



EU Research and Innovation for circular economy

United Nations Economic Commission for Europe
Team of Specialists on Innovation and Competitiveness Policies
Tenth Session

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European Commission

Circular Economy Package

Adopted on 2 December 2015

CIRCULAR ECONOMY

Closing the loop

where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimised

Looking at the whole 'Circle'

Going beyond waste
Interdependence across the Value Chain

Circular Economy Action Plan

Looking at the whole 'Circle'

4 Key areas of action



5 Priority sectors



H2020 Actions in 2015

- The growing waste produced in Europe, particularly in urban areas, where the vast majority of the world population are expected to live by 2050, represents a cost for society and a burden on the environment and, at the same time, a valuable stock of resources that can be exploited.
- Boosting eco-innovative solutions to prevent waste generation and promote the use of waste as a resource, in line with the objectives of the EU Resource Efficiency Roadmap[1] and the Waste Framework Directive[2], can enhance the natural and living environment in urban and peri-urban areas.

H2020 Actions in 2015

- Developing and demonstrating such solutions in real-life environments will enhance their market uptake and contribute to sustainable urbanisation worldwide.
- Cities are complex systems similar to living organisms that use energy, air, water and nutrients and need to dispose waste in a sustainable way. Adopting an urban metabolism perspective opens the way for innovative, systemic approaches, involving the analysis of resource flows within cities.



H2020 Actions in 2015

- Integrate economic, social and environmental dynamics (considering socio-economically and gender patterns of resource use and consumption)
- Pinpoint drivers of waste-avoiding behaviour, manufacturing and business and public governance models.



H2020 Actions in 2015

- Development of Eco-innovative strategies for sustainable waste prevention and management in urban and peri-urban areas
- Highlight how urban patterns, drivers, consumer behaviour, lifestyles, culture, architecture and socio-economic issues can influence the metabolism of cities.



H2020 project UrBAN-WASTE

- Aims to reduce the amount of municipal waste production and at further support the re-use, recycle, collection and disposal of waste in tourist cities through the urban metabolism approach to support the switch to a circular model where waste is considered as resource and reintegrated in the urban flow.
- Analysis of 11 pilot cities (participatory process, mutual learning action plan).

Actions in 2016/2017

✓ **key measures** taken in areas such as waste, eco-design, food waste, organic fertilisers, guarantees for consumer goods, and innovation and investment

✓ **The European Circular Economy Stakeholder Platform** (March 2017)



Full 2016 Implementation Report:
http://ec.europa.eu/environment/circular-economy/implementation_report.pdf

Research and Innovation Role in CE

Create the right environment for innovation and investments

- ✓ **DEMONSTRATING** the opportunities for moving towards a circular economy through the **Focus Area "Industry 2020 in the Circular Economy"**
- ✓ **REGULATORY INNOVATION:** addressing regulatory barriers to circular economy activities or business models, through the implementation of **Innovation Deals**
- ✓ **Financial Innovation:** Assessment of the possibility of launching a platform together with the EIB and national banks to support the financing of the circular economy and supporting **FINANCING TOOLS** and **ADVISORY SERVICES** through **InnovFin**
- ✓ **Product/social innovation:** Assessment of the possibility of an independent testing programme on **planned obsolescence**

Horizon 2020 Work Programme

Industry 2020 in the Circular Economy Focus Area

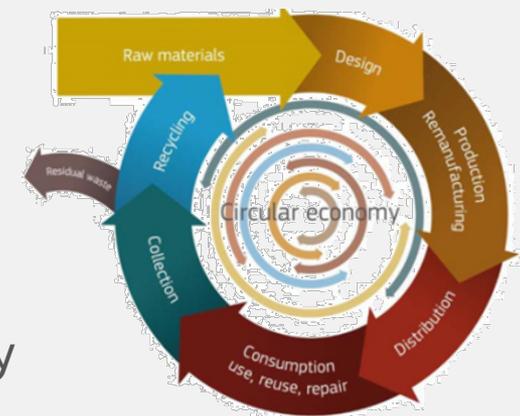
Systemic, eco-innovative approaches for the circular economy: large-scale demonstration projects

- **CIRC-01-2016** EU contribution: **60 MEUR**
- **CIRC-01-2017*** EU contribution: **44 MEUR**

