ToR for Wastewater in Natural Environment

Preface:
Due to the evolving constraints of the COVID-19 pandemic the face-to-face events and milestones set in this ToR might need to be revised and changed. For further information, please contact the Project Manager(s) or send an email to the IMPEL Secretariat.

ToR Reference No.: 2020/13	Author(s): Anabela Rebelo and Genève Farabegoli
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TERMS OF REFERENCE FOR WORK UNDER THE AUSPICES OF IMPEL

1. Work type and title

1.1 Identify which Expert Team this needs to go to for initial consideration	
Industry and air	☐
Waste and TFS	☐
Water and land	☒
Nature protection	☐
Cross-cutting tools and approaches	☐

1.2 Type of work you need funding for	
Exchange visits	☒
Peer reviews (e.g. IRI)	☐
Conference	☐
Development of tools/guidance	☒
Comparison studies	☐
Assessing legislation (checklist)	☐
Other, (please describe):	☐

1.3 Full name of work (enough to fully describe what the work area is)
Sharing good practices to promote the transition to circular economy, in urban and industrial water management, through the reuse of treated wastewaters as an alternative water source.

1.4 Abbreviated name of work or project
Wastewater In Natural Environment (WINE).

2. Outline business case (why this piece of work?)

2.1 Name the legislative driver(s) where they exist (name the Directive, Regulation, etc.)

- Water Framework Directive (2000/60/EC).
- Circular Economy Action Plan.
- Urban Waste Water Treatment Directive (91/271/EEC).
- Groundwater Directive (2006/118/EC).
- Industrial Emissions Directive (2010/75/EU).
- Action plan on Improving environmental compliance and governance (COM(2018)10).

2.2 Link to IMPEL MASP priority work areas

1. Assist members to implement new legislation. ☐
2. Build capacity in member organisations through the IMPEL Review Initiatives. ☐
3. Work on 'problem areas' of implementation identified by IMPEL and the European Commission. ☒
4. Other, (please specify): ☐

2.3 Why is this work needed? (background, motivations, aims, etc.)

Water scarcity has worsened in some parts of the EU in recent decades, with damaging effects on our environment and economy. In addition to water-efficiency measures, the reuse of treated wastewater in safe and cost-effective conditions is a valuable but under-used means of increasing water supply and alleviating pressure on over-exploited water resources in the EU. Water reuse in agriculture also contributes to nutrients recycling by substitution of solid fertilisers.

To transform Europe's economy into a more sustainable one and to implement the ambitious Circular Economy Action Plan, continuous efforts are needed and treated wastewaters can be seen as a new untapped water resource.

However, according the outcomes of the previous phases of this project (years 2018-2019), it was noticed that water reuse cannot be seen as single quantitative measure to reduce water abstraction. In the whole water use cycle, at industrial and urban level, quality must be linked with quantity to ensure safety and increasing of value through the chain of use, by the promotion of the natural values and activities directly connected with the emissions receiving environment.

Also, when recycling projects are presented as a solution for circular economy transition, water use is only considered as a quantitative indicator, with no link to quality assessment and therefore without considering the possible impacts on the achievement of the WFD goals.

Therefore, a more integrated and holistic vision for water reuse at industrial and urban level is needed to promote practices that contribute to a real transition to a circular economy, also taking into consideration a possible market for secondary raw materials.

Furthermore, the reuse of urban wastewater for irrigation purpose can also be an important tool to help ensure that farmers and other land managers comply with environmental rules under EU nature

and water laws, as one of the 9-point Action Plan adopted by the European Commission to increase compliance with and improve governance on EU environmental rules on activities.

2.4 Desired outcome of the work (what do you want to achieve? What will be better / done differently as a result of this project?)

The aim of this project is to use the results of the previous phases to find best practices on water use cycle, including water reuse at industrial and urban level, that promote a more realistic transition to the circular economy.

During the previous phases of this project, at industrial level, it was intended to access the water use inside recycling activities and a new indicator (the Water Circularity Index) combining quality and quantity aspects was developed. It was applied to specific industrial installations namely oil refinery, pulp and paper factory, WWTP, etc.

In this project, the major outcome will be to improve the application of the Water Circularity Index in other facilities and also try to extend it to "reuse markets", e.g. products that are produced with reclaimed water.

Another related outcome of the work will be improving professional training, spreading knowledge and provide compliance assurance in rural areas as required for the implementation of the ECA 9-point Action Plan.

2.5 Does this project link to any previous or current IMPEL projects? (state which projects and how they are related)

This project aims to build on the experience of other water-related IMPEL projects (e.g. SWETE, good practice for tackling nitrate pollution) for sharing best practices to implement the Water Framework Directive. The project will also contribute to the training activities for permit writers and inspectors of the IMPEL project "Capacity Building & Training".

3. Structure of the proposed activity

3.1 Describe the activities of the proposal (what are you going to do and how?)

During this project is intended to hold a virtual kick-off meeting with the project team members to introduce the Water Circularity Index and to extend its application to other facilities and to other countries. It's also intended to promote a site visit (for the core team group) to a food and beverage unit.

The aim of the site visit is to identify if the Water Circularity Index can be used as tool for industries to help them to promote best water management practices in order to improve the transition to Circularity Economy.

Another activity proposed is the dissemination of the project through the publication of scientific paper in some renamed international journal.

A final virtual meeting will be promoted to discuss the results and for reporting.

3.2 Describe the products of the proposal (what are you going to produce in terms of output / outcome?)

The product will be a scientific paper and a report on industrial and urban water reuse best practices to promote the transition to the circular economy and the application of the Water Circularity Index to new industries and other countries.

