Societal Challenge 5
Climate Action, Environment, Resource Efficiency, and Raw Materials
Work Programme 2016

CIRC Topics

PART III

Lisbon, 4 December 2015

Research and Innovation

OVERVIEW

PART III

✓ TOPICS DESCRIPTION

Topics funded by Societal Challenge 5:

- **CIRC-01** Design for circular value and supply chains: large-scale demonstration projects (IA, 7-10M€/project total 60M€)
- **CIRC-02** Demonstrating the potential of efficient nutrient recovery from water (IA, 6-8M€/project total 20M€)
- **CIRC-03** Smart Specialisation for systemic eco-innovation/ circular economy (CSA)
- **CIRC-04** New models and economic incentives for circular economy business (RIA)

CIRC-01 Systemic, eco-innovative approaches for the circular economy: large-scale demonstration projects

Specific Challenge (2016-2017)

- ✓ **replacing** current **linear** models with **circular models** of **production and consumption** to increase **resource efficiency**
- ✓ adopting a **systemic** approach to **eco-innovation**
- ✓ addressing the **whole value and supply chains** and engaging **all actors involved** in such chains
- ✓ foresighting the **diverse impacts** of transformative innovative solutions
- ✓ bringing **end-users** closer to the design and production phases

a) 2016 - Design for circular value and supply chains

Scope

- ✓ **to test and showcase circular economy solutions** going **beyond a single production plant**
- ✓ to **re-design** the **overall chains** from resources to marketed **products**, including production **processes** and/or systems, as well as with the **involvement of end-users**
- ✓ to entail the recovery, recycling and/or re-use of resources and energy flows, including by **cross-sectorial symbiosis**
- ✓ to contribute to the **SPIRE PPP Roadmap** (http://www.spire2030.eu)

TRL
5-7

Expected Impacts:

Medium term

By a **cross sectorial, collaborative systemic approach**, to make **measurable and substantial** contributions to:

- ✓ improving the **efficient use of resources**, the **optimisation of production**, and **reducing the generation of waste**
- ✓ the creation of **business opportunities**, **exploiting EU eco-innovative solutions**, and demonstrating their economic, social, and environmental **sustainability**
- ✓ **evidence-based knowledge for** enabling framework conditions that facilitate a transition to the circular economy in the EU.

European Commission

Deadlines:

Stage 1 *08-03-2016 @ 17:00:00 (Brussels)*

Stage 2 *06-09-2016 @ 17:00:00 (Brussels)*

Type of action: *Innovation actions*

IA
70%

Indicative budget: *60 M€*

Appropriate EU contribution/action: 7-10 M€

European Commission

CIRC-02-Water in the context of the circular economy

Specific Challenge (2016)

- Increasing global demand for food/feed/fibre leading to **growing demand for nutrients**
- **Water treatment** has the potential for nutrient recovery and contribution to circular economy
- Extensive implementation of **nutrient recovery** and the use of **recovered nutrients** is lacking in Europe

a) 2016 - Demonstrating the potential of efficient nutrient recovery from water

Scope:

- Large scale demonstration projects covering the **whole value chain** from recovery of nutrients **to their recycling**
- May involve recovery technologies implemented in **any water sector** (industrial, agriculture or municipal)
- An **LCA approach** should be used together with environmental and health risk assessment methodologies.
- Involvement of **social sciences and humanities** to address issues such as **attitudes to/acceptance** of recycled products
- Prospective **end-users** need to be involved in the projects **to inform** them **about the quality and safety requirements** to be met by the **products**
- Topic supports the implementation of the **EIP Water** (www.eip-water.eu)

European Commission

Expected impacts:

TRL
5-7

- **Decreasing the dependency** on primary nutrient resources
- Closing the water and nutrient cycles in the whole value chain and reducing the **adverse effects** of nutrient emissions
- Improving the **quality of data** on nutrient flows
- Creating **new business opportunities** and new green jobs around nutrient recovery and recycling
- Improving the **policy and market conditions** for deployment of innovative solutions
- Providing evidence-based knowledge for enabling framework conditions (**regulatory and policy framework**)

European Commission

Deadlines:

Stage 1 *08-03-2016 @ 17:00:00 (Brussels)*

Stage 2 *06-09-2016 @ 17:00:00 (Brussels)*

Type of action: *Innovation action*

IA
70%

Indicative budget: *20 M€*

Recommended EU contribution/project: 6-8 M€

CIRC-03 - Smart Specialisation for systemic eco-innovation/circular economy

Specific Challenge (2016):

Developing **joint strategies**, built on complementarities and respective strengths, to better realise Regions' individual and combined potential.

