

THE BALTIC SEA *NUTRIENTS & CARBON REUSE* CHALLENGE

01DEC 2017 – 12FEB 2018



SCIENCE FOR A BETTER FUTURE OF THE BALTIC SEA REGION

BONUS RETURN



Do you have an innovation with the potential to reuse nutrients and carbon?

Are you eager to improve your innovation, adapt it to local markets in the Baltic Sea Region, and meet with potential investors and clients?

THE CHALLENGE

BONUS RETURN announces an open competition for innovations addressing the *reuse of nutrients and carbon* in the Baltic Sea. Up to 3 innovations will be chosen to be part of the project's pre-commercialization process, and present their innovations to a group of investors, researchers and public sector actors at the Baltic Sea Future Conference in Stockholm on 8 -9 March, 2018.

Winners will have the opportunity to:

1. Perform tests.
2. Match their product to local needs.
3. Obtain tailor-made procurement and business plans.
4. Link with private sector and investors.
5. Introduce the product to potential markets.



APPLICATION DETAILS

Submit a detailed description of your eco-technology's innovative solution before 12th February, 2018 at www.bonusreturn.com for a chance to be part of BONUS RETURN's pre-commercialization process.



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TIMELINE



ELIGIBILITY

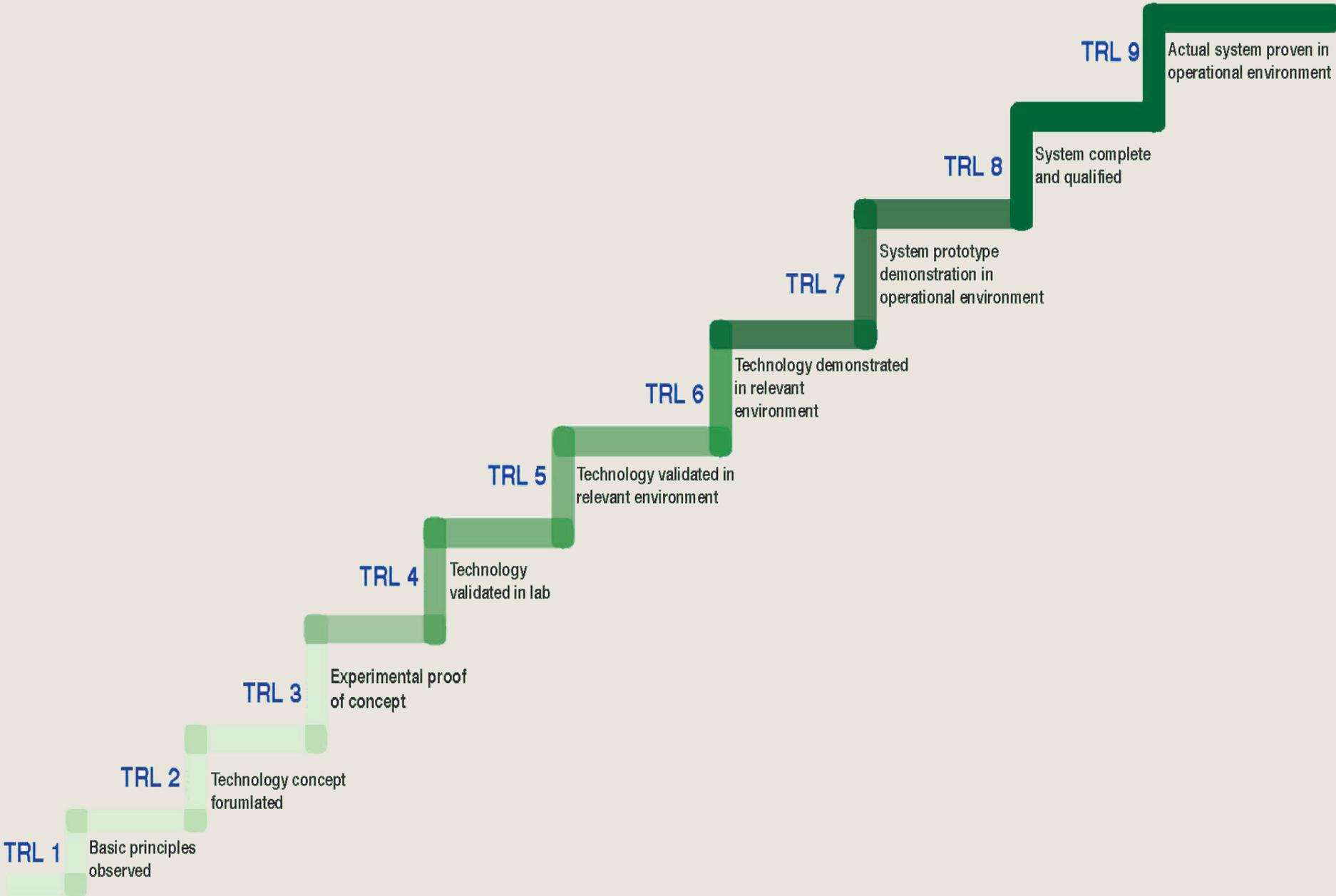
To be eligible your innovation:

1. Addresses nutrient or carbon reuse from the agricultural or waste water sectors, or both.
2. Can be applied in the Baltic Sea environment.
3. Is a biological, physical, or chemical intervention designed to minimize harm to the environment and provide services of value to society.
4. Is a prototype Technology Readiness Level (TRL) 5 or higher, according to the EU framework programme H2020.

