
- **Creation of a hallmark to identify bioproducts and processes for bioeconomy**
- **Encourage participation in European initiatives**
- **Promote a Catalog of Good Practices and a portfolio of successful projects**
- **Draft of Law of Circular Economy of Andalusia**



# Web, Social Media and Communication Plan



- In development the communication plan
- News bulletin
- Twitter
- Web page (AVAILABLE)



@bioeconomia\_and

<http://www.bioeconomiaandalucia.es/home>

# A Cluster to meet the following needs

**01**

Improve the cooperation and coordination of bioeconomy stakeholders

**02**

Bioeconomy-oriented research and innovation

**03**

Strengthen of bioeconomy sector

**04**

Increase the awareness of bioeconomy

**05**

Attract investment on Andalusian Circular Bioeconomy initiatives



# Roadmap of the BioeconomyCluster

**01**

Expression of Interest  
-Type of entity  
-Type of partner  
-Range of contributions

**02**

Cluster Concept Strategic planning and viability model (Preliminary Technical Office)

**03**

Preliminary Statutes (Preliminary Technical Office)

**04**

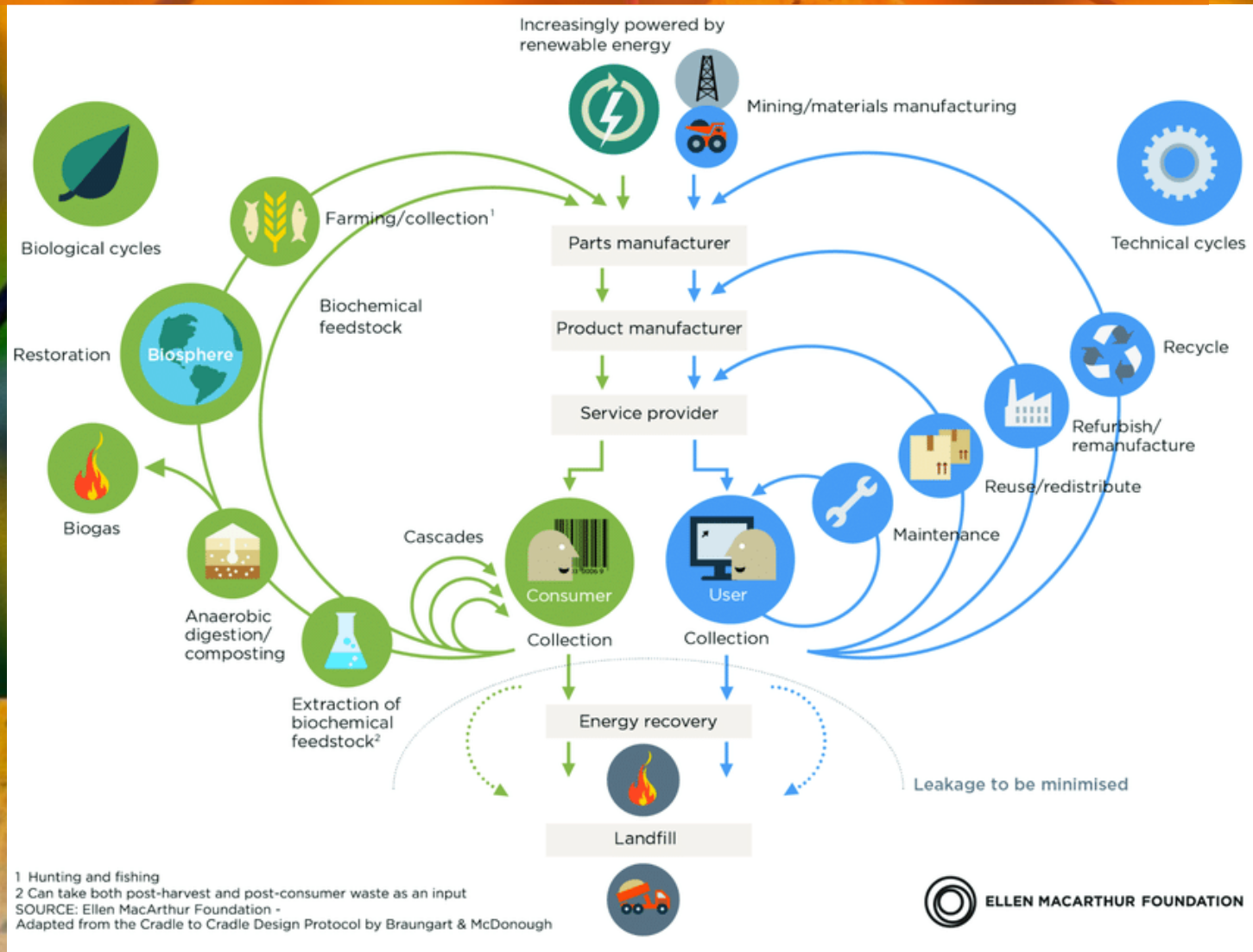
Association in Agreement with public regional government