WASTE Focus Area

- **Waste-1-2014**: Moving towards a circular economy through industrial symbiosis
- **WASTE-6-2015**: Promoting eco-innovative waste management and prevention as part of sustainable urban development

EU Contribution +77 MEUR





Coordinator: Institut Bruxellois pour la Gestion de l'Environnement (BE)

Beneficiaries: 15 (BE, NL, DE, UK, SE, PT, BA)

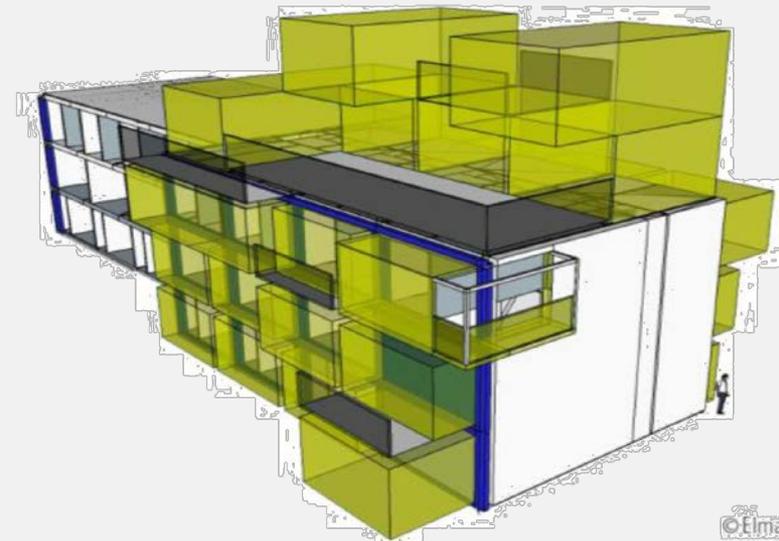
Total costs: € 9 933 112

EU contribution: € 8 858 766

Duration: 48 months (Started: September 2015)

Instrument: Innovation Action

- Design and circular value chains to prevent C&D waste and reduce virgin material consumption
 - ✓ **C2Craddle & Materials Passports**
 - ✓ **Reversible building design**
 - ✓ **New business models**



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Coordinator: Fraunhofer Institute For Reliability And Microintegration (DE)

Beneficiaries: 20 (AT, BE, ES, FI, FR, IT, JP, NL, DE, UK)

Total Cost: € 9 504 882,50

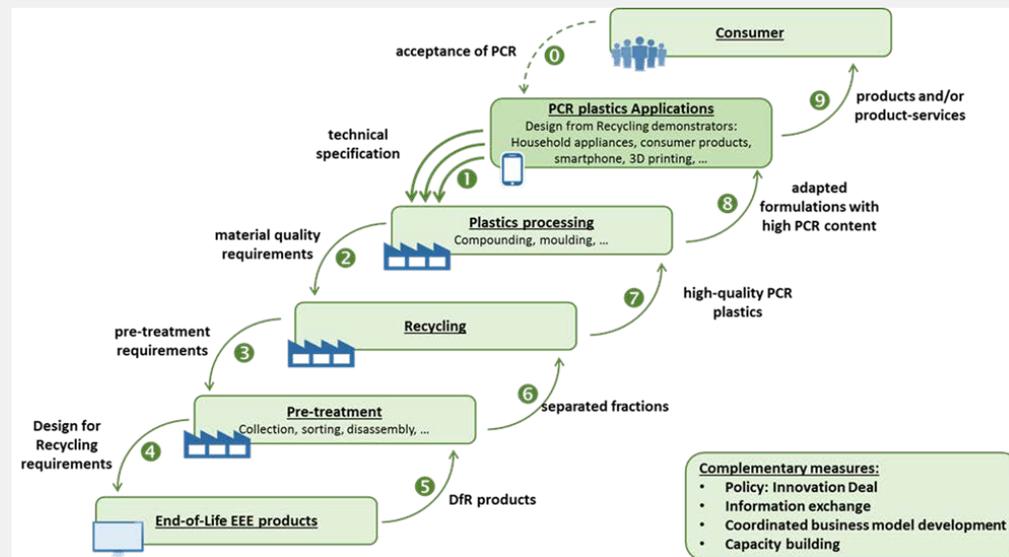
EU contribution: € 8 321 997,75

Duration: 48 months (Started: June 2017)

Instrument: Innovation Action

Reducing WEEE plastics generation and enhancing use of recycled plastics in new applications.