The Water Circularity Index can work as a tool to promote key principles of circular economy, namely: the design out waste externalities (e.g. optimization of energy consumption in water systems and/or water consumption within sub-basin in relation adjacent sub-basins), to keep resources in use (e.g., optimise value generated in the interfaces of water system with other systems, namely by the recovery of materials from treated wastewaters) and to regenerate natural capital (e.g., by improving environmental flows by reducing consumptive and non-consumptive uses of water and/or ensuring minimum disruption to natural water systems from human interactions and use).

3.3 Describe the milestones of this proposal (how will you know if you are on track to complete the work on time?)

- **June/July 2020:** Virtual kick-off meeting.
- **October/November 2020:** Site visit to food and beverage units.
- **July/November 2020:** preparation and submission of the scientific paper.
- **December 2020:** Final virtual meeting and drafting of the report for presentation to IMPEL.

3.4 Risks (what are the potential risks for this project and what actions will be put in place to mitigate these?)

Some external factors, for example the resurgence of COVID-19, could jeopardise the site visit occurrence with risk not using part of the project budget, namely the one for travel and accommodation.

A possible arrangement to minimize these risks could be the reassignment of the travel budget to other costs, for example for translation of the report and the tool into other languages.

4. Organisation of the work

4.1 Lead (who will lead the work: name, organisation and country) – this must be confirmed prior to submission of the TOR to the General Assembly)

Co-led by:

- Anabela Rebelo, Portuguese Environment Agency (APA), Portugal.
- Genève Farabegoli, Italian National Institute for Environmental Protection and Research (ISPRA), Italy.

4.2 Project team (who will take part: name, organisation and country)

- Andreia Franco, APA, Portugal.
- Raffaella Alessi, ISPRA, Italy.
- Elinor Slotte, Finland.
- Mihaela Monica Crisan, Romania.

• Ronald Smallenburg, Netherlands. • Stuart Gunput, Netherlands. • Katleen Dethier, Belgium.
4.3 Other IMPEL participants (name, organisation and country)
• Experts from Slovenia, Romania, Greece, Slovak Republic, Malta, United Kingdom, Germany, Croatia, Poland, Turkey, Sweden, Republic of Kosovo (tbc).
4.4 Other non-IMPEL participants (name, organisation and country)
• Contact with DG Environment of European Commission (Miroslav Angelov, Jill Michielssen) (tbc).

5. High level budget projection of the proposal. In case this is a multi-year project, identify future requirements as much as possible

	Year 2020 (exact)	Year 2	Year 3	Year 4
How much money do you require from IMPEL?	3 250 EUR			
How much money is to be co-financed?				
Total budget	3 250 EUR			

6. Detailed other costs of the work for year 2020

6.1 Are you using a consultant?	Yes ☐ No ☒
6.2 What are the total costs for the consultant?	N/a.
6.3 Who is paying for the consultant?	N/a.
6.4 What will the consultant do?	N/a.
6.5 Are there any additional costs (NOT included in point 5)?	Yes ☒ No ☐ If your answer is 'Yes', please describe: 1 500 EUR.

6.6 What are the additional costs for?	For the publication of scientific paper.
6.7 Who is paying for the additional costs?	IMPEL.
6.8 Are you seeking other funding sources?	Yes ☐ No ☒ If your answer is 'Yes', please describe:
6.9 Do you need budget for communications around the project? If so, describe what type of activities and the related costs.	Yes ☐ No ☒ If your answer is 'Yes', please describe:

7. Communication and follow-up (checklist)

	What		By when
7.1 Indicate which communication materials will be developed throughout the project and when? ***(all to be sent to the Communications Officer at the IMPEL Secretariat)***	TOR˅* Interim report˅* Project report˅* Progress report(s) ˅ Press releases News items for the website˅* News items for the e-newsletter Project abstract˅* IMPEL at a Glance ˅ Other, (give details):	☒ ☒ ☒ ☐ ☐ ☒ ☐ ☒ ☐ ☐	March 2020 October 2020 December 2020 When necessary When necessary
7.2 Milestones / Scheduled meetings (for the website diary).	See 3.3.		
7.3 Images for the IMPEL image bank.	Yes ☒ No ☐		
7.4 Indicate which material s will be translated and into which languages.	Tbd.		

7.5 Indicate if web-based tools will be developed and if hosting by IMPEL is required.	Tbd.
7.6 Identify which groups/institutions will be targeted and how.	Water agencies across Europe, industrial operators, Competent Authorities and industrial associations, European Commission.
7.7 Identify parallel developments / events by other organisations, where the project can be promoted.	Tbc.

˅*) Templates are available and should be used. *) Obligatory*

8. Remarks

Is there anything else you would like to add to the Terms of Reference that has not been covered above?

In case of doubts or questions please contact the IMPEL Secretariat.

Draft and final versions need to be sent to the IMPEL Secretariat ***in Word format, not in PDF.***

Thank you.

Annex I - Detailed costs

Detailed Event Costs

Wastewater In Natural Environment (WINE)

	Event	Number of days	Travel (maximum per round trip) 360 €	Hotel (maximum per night) 120 €	Catering (maximum per day) 25 €	Total costs per Event
Description of Event	Site visit	2	1 800,00 €	1 200,00 €	250,00 €	3 250,00 €
Location	Portugal					
Month	October/November 2020					
Number of Participants	5					
Description of Event			0,00 €	0,00 €	0,00 €	0,00 €
Location						
Month						
Number of Participants						
Description of Event			0,00 €	0,00 €	0,00 €	0,00 €
Location						
Month						
Number of Participants						
		Total Costs	1 800,00 €	1 200,00 €	250,00 €	3 250,00 €