TECHNOLOGY READINESS LEVEL (TRL)

Technology Readiness Level (TRL) is a European-standardized metric system used to assess the maturity of a technology. The scale consists of nine levels where each level characterizes the progress in the development of a technology, from inception (Level 1) to the full uptake of the product into the marketplace (Level 9).





WHAT ARE ECO-TECHNOLOGIES?

Eco-technologies are human interventions in socio-ecological systems in the form of practices and/or biological, physical, and chemical processes designed to minimize harm to the environment and provide services of value to society.

THE PROBLEM

Surface runoff and leaching of nutrients are the two major processes contributing to the eutrophication of water bodies; causing algae growth, and affecting water quality.

The earth's phosphorus is being depleted at an alarming rate. At current consumption levels, we will run out of known phosphorus reserves in about 80 years.

At the same time, excess phosphorus, including that running off feedlots and released from wastewater treatment plants, threatens water quality and ecosystem health as it fertilizes lakes, rivers and ocean waters around the globe.



THE SOLUTION: REUSE

Nutrients such as phosphorous are great fertilizers...but we want them in our fields and not seas!

Nearly half of 11 million tons of nitrogen and half of the 1.4 million tones of phosphorus applied to EU crops are not being recovered. Most of these come from animal manures, sewage waste and food chain waste.

Reusing phosphorus would increase resilience and food security in the event of supply disruption of phosphorus from North Africa, USA and Russia. At the same time, it would help us keep our seas healthy.



1. IMPROVING INNOVATION READINESS

In BONUS RETURN, technology readiness refers to an eco-technology's performance and effectiveness to **reuse** nutrients and/or carbon from the agricultural or waste water sectors or both.



BONUS RETURN assists in identifying and performing the necessary tests to improve an innovation through on-site testbeds for agricultural and waste water treatment sectors in the Baltic Sea Region.



2. PRE-COMMERCIALIZATION PLANS

1

Through a framework for Pre-Commercialization, BONUS RETURN will guide enterprises through the process of analyzing the market and developing a business strategy.

2

The framework will help innovators identify potential clients and take the necessary steps to establish business relationships with municipalities as potential clients.

3

BONUS RETURN will then co-develop business and public procurement plans with a particular focus on the three case studies in the project: Finland, Sweden and Poland.



3. SUSTAINABILITY ANALYSES

- Technology uptake is not only dependent on efficiency, but also on a range of other socio-political, environmental and economic aspects. For instance, research might show that a specific measure might be extremely efficient in addressing water pollution, but it is not a measure that society is ready to implement or finance.
- To address these aspects, BONUS RETURN will assess the sustainability readiness of eco-technologies, including the following 5 criteria:
 - health and hygiene,
 - environmental issues,
 - economy,
 - socio-cultural dimensions
 - technical function.
- The above criteria will be assessed in two steps:
 - Step 1: A general baseline assessment will be carried out for all eco-technologies participating in the competition. Sustainability criteria will act as pre-conditions for eco-technologies to be shortlisted in the competition.
 - Step 2: A more thorough assessment through a Multi-Criteria Analyses to score and rank options across the five sustainability criteria will be carried out for the shortlisted eco-technologies.



4. INTRODUCCION TO A BALTIC SEA REGION NETWORK

Shortlisted candidates will be invited to present their eco-technologies at the Baltic Sea Future Conference taking place 8-9 of March in Stockholm. At the conference, innovators will have the opportunity to meet municipalities, investors, researchers, and other actors from across the Baltic Sea Region.

The 1-3 winning innovators will be further invited to participate in the Regional Exchange and Learning Events that will be taking place in Finland 2018 and Poland 2019. These events will gather actors from across the region to learn about BONUS RETURN and the products and tools developed through the project, and to provide a platform for learning and exchange.

ABOUT BONUS RETURN

BONUS RETURN is an EU-funded project aimed at reducing emissions in the Baltic Sea by turning nutrients and carbon into benefits. The project pilots and tests economical and environmentally efficient eco-technologies, shortening the process from prototype to implementation by linking innovative eco-technologies, investors, and Baltic municipalities.

Backed by state of the art research and a broad network of partners from the public and private fields, the project brings together the necessary expertise to incorporate institutional, social, technical, and environmental aspects into the product design.

This integrated approach and connection to markets and people, are crucial factors for moving the innovations from concept to implementation.



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Innovators who apply for the BONUS RETURN competition will remain in full and undisputed possession of their Intellectual Property Rights on their innovation. All applicants will be named in an internal report and shortlisted candidates will be mentioned in BONUS RETURN external reports, publications and dissemination briefs. They will also be mentioned and/or presented at BONUS RETURN events.

BONUS RETURN has received funding from BONUS (Art 185), funded jointly by the EU and Swedish Foundation for Strategic Environmental Research FORMAS, Innovation Fund Denmark, Academy of Finland and National Centre for Research and Development in Poland.

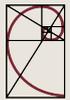
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