**Annex 5**

**Templates for Mid-Term Evaluation Report**

**(Individual and Consensus)**

**Water Joint Programming Initiative**

**2018 Joint Call**

*Closing the water cycle gap - Sustainable management of water resources*

These Project Management Guidelines will be effective from the date of the National funding decisions and shall remain in force until the last final project report is approved in 2022.

**The Mid-Term Consensus Report will be made available to the Consortium as well as CSC and JPI Water GB.**

**MID-TERM INDIVIDUAL EVALUATION REPORT**

**PROJECT TITLE AND ACRONYM**

Name of Coordinator: Harsha Ratnaweera

Project code: WaterWorks2017-WaterHarmony

Duration of project: 36 months

Start date: 01.05.2019 End date: 30.04.2022 (extension until 31.12.2022 requested)

**DETAILS OF THE EVALUATOR**

Name: Teppo Vehanen

Organisation: Natural Resources Institute Finland

Date of review: 12.4.2021

### **Scientific and technological progress** (*Maximum 250 words)*

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| The WaterHarmony aims to improve the communication and collaboration among research teams leading to better global water management practises by incorporating research institutes from 11 countries. The project and its deliverables are almost categorically delayed, and the project has applied extension of eight months, until the end of 2022. The partners are, however, optimistic in achieving the intended goals with the applied extension approved. The project reports that the progress is severely impacted by several partners due to the access restrictions to the sites and laboratories. The WaterHarmony project has successfully used biosorption of dyes and pharmaceuticals from water solution and wastewater (Poland). Several virtual sensors for water quality were verified (Norway, Sweden). The project has worked on water management improvements (Romania) and data management to find the suitable data tools and to integrate the data (Netherlands). The Chinese partner has successfully demonstrated the production of ultrapure water from domestic wastewater. Nano filters and nanofiltration has been used to deal with targeted pollutants and removal of inorganic ions, dissolved organic carbon (DOC) and organic micropollutants (OMP) from wastewater (Spain, Australia). These results are acknowledged. The projects work highly encourages multi-disciplinary work by demonstrating and validating innovative technologies in waste water treatment, connecting sciences and society, and facilitating policy decisions to favour modern tools and actions. After a good start, before COVID outbreak, partners have initiated their work at their organizations, but shared the results among the partners. The project delays have also severely affected the dissemination of the results. Project has, however, published scientific papers in international journals (7 papers listed) and also some other communications. Here improvement is needed. On the plus side is that one patent has been approved (Sweden) and another is under discussion (Norway). |

### **Collaboration, coordination and mobility within the Consortium** (*Maximum 250 words)*

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| *The coordination of the WaterHarmony project appears to be efficient, but with difficulties that have arisen from COVID. Since the COVID outbreak physical meetings have not been possible, and communication has mainly been through video meetings. The wide geographical distribution causes difficulties here, and the communications have involved only groups of partners and emails.**After COVID outbreak the partners worked at their home organizations, and shared their results and challenges among the consortium partners. The consortium waits travelling restrictions to cease 2021 for better collaboration. The project should also have a plan B: how to improve collaboration in the case COVID situation remains bad in 2021 also?**The mobility among the partners has similar, COVID caused, problems. Project is prepared to increase mobility after the COVID situation allows it, expectantly during 2021.**The WaterHarmony project is truly transnational project. To utilize its high potential of transnational added value project needs to increase collaboration, which is now severely dampened due to COVID.* |

### **Coordination with other international project funded by WaterWorks2015, or other instruments** (*Maximum 250 words)*

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| *According to the project report the external collaboration activity is also delayed. The WaterHarmony project has identified potential WaterWorks projects to collaborate during the Stockholm meeting 2019. These plans should be evoked as soon as possible.**The project cooperates with external projects, but these are not identified in the mid-term report. Some project activities are either supported by supplementary funding from other projects or partners own funding, and four partners (Australia, China, Singapore and USA) fully finance their activities from other projects or own in-kind.*  |

