

CONAMA 2014

“HACIA UNA ECONOMÍA CIRCULAR Y EFICIENTE EN EL USO DE LOS RECURSOS A TRAVÉS DE LA INNOVACIÓN”

MADRID, 26 DE NOVIEMBRE DE 2014

HORIZONTE 2020

INICIATIVAS ESTRATÉGICAS SOBRE

ECONOMÍA CIRCULAR Y EFICIENCIA DE RECURSOS

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Reto Social 5 - H2020
CDTI

Estrategia Europa 2020

Transformar la UE en una **economía inteligente, sostenible e inclusiva**, para alcanzar altos niveles de empleo, productividad y cohesión social.

- Smart → more effective investments in education, research and innovation;
- Sustainable → a decisive move towards a low-carbon economy;
- Inclusive → strong emphasis on job creation and poverty reduction

5 objetivos →

1. **Employment.-**

- 75% of the 20-64 year-olds to be employed

2. **R&D.-**

- 3% of the EU's GDP to be invested in R&D

3. **Climate change and energy sustainability.-**

- greenhouse gas emissions 20% (or even 30%, if the conditions are right) lower than 1990
- 20% of energy from renewables
- 20% increase in energy efficiency

4. **Education**

- Reducing the rates of early school leaving below 10%
- at least 40% of 30-34-year-olds completing third level education

5. **Fighting poverty and social exclusion**

- at least 20 million fewer people in or at risk of poverty and social exclusion



Y hacia 2030...

2030 Framework for CLIMATE and ENERGY policies¹ →

- Reducing greenhouse gas emissions by 40%
- Increasing the share of renewable energy to at least 27%
- Increasing energy efficiency by 30%

2030 WASTE Proposal² →

New rates

- Reduction
- Recycling
- Recovery

¹ http://ec.europa.eu/clima/policies/2030/index_en.htm

² http://ec.europa.eu/environment/circular-economy/index_en.htm

¿Qué es Horizonte 2020?

El Programa Marco para la Investigación y la Innovación (2014-2020)



HORIZON 2020



<http://ec.europa.eu/programmes/horizon2020/en>



H2020 - Reto Social 5

Acción por el clima, medio ambiente, eficiencia de los recursos y materias primas

3.081 M€

4,00% de H2020

OBJETIVOS →

- lograr una economía más eficaz y eficiente en el uso de los recursos (incluyendo el agua);
- el aumento de la resiliencia ante los efectos del cambio climático;
- el abastecimiento sostenible de materias primas, para afrontar las necesidades de una población global creciente de forma compatible con la sostenibilidad de los recursos naturales del planeta.



“We need to decouple economic growth from resource use. Part of answer: helping build a green economy, a circular economy in sync with the natural environment”.

Horizon 2020 – «Cross-cutting issues»

- International Cooperation
- Social and economic science and humanities
- Climate change and sustainable development

- At least, **60% of overall Horizon 2020 budget** should be related to **sustainable development**
- **35% to climate-related expenditure**

- SME involvement in research and innovation and the broader private sector participation, (including the ***SME instrument***)

Programas de Trabajo 2014-2015*

- **Liderazgo Industrial – NMBP →**
 - **Call for Nanotechnologies, Advanced Materials and Production**
 - **Nanotechnology and Advanced Materials for low-carbon energy technologies and Energy Efficiency**
 - **Addressing generic needs in support of governance, standards, models and structuring in nanotechnology, advanced materials and advanced manufacturing and processing**
 - **Call for FoF - Factories of the Future**
 - **Call for SPIRE – Sustainable Process Industries**
- **Reto Social 5, “Medio Ambiente y Materias Primas”**
 - **Call – Waste: A Resource to Recycle, Reuse and Recover Raw Materials**
 - **Call – Water Innovation: Boosting its value for Europe**
 - **Call – Growing a Low Carbon, Resource Efficient Economy with a Sustainable Supply of Raw Materials**
- **Reto Social 3, “Energía”**
 - **Call – Energy Efficiency**
 -

Y de cara al futuro.....

algunos ejemplos

Key priorities for 2016-2017

- A new **Boost for Jobs, Growth and Investment**
- A **Connected Digital Single Market**
- A **Resilient Energy Union** with a **Forward-Looking Climate Change Policy**
- A Deeper and Fairer Internal Market with a **Strengthened Industrial Base**
- A **Stronger Global Actor**, Towards a New Policy on Migration, and An Area of Justice and Fundamental Rights Based on Mutual Trust