Enabling and strengthening the market of WEEE post-consumer plastics.



paper Chain

Coordinator: ACCIONA INFRAESTRUCTURAS S.A.
(ES)

Beneficiaries: 20 (BE, ES, FR, PT, SE, SI)

Total Cost: € 9 270 322,50

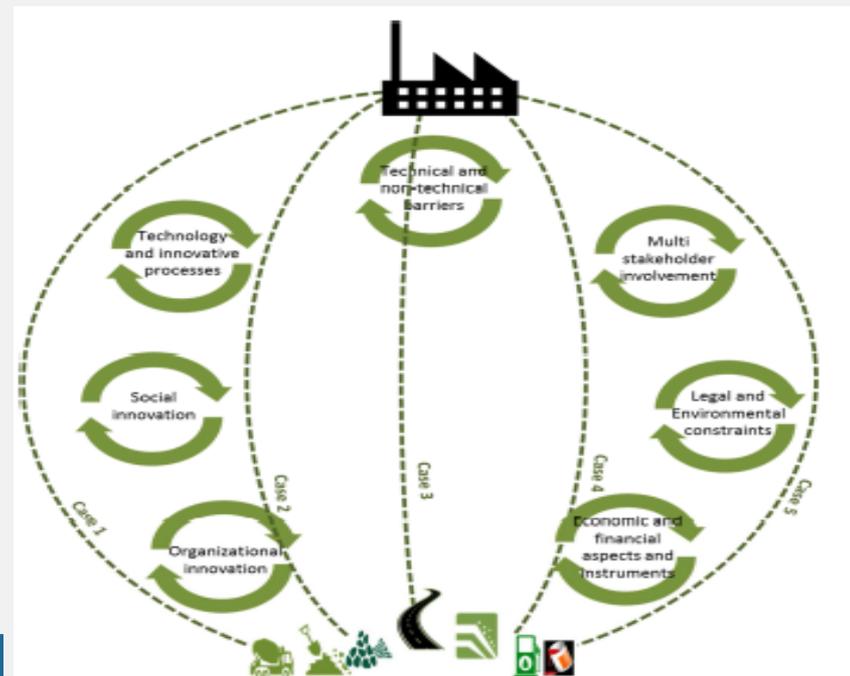
EU contribution: € 7 826 080,89

Duration: 48 months (Started: June 2017)

Instrument: Innovation Action

*Deployment of five novel circular economy models for valorisation of **Pulp and Paper Industry** waste streams.*

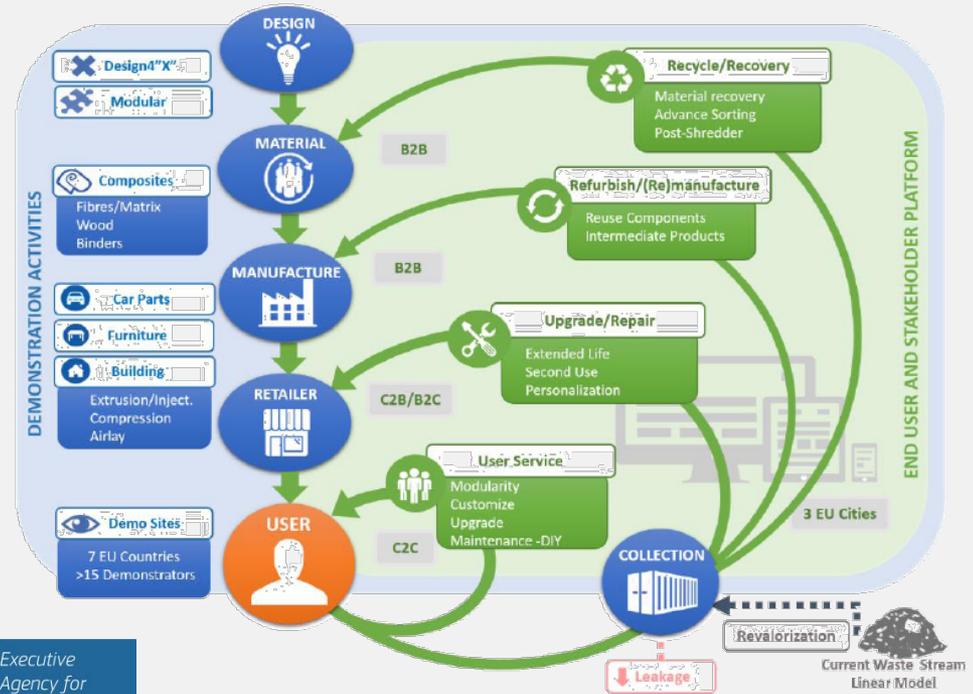
Secondary raw material for resource intensive sectors: construction, sector, mining sector and chemical industry.