### **Coverage of the themes and sub-themes of the call** (Maximum *250 words)*

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| *The WaterHarmony project has a wide theme. By creating new knowledge management approaches the project has touched the Theme 1: Enabling sustainable management of water resources and there sub-themes and 2.1. In theme 2. Strengthening socio-economic approaches to water management, the technical development of the project has promoted water reuse, contributing to the sub-theme 2.2 (The reuse of water) and also to sub-theme 2.3 (Connecting science to society).*  |

1. **Stakeholder/industry engagement** (*Maximum 250 words)*

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| *The main objectives of the WaterHarmony project are related to stakeholder engagement: to mobilize stakeholders and to increase public engagement. It is obvious that due to delays has not reached these objectives. Innovation camps were planned in Israel for broader stakeholder involvement, but they were postponed due to travel restrictions. The management cases studies have plans to further strengthen the dialogues with stakeholders after achieving more concrete results. The Romanian partner has held a stakeholder workshop to discuss the importance of water quality monitoring and also to establish**a new monitoring system. Stakeholder engagement is one of the future challenges for the WaterHarmony project.* |

### **Recommendations for improvements/amendments of the report** (Please complete Table below)

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1. **Recommendations/ problems and risks** (Maximum *250 words)*

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| *The WaterHarmony project needs to find the way to pass the severe delays to reach its goals.* |

**MID-TERM EVALUATION CONSENSUS REPORT**

**This Consensus Report will be made available to the Consortium as well as CSC and JPI Water GB.**

**PROJECT TITLE AND ACRONYM**

Name of Coordinator:

Project code: WaterWorks2017-CONSORTIUM ACRONYM

Duration of project:

Start date: End date:

**FOLLOW-UP GROUP**

Please include the data of the FG members reviewing the report

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| Name | Organisation | Signature |
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Date:

### **Scientific and technological progress** (Maximum *250 words)*

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| *Please describe the work performed and the results obtained during the lifetime of the project, and the conformity of work progress within the initial schedule. Take into account the following aspects:** *Has progress been achieved towards reaching the project objectives according to the original description and milestones?*
* *Detailed update on methodology & results*
* *How has the progress of the project promoted a multi-disciplinary work?*
* *Dissemination of the results (publications, patents, other)*
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### **Collaboration, coordination and mobility within the Consortium** (Maximum *250 words)*

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| *Please evaluate the collaboration, coordination and mobility within the Consortium**Take into account the following aspects:** *Efficiency on the coordination and organization of the projects*
* *Collaboration effective between the partners*
* *Mobility of the research between the consortia*
* *Does the project meet the transnational nature and its added value?*
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### **Coordination with other international project funded by WaterWorks2017, or other instruments** (Maximum 250 *words)*

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| *Please evaluate the external collaboration of the Consortium**Take into account the following aspects:** *Collaboration effective with other projects funded under the 2018 Joint Call:*
* *Collaboration effective with other projects or consortia.*
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### **Coverage of the themes and sub-themes of the call** (Maximum 250 words*)*

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| *Please evaluate relation within the project results and the themes and the sub-themes of the call.**Theme 1. Enabling sustainable management of water resources.*The overall aim for this theme is to develop new governance and knowledge management approaches.* *Sub-theme 1.1. Promoting adaptive water management for global change:*

The aim of sub-theme 1.1 is to increase knowledge and to develop evidence-based methodologies and technologies for monitoring the cumulative impacts of human activities and climate change on the water cycle, but also to develop management options on the water cycle (considering all cycle compartments) and water / ecosystem services. This knowledge must be applicable for the adaptive management of water resources on a regional scale, while enabling downscaling to address local or catchment situations.* *Sub-theme 1.2. Integrative management by implementing Natural Water Retention Measures (NWRM) such as Managed Aquifer Recharge (MAR):*

The aim is to increase the knowledge and develop NWRMs such as MAR in a multidisciplinary way, to protect, prolong, sustain and augment freshwater supplies. Evidence of their effectiveness and on the multiple benefits they deliver should be demonstrated.* *Sub-theme 1.3. Mitigating water stress in coastal zones and urbanized areas:*

