DEADLINE: MAY 8TH, 2014

RESEARCH ON WATER POLLUTION AND AIMED AT A CORRECT WATER RESOURCES MANAGEMENT

BACKGROUND

Indispensable for the survival of every living being, water is the most valuable natural resource on the Earth. The responsible use of this resource is a challenge for everybody. Droughts and water-related emergencies seen in recent years have shown water is a scarce natural resource that needs to be protected and conserved. The varied, complex and cross-cutting challenges associated with management of water resources require the adoption of a multilateral and multidisciplinary approach.

One of these challenges is water pollution, i.e. the alteration of ecosystems of which water is a key component. Water pollution is largely caused by waste from industry, agriculture, zootechnics and other human activities reaching rivers, lakes, oceans, aquifers and ground waters.

Every day, huge amounts of pollutants are released into the environment - industrial waste, fertilizers and pesticides used in agriculture, animal waste, residential and commercial sewage and waste water - causing harm to the entire water ecosystem unless properly treated.

Given the different human activities responsible for water pollution and their effects none of them can be left out in tacking this problem.

Another key problem is related to the need to use water wisely. There is growing awareness water is a natural resource to be conserved as quality water is increasingly scarce, temperatures are rising and precipitations declining in the world regions most affected by climate change.

Water is an environmental resource directly feeling the effects of development processes impacts and pressures; this needs a prudent and careful management.

Water systems hardly man-overworked, where different users are present (i.e. industry, agriculture, residential users), show an intensification of conflicts for resources exploitation and a consequent overall water supply impairment in terms of resilience and adaptability.

In light of all this, it is evident that we need to manage natural resources in a more sustainable way either using existing infrastructure or planning improvements.

AIMS

In light of the above, with this call Fondazione Cariplo intends to encourage the submission of strongly multidisciplinary research projects studying water pollution and appropriate management of the water resource in a sustainable way.

Specifically, under this call, the Foundation will fund research in the following priority areas:

- identification and development of new techniques, materials and processes to prevent water pollution or mitigate its effects;
- identification and development of new methods of analysis for the detection of emerging pollutants;
- identification and development of innovative depuration processes;
- identification and development of innovative technologies or improvements in existing *in-situ* technologies for ground water and soil remediation[1];
- creation and implementation of new technology tools for polluted aquifers characterization, for interventions design and for effects assessment;
- development of hydrogeological models relating water quality/availability and demand from industrial, agricultural and residential users;
- assessment of loads (nutrients, sediments) and their flow patterns to define vulnerabilities of rivers, lakes and groundwater and identify management solutions at basin level;
- development of models for assessment of the effects of climate change on water scarcity and droughts;
- identification and assessment of water balances to determine water uses and estimate water losses.

Through this call, the Foundation aims at encouraging projects taking innovative approaches for a deeper understanding of the problems connected with water pollution in order to proactively contribute to the conscious, responsible management of water resources.

1 Please note that identification and development of technologies for soil remediation are allowed as complementary activities in studies on water pollution which is the focus of this call for proposals.

Through this call the Foundation intends also to encourage initiatives that foster dialogue with civil society under the Responsible Research and Innovation[2] framework.

GUIDELINES

Eligible applicants

Beyond the general requirements set out in the *"Guidelines for presentation"*, this call for proposals is intended to scientific research institutions engaged with the issues debated above which have at their disposal staff and research facilities.

With regards to the eligibility, it is mandatory for the lead organization to base the project's operational headquarters within Fondazione Cariplo's geographical area of interest (Lombardia and Novara and Verbano Cusio Ossola districts). The latter is not requested to the partners.

Proposals presented by a PI of any unfinished project funded by the Foundation within the Scientific Research Area is not eligible for funding under this call. By PI we mean a project leader of any operational unit of a funded project regardless whether this is the lead organization or a partner. Furthermore, by unfinished project we mean a project that still has to submit the final scientific and/or financial report. Submissions to the Foundation have to be carried out through the online system by uploading the requested documentations in the dedicated web platform. To be eligible it is mandatory to complete this operation by the deadline of this call for proposals.

Eligible projects

The Foundation will select a limited number of projects that are to:

- fall within the priority areas indicated in the call;
- entail that one of the young scientists, working as researcher on the proposed project, also be responsible for communicating the results of the research to the public[3].

In order to guarantee transparency and objectivity during the selection process, the Foundation will enforce a peer review process relaying on a panel of external, independent and international reviewers. At the end of this process, feedback on the projects will be sent to all applicants.