**05**

Consolidation Cost Structure Incomes Structure Catalogue of Services

YOU ARE HERE

# Why a Regional Circular Economy Law?





# Lesson learned



**Innovation**



**Collaboration**



**Sustainability**



**Competitiveness**



**Communication activities**



**People factor**



**Public synergies**



**Multiactor Approach**

# Thank you very much for your attention



<http://www.bioeconomiaandalucia.es/>



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**POWER4BIO**  
REGIONS FOR  
BIOECONOMY



Junta de Andalucía

Consejería de Agricultura, Ganadería,  
Pesca y Desarrollo Sostenible



Cross-visit Andalusia (Seville-online), 20<sup>th</sup> and 21<sup>st</sup> October 2020

Consejería de Agricultura, Ganadería, Pesca y Desarrollo Sostenible (CAGPDS)

This project has received funding from the European  
Union's  
Horizon 2020 research and innovation programme  
under grant agreement No 818351





**Junta de Andalucía**

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# Andalusia in the POWER4BIO project





# Main objectives of POWER4BIO



- **Empowering EU regions for maximising the use of under-used resources.**
- **Support regional stakeholders to take decisions in the transition to a bioeconomy era.**
- **Develop and update regional Bioeconomy strategies in 10 regions across the EU.**
- **Develop a catalogue of business models adapted to regional needs.**



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# Factors to consider



**POWER4BIO** aims at empowering regional stakeholders to boost the transition towards bioeconomy regions in Europe by providing them with the necessary tools, instruments and guidance to develop and implement sound sustainable regional bioeconomy strategies.

As a result of **POWER4BIO**, new regional bioeconomy strategies and roadmaps will be developed in five Central and Eastern European regions and already existing regional bioeconomy strategies will be reviewed in five Western and Southern European regions.

The activities in **POWER4BIO** are taking place in ten regions of nine countries: five regions with medium to very high bioeconomy maturity and five regions with low to medium bioeconomy maturity. Two more instrumental elements are part of the project: raw material availability and the status of the respective bioeconomy strategies.



**A set of reports and tools will be developed to facilitate the analysis and potential of the bioeconomy trend at regional level:**

- Catalogue.
- Business models.
- Online guideline.



# Andalusia's contribution to POWER4BIO



- Andalusia through its strategy is working hard to achieve an economic model based on the use and production of biological resources and their sustainable and efficient transformation into bioproducts, bioenergy and services for society.
- A close collaboration between different actors to transfer the concept of circular bioeconomy to the academic field.
- Trying to obtain a greater efficiency of the resources and the processes of transformation into bioproducts.
- Disseminating through different channels both our own knowledge and that of the different actors in the sector through webinars, social networks, workshops, etc.
- We are working on a revision of the strategy to further complete some aspects.

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# POWER4BIO website and social media



[www.power4bio.eu](http://www.power4bio.eu)



@power4bioproject



@power4bio



@power4bio



# Thank you for your attention!

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