

TOPIC : Closing nutrient cycles

**Topic**

**identifier:** CE-RUR-08-2018-2019-2020

**Publication date:** 27 October 2017

**Focus area:** Connecting economic and environmental gains - the Circular Economy (CE)

**Types of action:** IA Innovation action

**DeadlineModel:** single-stage

**Opening date:** 16 October 2018

**Deadline:** 23 January 2019  
17:00:00

**Types of action:** RIA Research and Innovation action

**DeadlineModel:** two-stage

**Opening date:** 31 October 2017

**Deadline:** 13 February 2018  
17:00:00  
**2nd stage  
Deadline:** 11 September  
2018 17:00:00

Time Zone : (Brussels time)

Horizon 2020

[H2020 webs](#)

Pillar: Societal Challenges

Work Programme Year: H2020-2018-2020

Work Programme Part: [Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy](#)

Call : [H2020-RUR-2018-2020](#)

[Call budget overview](#)

**Topic Description**

- Less

**Specific Challenge:**

The EU depends strongly on external sources for the supply of key fertilisers used in agriculture. Resource depletion and an increasing global demand for mineral fertilisers may, in the long term, lead to price tensions with an impact on food security. Mineral-based fertilisation also poses significant environmental problems, linked e.g. to the amounts of fossil energy needed to produce and transport these fertilisers. At the same time, large amounts of minerals are being dispersed in the environment through a large variety of organic waste streams, resulting in soil, water and air pollution. Agro-food specialisation has led to regional imbalances: whilst in some regions a nutrient overabundance is causing severe environmental impacts (e.g. nitrate pollution), other are experiencing nutrient deficits. These contrasting effects may also be observed between locations within the same region.

Several technologies are being developed to recover and re-use nutrients from organic by-products, but many are insufficiently mature and the characteristics of end-products do not always match end-user preferences. It is expected that the EU 'circular economy package' will boost the emergence and commercialisation of such new fertilisers, hence it is important to understand their agronomic and environmental performance in order to establish adequate policies, guidelines and application rules.

**Scope:**

Proposals shall address inter-regional and intra-regional imbalances through effective nutrient recovery from by-products of the agro-food or the forestry sectors, and conversion into novel fertilisers. Proposals should include a task to cluster with other projects financed under this topic, under topic SFS-39-2019 and – if possible – with other relevant projects in the field funded by Horizon 2020 (including under the BBI JU).

## **A.[2018] Understanding properties and impacts of bio-based fertilisers (RIA)**

The project shall generate a knowledge basis that could support policy decisions related to novel fertilisers based on organic resources<sup>[1]</sup>. On the basis of products that are currently available or under development, a comprehensive set of potential environmental impacts shall be identified and assessed across the fertiliser value chain<sup>[2]</sup>, along with criteria related to their agronomic performance, safety and quality. Parameters and reference values shall be proposed as a basis for future policies related to new organic-based fertilisers. The project shall also propose reliable analytical measurement and testing methods for future compliance checks. An analysis of nutrient imbalances between regions in the EU shall be carried out, and the viability and sustainability of nutrient flows between regions through new organic-based fertilisers (including the understanding of logistic costs) shall be assessed.

## **B.[2019] Bio-based fertilisers from animal manure (IA)**

Projects shall demonstrate processes for recovery of mineral nutrients and production of novel fertilisers from animal manure. Proposals shall perform a thorough analysis of the state of the art, and demonstrate that the activities proposed go beyond past or ongoing research, without overlaps. Technologies that are currently under development shall be further improved, and possibly integrated, to produce high quality end-products<sup>[3]</sup>. Proposals shall address end-product marketability, safety, sustainability including emissions of greenhouse gasses and pollutants, and compliance with relevant EU regulations<sup>[4]</sup>. Their suitability and acceptability under the organic farming regulatory framework shall also be analysed. An integrated assessment of the business model (economic, agronomic, social and environmental) shall be performed. The whole value chain shall be demonstrated to a near-commercial scale (TRL 6-7). Proposals shall fall under the concept of the 'multi-actor approach'<sup>[5]</sup> including relevant actors such as agro-food industries, technology providers, research centres, end-users (farmers and farmer associations), or public administration.