The aim is to develop and demonstrate a comprehensive coastal zone management system based on monitoring and modelling to ensure the provision of freshwater security under a range of conditions including saline intrusion, sediment management, storms, floods and droughts, but also specific coastal water uses. Please, refer to H2020 calls on nature-based solutions to propose complementary actions.*Theme 2. Strengthening socio-economic approaches to water management.*The overall aim of this theme is envisaging education and communication initiatives to raise social awareness of consumption habits and water scarcity and to increase the levels of social acceptance and use of recycled water.* *Sub-theme 2.1. Integrating economic and social analyses into decision-making processes:*

The aim is to increase the knowledge the effectiveness and efficiency of existing economic mechanisms and policy instruments related to water management, with a special emphasis on implementation of water policies (such as the EU Water Framework Directive) and development of a circular and green economy. The approach should aim to break boundaries between services valuation including more flexible pricing and charging mechanisms, management tools and institutions, and the employment of economic and social sciences to develop best practice management guidelines for efficient water uses, including under extreme events such as droughts and floods.* *Sub-theme 2.2. The reuse of water:*

The aim is to develop integrative methods and cost-effective technologies for the implementation of acceptable and sustainable solutions on a large scale for different reuse cycles, spanning from irrigation, via livestock drinking water, to human consumption. Furthermore, goals include assessments of social acceptance for the use of recycled water and the development of integrated approaches combining technological solutions with social-psychological acceptability, economic viability and appropriate governance approaches. Research into the removal of emerging contaminants must consider the cost of the technology vs yield and realistic options for reuse of the recovered water. Please refer to projects funded under previous Water JPI Joint Calls (2013, 2015 and 2016) to avoid any duplication. See Joint Calls on Water JPI website.* *Sub-theme 2.3. Connecting science to society:*

The aim is to increase understanding of the role of socio-economic approaches to water uses in hydrological cycles. Knowledge building should address stakeholders' and public awareness of water challenges and values, and how perception of policy measures and technological solutions are formed and how stakeholders can be steered towards desirable behaviour. Local and/or regional context (attitude, social norms, cultural context, etc.) should be taken into consideration. The value of improved water stewardship overall should be considered by developing sustainable business models.* *Sub-theme 2.4. Promoting new governance and knowledge management approaches:*

The aim is to develop innovative water management tools and approaches suitable for decision-making based on an analysis of the limitations of current practices. These approaches should involve the broad participation of stakeholders (including public monitoring, communication and education), multidisciplinary research, and short and long-term water cycle scenarios to support decision-making and the integration of water policy into other policy fields. In effect, governance capacities for implementation of water policies at the local and regional levels should be enhanced.*Theme 3. Supporting tools for sustainable integrative management of water resources.*This theme aims to complement the actions developed under the European Strategy Forum for Research Infrastructures (ESFRI) and other European initiatives. Emphasis should be on establishing networks and information sharing among existing research facilities/field labs, analytical methods, monitoring tools and programmes, access to databases and platforms, exploring the use of big data solutions and establishing reliable hydrological standards. Across the globe, there is a large body of knowledge, methodology and data related to hydrology and the water cycle that has the potential of being beneficial for a wide range of the world's regions. The alignment of water-related research and sharing of data and results will serve to avoid duplication of research, support progress based on previous finding, and thus facilitate the establishment of water management policies addressing rapid climatic changes. |

1. **Stakeholder/industry engagement** (*Maximum 250 words)*

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| *Please evaluate the participation of stakeholders/industry on the project and the added value of this participation.* |

### **Recommendations for improvements/amendments of the report** (Please complete Table below)

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1. **General Assessment Comments** (*Maximum 250 words)*

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| *Please include a summary of the key points of this evaluation.* *Problems identified or specific risks to the projects. As well recommendations/feedback, which could be relevant to the Consortium.*  |