Scope :

- to **support a transition to CE** in European regions in **synergy** with **Smart Specialisation strategies**;
- to **develop a framework** enabling and encouraging regions and MS to establish **synergies** between R&I **investment from H2020** and **ESI funds** leading to market uptake of innovative solutions;
- provide guidance to **policy makers**;
- **participants**: regional authorities and/or structures responsible for the implementation of Smart Specialisation strategies.

European Commission

Expected impacts:

- **identification of concrete sectors or areas** with high potential to support a transition to a circular economy, within a European reference framework;
- **investment needs** per region and sector/area to enhance existing smart specialisation strategies of involved regions;
- **operational actions** to connect the activities of the identified sectors/areas of involved regions in view of **trans-national cooperation** along relevant value chains;
- development of **policy support advisory services** that enable regions to invest EU funds to leapfrog to circular economy solutions in achieving compliance with EU objectives and targets.

European Commission

Deadline:

08-03-2016 @ 17:00:00 (Brussels)

CSA
100%

Type of action: *Coordination and support action*

Recommended EU contribution/project: *1-1,5 M€*

CIRC-04 - New models and economic incentives for circular economy business

Specific Challenge:

Developing and dissemination of circular economy **business models** and improved knowledge thereof, to enable the transition towards the circular economy. Integration of public policy-making and business decision-making to support the uptake and scaling-up of circular economy

Scope :

- Facilitate **better understanding** of factors which stimulate or hinder the implementation of CE business models;
- **Investigate underpinning economics** of CE business models;
- **Recommendations** should be made in support of policy making and for future implementation of CE business models;
- Consider a **systemic approach, including technological, social, financial, governance and regulatory innovation**.

Expected impacts:

- **recognition** by industry and policy makers of the **role that business models** can play in the circular economy;
- establishing a **practice of co-design** and **replication** of new circular economy business models, linking business development and policy making;
- better application and replication of applied research and innovation outcomes through **exchange of information**, experience, and best practice on CE business models and policy making;
- enabling circular businesses to **overcome barriers** originating from dominant market structures of the linear economy;
- Europe's sustainable transition towards a circular economy;
- increased dissemination among relevant CE communities.

European Commission

Deadline:

08-03-2016 @ 17:00:00 (Brussels)

RIA
100%

Type of action: *Research and Innovation action*

Recommended EU contribution/project: *3M€*

Questions?

Additional information

- **Innovation Actions**

Action primarily consisting of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services. For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.

A 'demonstration or pilot' aims to validate the technical and economic viability of a new or improved technology, product, process, service or solution in an operational (or near to operational) environment, whether industrial or otherwise, involving where appropriate a larger scale prototype or demonstrator.

Projects may include limited research and development activities.

(***20. General Annexes – Section D***)

European Commission

Additional information

- **Technology Readiness Levels (TRL)**
  - ✓ TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
  - ✓ TRL 6 – technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)
  - ✓ TRL 7 – system prototype demonstration in operational environment

Additional information

- **Annex 22 - 20. General Annexes**

A. LIST OF COUNTRIES, AND APPLICABLE RULES FOR FUNDING

B. STANDARD ADMISSIBILITY CONDITIONS FOR GRANT PROPOSALS, AND RELATED REQUIREMENTS

C. STANDARD ELIGIBILITY CRITERIA

D. TYPES OF ACTION: SPECIFIC PROVISIONS AND FUNDING RATES

E. SPECIFIC REQUIREMENTS FOR INNOVATION PROCUREMENT (PCP/PPI) SUPPORTED BY HORIZON 2020 GRANTS

F. RULES OF CONTEST (ROC) FOR PRIZES

G. TECHNOLOGY READINESS LEVELS (TRL)

H. EVALUATION

I. BUDGET FLEXIBILITY

J. CLASSIFIED INFORMATION

K. FINANCIAL SUPPORT TO THIRD PARTIES

Additional information

- **Integrating ETV into Horizon 2020 proposals**

http://iet.jrc.ec.europa.eu/etv/sites/etv/files/files/documents/Other_documents/etv_in_horizon_2020_proposals.pdf