The circular economy package

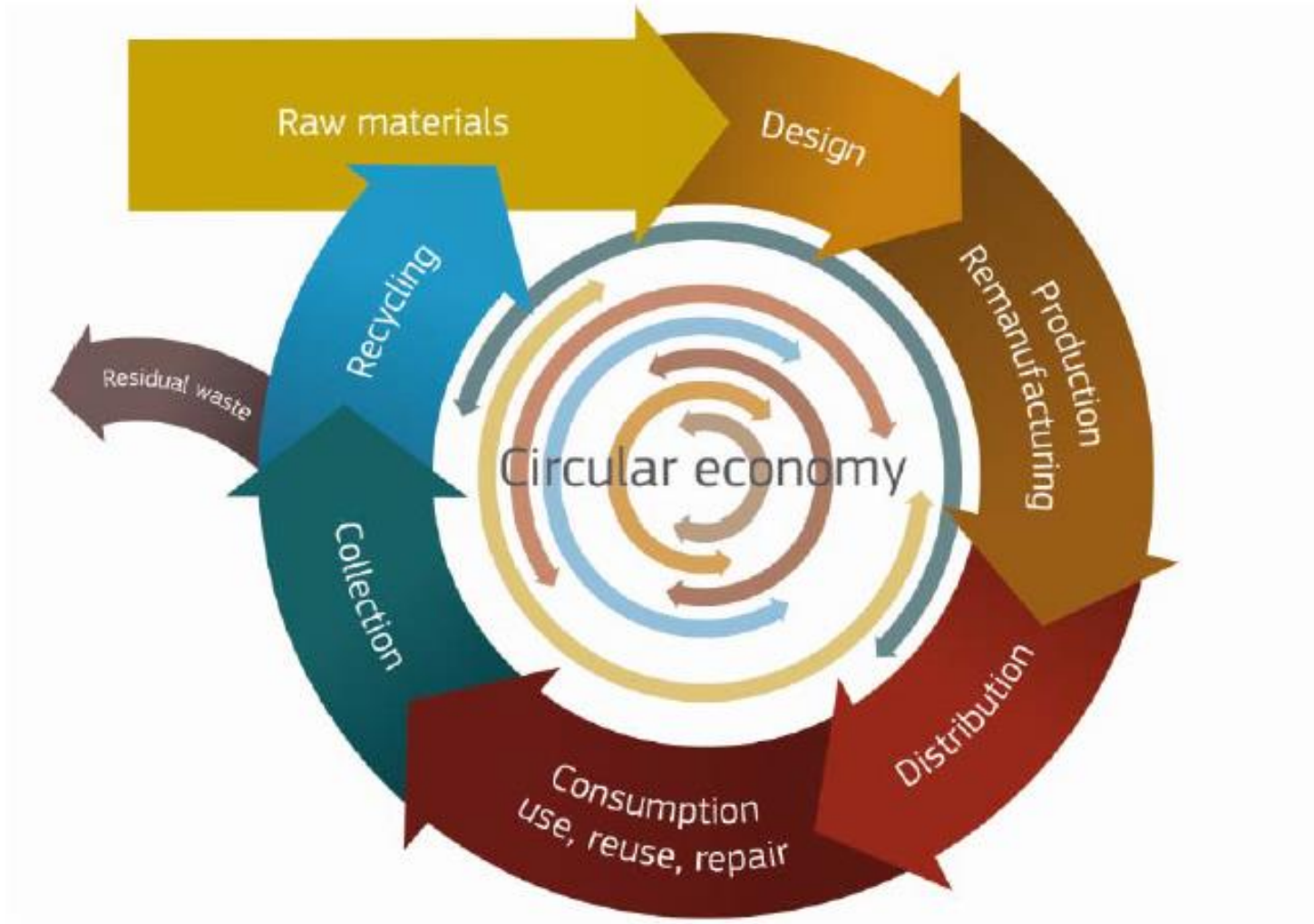
- To establish a common and coherent EU framework **to promote** the **circular economy** → EC adopted the Communication "Towards a circular economy: a zero waste programme for Europe" , (June/2014)
- Turning Europe into a more circular economy means:
 - boosting recycling and preventing the loss of valuable materials;
 - creating jobs and economic growth;
 - showing how new business models, eco-design and industrial symbiosis can move us towards zero-waste;
 - reducing greenhouse emissions and environmental impacts
- To help the circular economy become reality, the Commission adopted other initiatives, such as proposals for sustainable buildings, green employment and green action for SMEs.

“Economía Circular”¿qué significa?*

- **Moving**
 - From a “**take-make-consume and dispose**” pattern of growth – a linear model which assumes that resources are abundant, available and cheap to dispose of.
 - To **re-using, repairing, refurbishing and recycling** existing materials and products, ‘**waste**’ can be turned into a resource.
 - All resources need to be managed more efficiently throughout their life cycle.
- **Better eco-design, waste prevention and reuse** can bring net savings for EU businesses, while also reducing total annual greenhouse gas emissions.
- **Moving towards a circular economy is:**
 - at the heart of the [resource efficiency agenda](#) established under the [Europe 2020 Strategy](#) for smart, sustainable and inclusive growth.
 - The main ideas on how to do more with less are being taken further in the [EU's Environment Action Programme](#) to 2020.
 - The European Commission's '[Generation Awake](#)' campaign on resource-efficiency focuses on what each one of us can do in our daily life to save water, energy and other natural resources, and turn waste into a resource.