ECOBULK

Coordinator: EXERGY (UK)
Beneficiaries: 24 (DE, ES, FI, FR, IT, NL, SE, TR, UK)
Total Cost: € 12 230 393.75
EU contribution: € 9 666 300.38
Duration: 48 months (Started: June 2017)
Instrument: Innovation Action

*Implementing a new circular economy model for **composite products in automotive, furniture and building component** industrial sectors by directly addressing and demonstrating key stages along the entire circular chain, from design to waste stream management.*



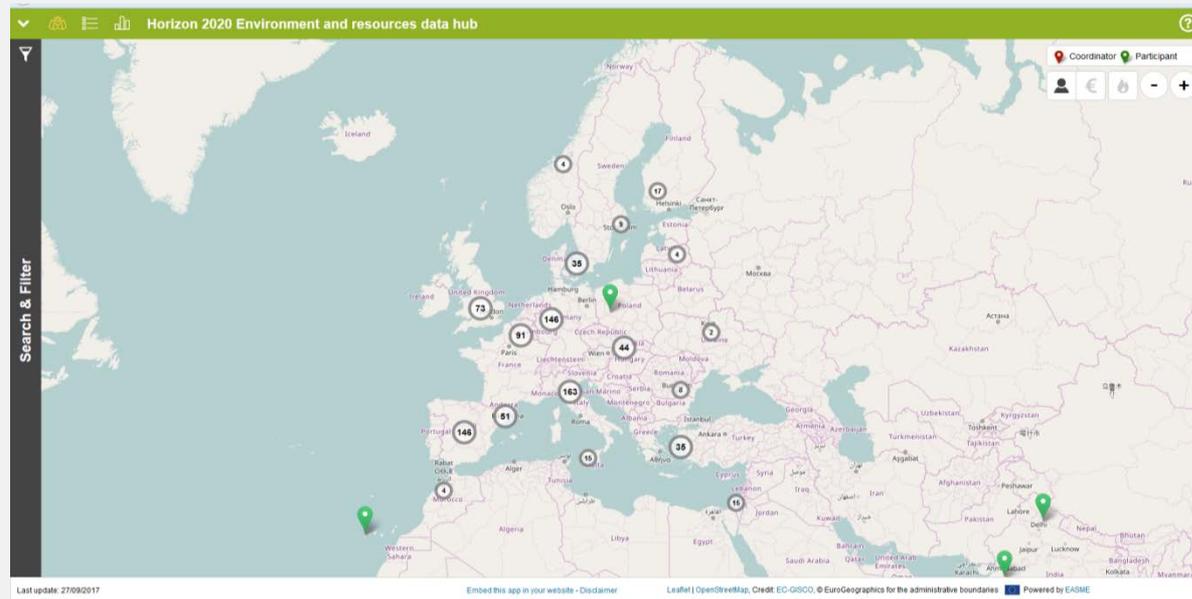


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Environment and resources data hub

<https://sc5.easme-web.eu/>

- Open access covering EASME programs
- Projects summaries and beneficiaries
- Relevant statistics per topics



Statistics

Located in EL. Applying as Coordinator or Partner.



57 PARTICIPANTS



30.73ME ALLOCATED



11 PROJECTS COORDINATED

Executive
Agency for
SMEs

New Calls under Horizon 2020

WP 2018-2020 *Societal Challenge 5*

Connecting economic and environmental gains – the Circular Economy (480 M€)

- CE-SC5-01-2018: Methods to remove hazardous substances and contaminants from **secondary raw materials** (34 M€)
- CE-SC5-04-2019: Building a **water-smart economy and society** (72 M€)



Next planning:

November 2017	February 2018	September 2018
Opening of the call	Stage 1 Evaluation	Stage 2 Evaluation

https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/h2020-sc5-2018-2020_09_15_2017_forpublication.pdf



HORIZON 2020

**Thank you
for your attention!**

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