## **C.[2020] Bio-based fertilisers from other by-products of the agro-food, fisheries, aquaculture or forestry sectors (IA)**

The Commission considers that proposals requesting a contribution from the EU of up to EUR 6 million for sub-topic A and 8 million for sub-topics B and C would allow this specific challenge to be addressed appropriately. Nonetheless this does not preclude the submission and selection of proposals requesting other amounts. For sub-topics B and C, participation of partners from CELAC countries<sup>[6]</sup> is encouraged.

### **Expected Impact:**

Proposals are expected to provide the technologies needed to develop a new generation of commercial, sustainable and safe fertilisers based on organic by-products, and the scientific knowledge needed to frame their use. This will help to:

- set up a coherent policy framework for the sustainable production and use of organic-based fertilisers (sub-topic A);
- replace conventional, non-renewable mineral fertilisers, hence reducing external dependence and risks related to depletion (sub-topics A, B and C);
- balance nutrient concentrations between or within regions, thus increasing resource efficiency (sub-topics A, B and C);
- reduce the environmental impacts linked to the dispersion of nutrients present in waste flows, or to the production of fossil-based fertilisers (sub-topics A, B and C);
- develop new business models creating value from agro-food, fisheries, aquaculture or forestry by-products (sub-topics B and C).

In the long term, this shall contribute to a thriving, sustainable and circular bio-economy, the development of new business models that are synergic with other economic sectors, and therefore to the creation of wealth and quality jobs in rural areas.

### **Delegation Exception Footnote:**

It is expected that this topic will continue in 2020

### **Cross-cutting Priorities:**

Blue Growth

## RRI

[1] This shall include both products with low organic matter (comparable to current mineral fertilisers) and products with high organic matter content (advanced organic fertilisers)

[2] Including the production, transport and use phases.

[3] These can be mineral-type (i.e. with low organic matter content), or advanced organic fertilisers (e.g. through improved composting processes).

[4] This includes notably regulations relative to fertilisers, animal by-products, or nitrates.

[5] See definition of the 'multi-actor approach' in the introduction to this Work Programme part.

[6] Community of Latin American and Caribbean States

## Topic conditions and documents

- Less

**1. Eligible countries:** described in [Annex A](#) of the Work Programme.

A number of non-EU/non-Associated Countries that are not automatically eligible for funding have made specific provisions for making funding available for their participants in Horizon 2020 projects. See the information in the [Online Manual](#).

**2. Eligibility and admissibility conditions:** described in [Annex B](#) and [Annex C](#) of the Work Programme. **SME instrument:** described in the [Work Programme part "European Innovation Council \(EIC\)"](#).

**Proposal page limits and layout:** please refer to Part B of the proposal template in the submission system below.

### 3. Evaluation:

- **Evaluation criteria, scoring and thresholds** are described in [Annex H](#) of the Work Programme. **SME instrument:** described in the [Work Programme part "European Innovation Council \(EIC\)"](#).
- **Submission and evaluation processes** are described in the [Online Manual](#).

### 4. Indicative time for evaluation and grant agreements:

Information on the outcome of evaluation (**single-stage** call): maximum 5 months from the deadline for submission.

Signature of grant agreements: maximum 8 months from the deadline for submission.

Information on the outcome of evaluation (**two-stage** call):

For stage 1: maximum 3 months from the deadline for submission.

For stage 2: maximum 5 months from the deadline for submission.

Signature of grant agreements: maximum 8 months from the deadline for submission.