* http://ec.europa.eu/environment/circular-economy/index_en.htm

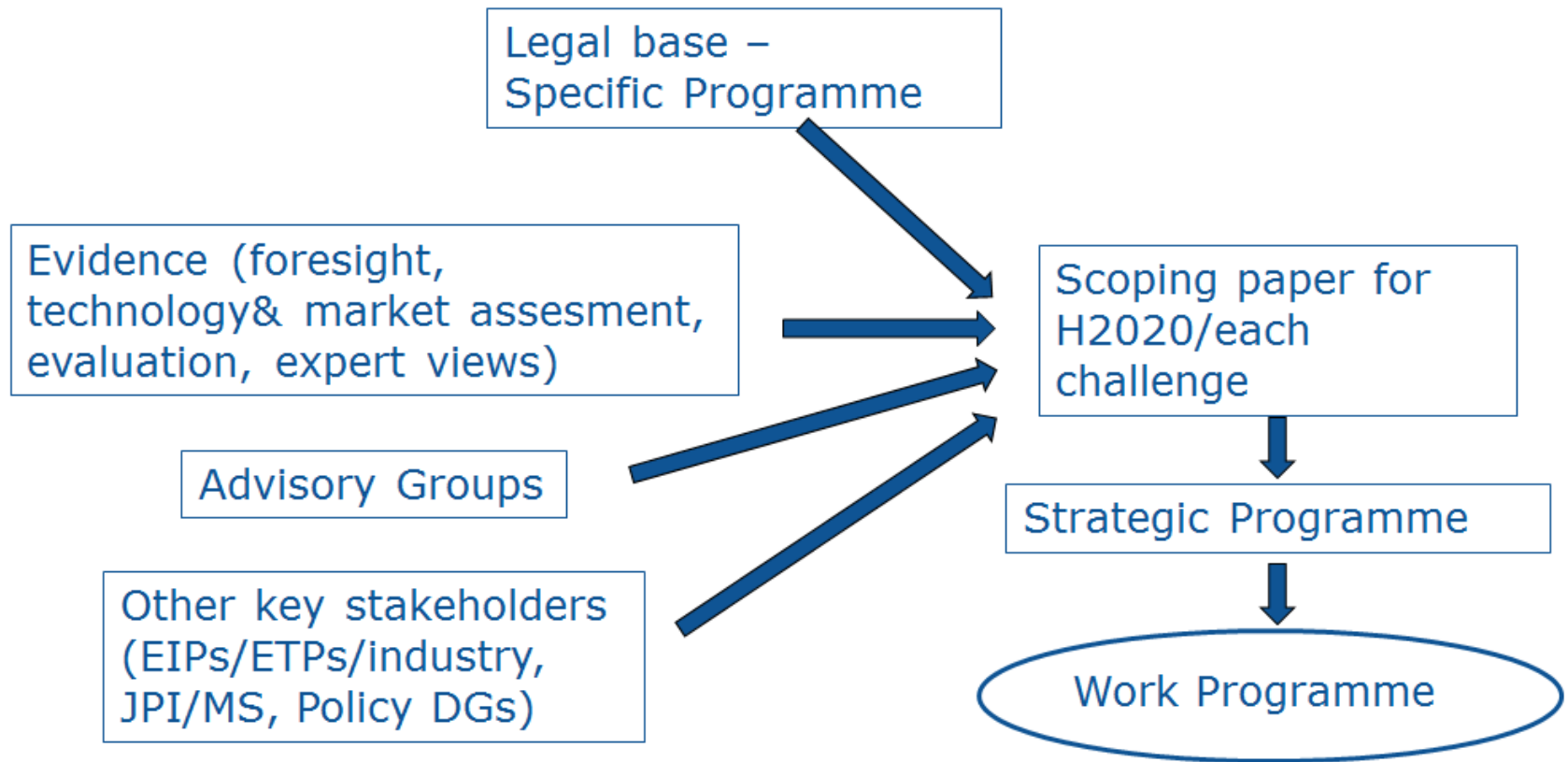
“Economía Circular”¿qué significa?



H2020 – Programas de Trabajo

2014	2015	2016	2017	2018	2019	2020
Strategic Programme						
WP 2014-2015		Strategic Programme				
		WP 2 (+ 2018 info?)		Strategic Programme		
				WP 3 (+ 2020 info?)		WP 4

Identification of future priorities



HORIZON 2020



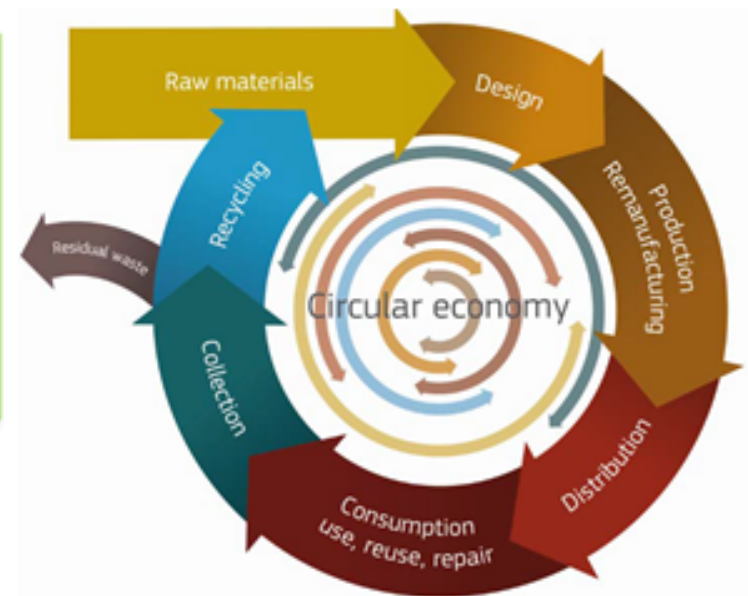
H2020 – Programas de Trabajo

Fuentes + Inputs



Where we are moving to...