The Foundation foresee exclusively the costs related to the research activities that satisfy the following eligibility criteria and caps:

- A3 - "Equipment and software"
  this entry cannot exceed 20% of the total additional costs[4] and can exclusively include costs related to newly acquired software programs or equipment. It is expected that applicants ascribe only amortizable costs.
- A4 - "Other amortizable costs"
  this entry can include only patent costs.
- A6 - "Temporary staff"
  this entry must include only research personnel costs. The cost for administrative staff is not allowed.
- A7 - "Subcontractors and consultants"
  auditor costs should be included in this entry.
- A8 - "Materials and supplies"
  stationery and photocopy costs cannot be included in this entry.
- A9 - "Overheads"
  this entry cannot exceed 5% of the total additional costs[5].
- A10 - "Others"
  this entry cannot exceed 10% of the total additional costs[6] and must include only travel expenses and conference fees for the research personnel involved in the project, meeting costs, and finally scientific and public dissemination costs.

The grant will cover 100% of project costs. Requested funding should range from 100,000 to 300,000 euros.

2 Responsible Research and Innovation (RRI) refers to ways of proceeding in Research and Innovation that allow those who initiate and are involved in the processes of research and innovation at an early stage (a) to obtain relevant knowledge on the consequences of the outcomes of their actions and on the range of options open to them and (b) to effectively evaluate both outcomes and options in terms of social needs and moral values and (c) to use these considerations (under a and b) as functional requirements for design and development of new research, products and services (DG for Research and Innovation Science in Society, "Options for Strengthening Responsible Research and Innovation", Luxembourg, 2013, ISBN 978-92-79-28233-1).

3 Public communication is crucial for citizens to understand science and the impact science and technology have on their everyday life, so that they can make informed decisions as they participate in the life of their community.

4 Sum of: A3, A4, A6, A7, A8, A10.

5 See footnote 5.

6 See footnote 5.

Review criteria

Besides the quality of the research proposal, other elements will be considered during the evaluation process. These include:

- analysis of current state of the art;
- soundness of preliminary data;
- clarity of the research project objectives and strategies;
- appropriateness of the project to effectively respond to the problem of water pollution and the need for responsible management of water resources;
- expected results in terms of prevention, monitoring and reduction of water pollution;
- engagement for responsible management of water resources;
- originality and innovativeness of the proposed research project;
- adoption of multi-disciplinary approaches;
- track record of the principal investigators and the research team;
- scientific leadership of the PI and the expertise of the research team;
- level of collaboration with national or international research centres and the ability to build partnerships and networks;
- a clearly motivated budget and a reasonable duration of the project;
- the engagement of young researchers[7] and their involvement in position of responsibility;
- identification of a young scientist involved in the research activities who will communicate research results to the public;
- nature and forms of dissemination of results and scientific communication.

Ineligible projects

It will be considered ineligible any proposal that:

- requires funding to set up new research centres or laboratories;
- fundamental research projects relapse-free application;
- is exclusively meant to technology transfer
- includes for-profit organizations as direct beneficiaries of the Foundation's grant;
- projects relating only to soil pollution remediation;
- projects that do not feature public communication of research results by one of the young scientists involved in the research project.

AVAILABLE BUDGET

The total budget allocated to this call for proposals consists of 2 million euros.

Before submitting their proposals, applicants are kindly invited to carefully read the documents listed below that can be easily found in Fondazione Cariplo's website at www.fondazionecariplo.it and include:

- *Guidelines for Presentation;*
- *Grant management and reporting guide;*
- *Intellectual property rights policy;*
- *Open access policy.*

By submitting their proposals, applicants acknowledge, agree and accept that the award of the grant requires the acceptance of the Foundation policies.

In order to apply for a grant under this call for proposals, it is strongly recommended to:

- Carefully fill in the online forms that specifically include:
  - *Anagrafica dell'organizzazione capofila* (new applicants should fill the form ex novo, while organizations already registered should check and update, when necessary, their detail);
  - *Modulo progetto* (in Italian);
  - *Dati Complementari* (in English);
  - *Piano economico.*

- Upload all the requested documents according to the Guidelines for Presentation:
  - Detailed Project[8];
  - Detailed Budget[9];
  - Letter of support from the legal representative of the host institution for the lead organization;
  - Partnership agreement and letters of support from the partners (for projects in partnership only);
  - Documentation of the organization[s] applying for the grant.

7 In this call for proposals the term 'young researchers' means scientists who earned their doctoral degree (PhD) no more than 7 years ago.

8 The detailed project shall be prepared in accordance with the template relating to the call that can be downloaded from the online section *Dati Complementari.*

9 The detailed project plan shall be prepared in accordance with the template relating to the call that can be downloaded from the online section *Dati Complementari.*