### 5. Proposal templates, evaluation forms and model grant agreements (MGA):

#### Research and Innovation Action:

[Specific provisions and funding rates](#)

[Standard proposal template](#)

[Standard evaluation form](#)

## **Innovation Action:**

[Specific provisions and funding rates](#)

[Standard proposal template](#)

[Standard evaluation form](#)

[General MGA - Multi-Beneficiary](#)

[Annotated Grant Agreement](#)

## **6. Additional provisions:**

[Horizon 2020 budget flexibility](#)

[Classified information](#)

[Technology readiness levels \(TRL\)](#) – where a topic description refers to TRL, these definitions apply

Members of consortium are required to conclude a consortium agreement, in principle prior to the signature of the grant agreement.

## **7. Open access must be granted to all scientific publications** resulting from Horizon 2020 actions.

Where relevant, proposals should also provide information on how the participants will manage the research data generated and/or collected during the project, such as details on what types of data the project will generate, whether and how this data will be exploited or made accessible for verification and re-use, and how it will be curated and preserved.

### **Open access to research data**

The Open Research Data Pilot has been extended to cover all Horizon 2020 topics for which the submission is opened on 26 July 2016 or later. Projects funded under this topic will therefore by default provide open access to the research data they generate, except if they decide to opt-out under the conditions described in [Annex L of the Work Programme](#). Projects can opt-out at any stage, that is both before and after the grant signature.

Note that the evaluation phase proposals will not be evaluated more favourably because they plan to open or share their data, and will not be penalised for opting out.

Open research data sharing applies to the data needed to validate the results presented in scientific publications. Additionally, projects can choose to make other data available open access and need to describe their approach in a Data Management Plan.

Projects need to create a Data Management Plan (DMP), except if they opt-out of making their research data open access. A first version of the DMP must be provided as an early deliverable within six months of the project and should be updated during the project as appropriate. The Commission already provides guidance documents, including a template for DMPs. See the [Online Manual](#).

Eligibility of costs: costs related to data management and data sharing are eligible for reimbursement during the project duration.

The legal requirements for projects participating in this pilot are in the article 29.3 of the [Model Grant Agreement](#).

## **8. Additional documents:**

[1. Introduction WP 2018-20](#)

[9. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy WP 2018-20](#)

[18. Dissemination, Exploitation and Evaluation WP 2018-20](#)

[General annexes to the Work Programme 2018-2020](#)

[Legal basis: Horizon 2020 Regulation of Establishment](#)

## Submission Service

To access the Electronic Submission Service of the topic, please select the **type of action** that is most relevant to your proposal from the list below and click on the '**Start Submission**' button. You will then be asked to confirm your choice of the type of action and topic, as these cannot be changed in the submission system. Upon confirmation you will be linked to the correct entry point.

To access existing draft proposals for this topic, please login to the Participant Portal and select the My Proposals page of the My Area section.

**Type of Action**

**Research and Innovation action [RIA]**

START SUBMISSION

**Topic**

Closing nutrient cycles - CE-RUR-08-2018-2019-2020

Guidance on proposal submission:

H2020 ONLINE MANUAL

IT Guidance:



### Get support

- Less

**H2020 Online Manual** is your guide on the procedures from proposal submission to managing your grant.

**Participant Portal FAQ** – Submission of proposals.

**National Contact Points (NCP)** - contact your NCP for further assistance in your national language(s).

**Research Enquiry Service** – ask questions about any aspect of European research in general and the EU Research Framework Programmes in particular.

**Enterprise Europe Network** – contact your EEN national contact for advice to businesses with special focus on SMEs. The support includes guidance on the EU research funding.

**IT Helpdesk** - contact the Participant Portal IT helpdesk for questions such as forgotten passwords, access rights and roles, technical aspects of submission of proposals, etc.

**Ethics** – for compliance with ethical issues, see the Online Manual and Science and Society Portal

**European IPR Helpdesk** assists you on intellectual property issues

**Partner Search Services** help you find a partner organisation for your proposal.