A **Circular Economy**¹ that implies a **fully systemic change**, and **innovation** not only in technologies, but also in organisation, society, finance and policies

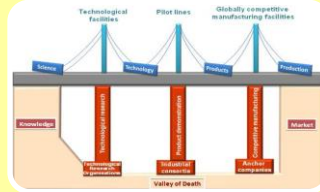


¹Moving towards a circular economy

http://ec.europa.eu/environment/circular-economy/index_en.htm

“Circular Economy” en H2020...

EU Framework Programme for Research and Innovation (2014-2020)



Excellent Science

Industrial Leadership

Societal Challenges

European Research Council (ERC)

Future and Emerging Technologies (FET)

Marie Skłodowska-Curie actions on skills, training and career development

European research infrastructures

ICT

Nanotechnology

Biotechnology

Advanced Materials

Advanced Manufacturing & Processing

Space

Access to Risk Finance

Innovation in SMEs

Health, demographic change and wellbeing

Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy

Secure, clean and efficient energy

Smart, green and integrated transport

Climate action, environment, resource efficiency and raw materials

Europe in a changing world-Inclusive, innovative and reflexive societies

Secure Societies: Protecting freedom and security of Europe and its citizens

Reto Social 5: Advisory Group⁽¹⁾ and Public Consultation⁽²⁾

Priority Areas for 2015-2016→

- Systemic Eco-innovation
- Climate Services
- Nature Based Solutions
- Sustainable Supply of Raw Materials

(1) <http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=14223&no=1>

(2) <http://ec.europa.eu/programmes/horizon2020/en/news/results-stakeholder-consultation-horizon-2020-societal-challenge-5-climate-action-environment>

1st Report of the H2020 Advisory Group (AG) for Societal Challenge 5:

Road Map for Systemic Eco-innovation

- Objective: To position Europe as the continent that realises a **closed loop circular economy**, enhancing its industrial competitiveness through resource productivity (higher added value per unit of resource) and continuously improving its leading position for resource efficient products and services on the world market

Road Map for Climate Services

- Objective: To create a European market for climate services designed to provide cutting-edge customised information services and adaptation solutions to a range of end-users, both in the business to business domain, in the public decision-making domain and to consumers, making the EU a world leader in this sector.

Road Map for Nature-based solutions

- Objective: to position Europe as world leader in innovation through and with nature- 'naturetech'- for improving society's economic, social and environmental resilience, particularly in urban areas, and create a global market for nature based solutions

Road Map for Raw Materials (based on the EIP's SIP)

- Objective: Ensuring the sustainable supply of non-energy and non-agricultural raw materials

Analysis of H2020 Societal Challenge 5 Strategic Programme Consultation Results

Conclusions – Key Messages

- clear consensus about the **need to implement systemic and interdisciplinary solution – oriented approaches**, with a participation and engagement of stakeholder
- **focus** was not only on novel ideas or fields of R&I, but **strongly on innovation and implementation of technology**, including issues such as how to exploit existing technologies and/or mainstreaming more sustainable social innovations
- **The concept of circular economy framed most contributions** (e.g. water, raw materials, CO2).

PPP SPIRE



Sustainable Process Industry through
Resource and Energy Efficiency



www.spire2030.eu



SEARCH...



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SPIRE is a contractual Public-Private Partnership
dedicated to innovation in resource and energy
efficiency enabled by the process industries
> Find out more



SPIRE research and innovation Roadmap
provides the pathway for the process industry
to decouple human well-being from resource
consumption and achieve increased
competitiveness in Europe



PPP SPIRE

SPIRE will implement its research and innovation roadmap through six Key Components that are at the core of a resource and energy efficient process industry:

- [Feed](#)
- [Process](#)
- [Applications](#)
- [Waste2Resource](#)
- [Horizontal](#)
- [Outreach](#)

PPP SPIRE

PROCESS

SPIRE ROADMAP:

Solutions for more efficient processing and energy systems for the process industry, including industrial symbiosis (e.g. cross-sectorial application of technologies).

- › KA 2.1: Novel advanced energy technologies
- › KA 2.2: Energy harvesting, storage and reuse
- › KA 2.3: Process monitoring, control and optimization
- › KA 2.4: More efficient systems and equipment
- › KA 2.5: New energy and resource management concepts (including industrial symbiosis)

- [Applications](#)
- [Waste2Resource](#)
- [Horizontal](#)
- [Outreach](#)

PPP SPIRE

WASTE2RESOURCE

SPIRE ROADMAP

Avoidance, valorisation and re-use of waste streams within and across sectors, including recycling of post-consumer waste streams and new business models with the ambition to closing the loop.

- › KA 4.1: Systems approach: understanding the value of waste streams
- › KA 4.2: Technologies for separation, extraction, sorting and harvesting of gaseous, liquids and solid waste streams
- › KA 4.3: Technologies for (pre)treatment of process and waste streams (gaseous, liquids, solids) for re-use and recycling
- › KA 4.4: Value chain collection and interaction, reuse and recycle schemes and business models

- [Waste2Resource](#)
- [Horizontal](#)
- [Outreach](#)

PPP SPIRE

SPIRE will implement its research and innovation roadmap through six Key Components that are at the core of a resource and energy efficient process industry:

OUTREACH

SPIRE ROADMAP

Reach out to industry (especially SMEs), policy makers, investors and citizens to support the realisation of impact through awareness, stimulating societal responsible behaviour.


- › KA 6.1: Analysis and establishment of efficient technology dissemination methodologies, mechanisms and frameworks
- › KA 6.2: Develop social responsibility for the process industry

Outreach

- Outreach

NMBP - Liderazgo Industrial en H2020

Sustainable
Process
Industry
Public-Private Partnership



Stronger
Smarter
Swifter

The graphic features a central SPIRE logo surrounded by several circular images: a hand holding a branch with leaves, a human eye, a factory at night, a person working on a chalkboard, and a person walking with a bag. The background is a technical drawing of industrial machinery.

The mission of **A.SPIRE** is to ensure the development of enabling technologies and best practices along all the stages of large scale existing value chain productions that will contribute to a resource efficient process industry.



JTI on BIOBASED INDUSTRIES*

Joint Technology Initiative

What is the Bio-based Industries Initiative?

- A Public-Private Partnership between the **Bio-based Industries Consortium** and the **EU**
- A **joint** commitment of €3.7 billion over 2014-2020
 - €975 billion (EU)
 - €2.7 billion (Bio-based Industries Consortium)
- Annual Work Programmes



*<http://www.bbi-europe.eu/>

JTI on BIOBASED INDUSTRIES

Strategic Innovation & Research Agenda

Value Chain 1: From **lignocellulosic** feedstock to advanced biofuels, bio-based chemicals & biomaterials

realising the feedstock and technology base for the next generation of fuels, chemicals and materials

Value Chain 2: Next generation **forest-based** value chains

utilisation of the full potential of forestry biomass by improved mobilisation & realisation of new added value products & markets

Value Chain 3: Next generation **agro-based** value chains

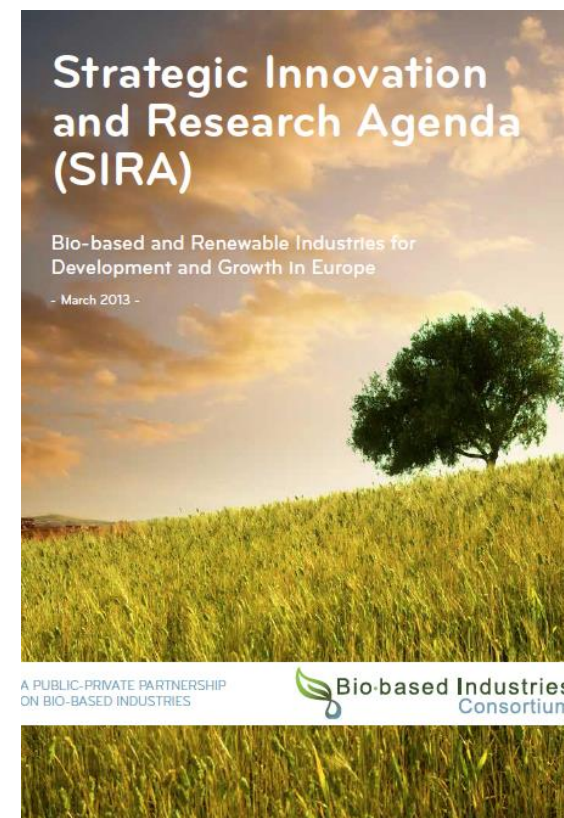
realising the highest sustainability and added value by improved agricultural production, & new added value products and markets

Value Chain 4: New value chains from **(organic) waste**

from waste problems to economic opportunities by realising sustainable technologies to convert waste into valuable products

Value Chain 5: Integrated **energy, pulp and chemicals**

biorefineries realising sustainable bio-energy production, by backwards integration with biorefinery operations isolating higher added value components



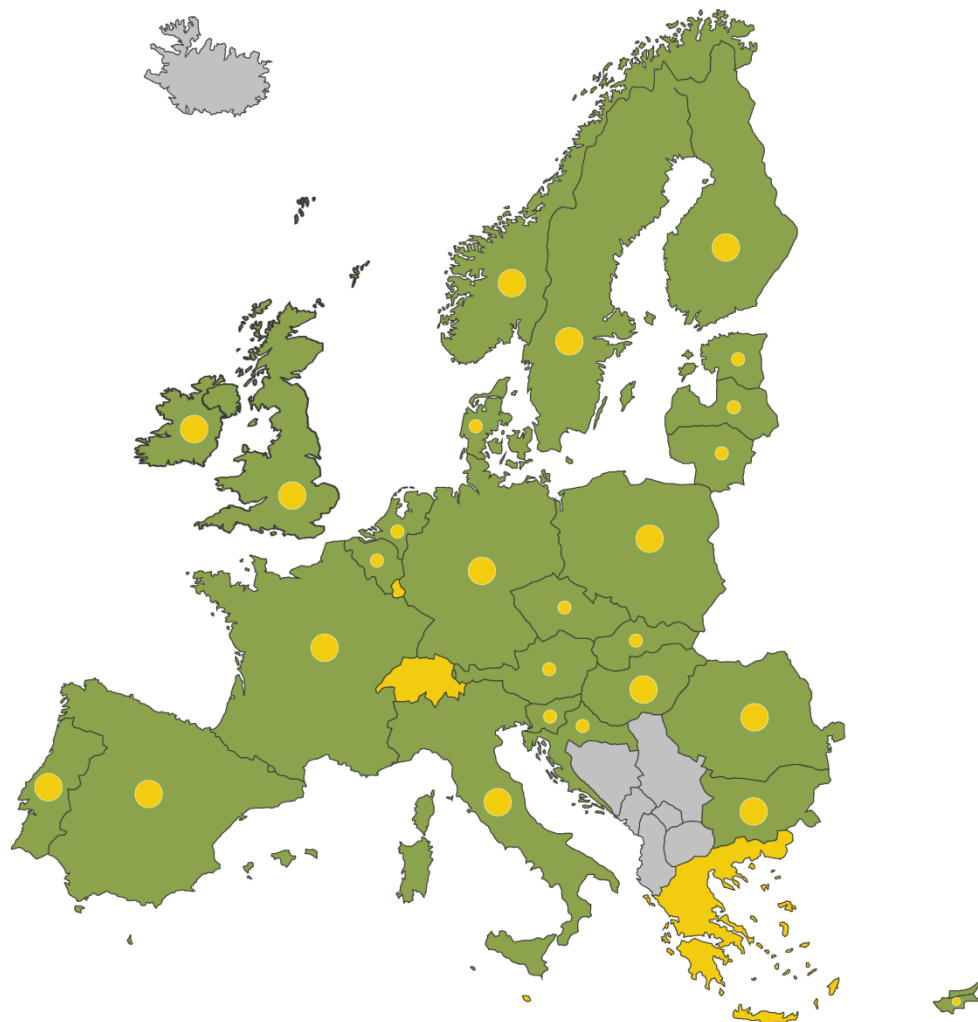
JTI on BIOBASED INDUSTRIES

WHO IS INVOLVED IN BBI? BIC PARTNERS (70 Ind + 121 Assoc)

- 70 Full members
 - 41 Large industries
 - 17 SMEs
 - 12 Clusters
- 121 Associated members
 - 40 Universities
 - 64 RTOs
 - 8 European trade organisations
 - 6 Associations
 - 3 ETPs

Sectors covered to date

- Agriculture and Agro-food
- Forestry / Pulp and Paper
- Technology providers
- Chemicals
- Energy



Environment Action Programme to 2020



Living well, within
the limits of our planet

*Proposal for a general Union
Environment Action Programme*

[The 7th Environment Action Programme \(EAP\)](#) will be guiding European environment policy until 2020.

In order to give more long-term direction it sets out a vision beyond that, of where it wants the Union to be by 2050.

Environment Action Programme to 2020

7th EAP priority objectives



Eco-Innovation Action Plan

http://ec.europa.eu/environment/ecoap/index_en.htm

A to Z | About

ENVIRONMENT
Eco-innovation Action Plan

European Commission > Environment > Eco-innovation Action Plan

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EcoAP
for a sustainable future
Putting eco-innovation at the heart of European policies.

- The 7 actions of EcoAP
- EcoAP in the EU countries

Eco-innovation in the spotlight

Subscribe to the Newsletter

EcoAP Forum

Upcoming events

31/03/2014
RegioStars Awards Ceremony,
Brussels, Belgium

- Action 1. Environmental policy and regulation
- Action 2. Demonstration projects
- Action 3. Standards
- Action 4. Funding and SME support
- Action 5. International cooperation
- Action 6. Skills and knowledge
- Action 7. European Innovation Partnerships

Actions to help build stronger and more stable market demand for eco-innovation

EIP Agua (i)

A to Z | About this site | Contact | FAQ | Sitemap | What's new? | Search | Legal notice | Cookies | English (en)

ENVIRONMENT

European Commission > Environment > Water > EIP

Home | Who's who | Policies | Integration | Funding | Law | Resources | News & Developments

Home | **EIP Water**

Blueprint
River Basin Management
Flood Risk Management
Water Scarcity and Droughts
Drinking Water
Bathing Water
Water Pollution
Adaptation to Global Change
European Innovation Partnership on Water
EU Water Initiative
Water Eurobarometer
Sitemap

What we do | Priorities | Get involved! | Action Groups

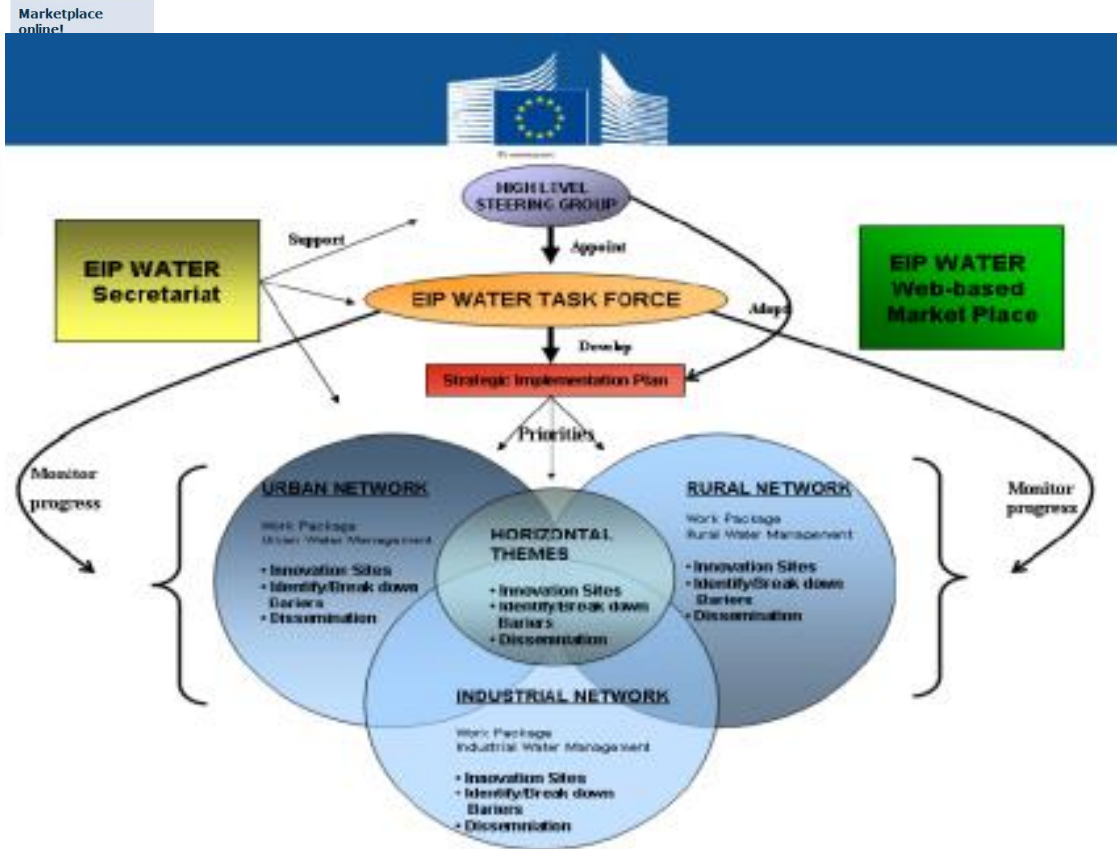
The EIP Water aims to

- speed up development of water innovation
- contribute to sustainable growth and employment
- stimulate uptake of water innovations by market and society

Read more!

WISE
WATER INFORMATION SYSTEM FOR EUROPE
Your gateway to European water information.

European Innovation Partnerships aim to speed up innovations that contribute to solving societal challenges, enhance Europe's competitiveness and contribute to job creation and economic growth. EIPs help to pool expertise and resources by bringing together public and private actors at EU, national and regional level, combining supply- and demand-side measures.



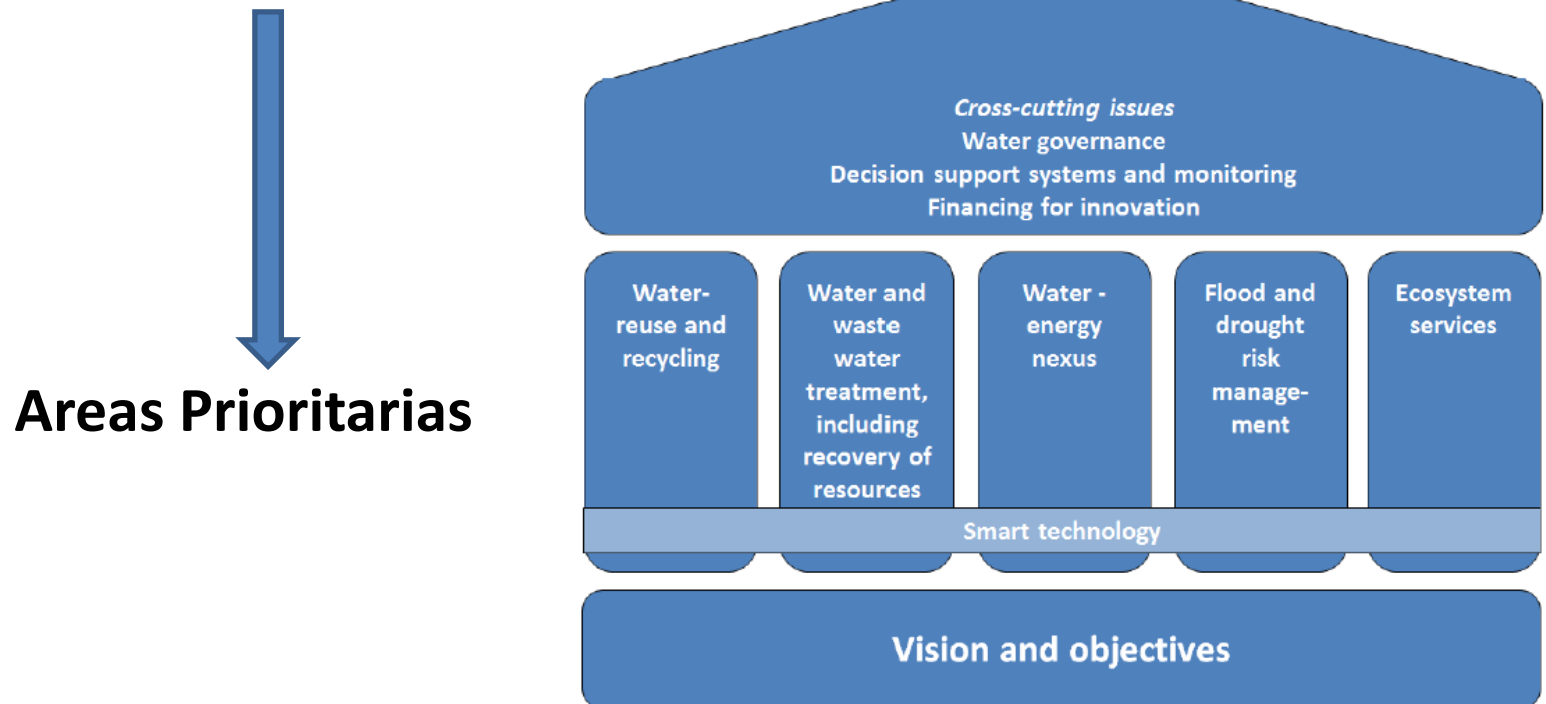
<http://ec.europa.eu/environment/water/innovationpartnership>

EIP Agua (ii)

Objetivos:

- acelerar el desarrollo de la innovación en el sector del agua
- contribuir al crecimiento y empleo sostenibles
- estimular la incorporación, en el mercado y en la sociedad, de las innovaciones en los temas del agua

Plan Estratégico de Implementación(SIP)



EIP Materias Primas

About this site | Legal notice | Contact | Search English (en)

<https://ec.europa.eu/eip/raw-materials/en>



EIP ON RAW MATERIALS

European Commission > EIP on Raw Materials

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About the European Innovation Partnership (EIP) on Raw Materials

ECAS Login

The European Innovation Partnerships (EIPs) are a new approach to EU research and innovation. They focus on the societal benefits of R + I and a rapid modernisation of the associated sectors and markets.

European Innovation Partnerships (EIP) were launched under the European Commission's Innovation Union to accelerate the market take-up of innovations which address key challenges for Europe.

The ultimate aim of the EIP on Raw Materials is to help raise *industry's contribution to the EU GDP to around 20% by 2020*. It will also play an important role in meeting the objectives of the flagship European Commission initiatives 'Innovation Union' and 'Resource Efficient Europe'. It will do this by ensuring the sustainable supply of raw materials to the European economy whilst increasing benefits for society as a whole.



Raw Materials - The stuff that dreams are made of

Other language versions: EN DE FR ES PL IT

The EIP on Raw Materials will bring together EU Member States and other stakeholders (companies, NGOs, researchers, etc.) to promote innovation along the entire value chain of raw materials: Exploration, Extraction, Processing, Recycling and Substitution.

EIP Materias Primas – SIP (i)

SIP, Strategic Implementation Plan (25/09/2013)

Pillars

- Technology
- Non-Technology (Policies)
- International Cooperation

Priority Areas

Action Areas

Actions

“Topics” Work Programme

SIP (ii)

I TECHNOLOGY PILLAR

I.A Priority Area: Raw materials research and innovation coordination

- Action area n° **I.1 Improving R&D&I coordination in the EU**

I.B Priority Area: Technologies for primary and secondary raw materials' production

- Action area: n° **I.2: Exploration**
- Action area: n° **I.3: Innovative extraction of raw materials**
- Action area: n° **I.4: Processing and refining of raw materials**
- Action area n° **I.5: Recycling of raw materials from products, buildings and infrastructure**

I.C Priority Area: Substitution of raw materials

- Action area: n° **I.6: Materials for green technologies**
- Action area: n° **I.7: Materials for electronic devices**
- Action area: n° **I.8: Materials under extreme conditions**
- Action area: n° **I.9: Applications using materials in large quantities**

SIP (iii)

II NON-TECHNOLOGY PILLAR

II.A Priority Area: Improving Europe's raw materials framework conditions

- Action area n° II.1: Minerals Policy Framework
- Action area n° II.2: Access to Mineral Potential in the EU
- Action area n° II.3: Public Awareness, Acceptance and Trust

II.B Priority Area: Improving Europe's waste management framework conditions and excellence

- Action area n° II.4: Product design for optimised use of (critical) raw materials and increased quality of recycling
- Action area n° II.5: Optimised waste flows for increased recycling
- Action area n° II.6: Prevention of illegal shipments of waste
- Action area n° II.7: Optimised material recovery

II.C Priority Area: Knowledge, skills and raw materials flows

- Action area n° II.8: The European Union Raw Materials Knowledge Base (EURMKB)
- Action area n° II.9: Possible EIT Knowledge and Innovation Community (KIC) in 2014
- Action area n° II.10: Optimised raw materials' flows along value chains

SIP (iv)

III INTERNATIONAL COOPERATION PILLAR

- Action area n° **III.1: Technology**
- Action area n° **III.2: Global Raw Materials Governance and Dialogues**
- Action area n° **III.3: Health, Safety and Environment**
- Action area n° **III.4: Skills, Education and Knowledge**
- Action area n° **III.5: Investment activities**

Y de las sinergias H2020 con otros fondos....

- How to integrate eco-innovations, resource efficiency... in the Research & Innovation Strategies for Smart Specialisation (RIS3) ?
- Why it makes sense?
- What can we do?
- Collection of good practices
-



Connecting Smart and Sustainable Growth through Smart Specialisation

A practical guide for ERDF managing authorities



DISCLAIMER



In no circumstance the content of these slices can substitute the information provided in the official call documents and guidelines as available from the Participant Portal.

<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>

Gracias por su atención

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