

Guideline for World Water Challenge

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1. OVERVIEW

The World Water Challenge is an international contest for water solutions. It was created as a special program of the Science and Technology Process in the 7th World Water Forum to identify imminent water problems that the world is facing and to find feasible solutions based on the core value, “Implementation”.

The program is aiming at identification of science, technology and policy based solutions to imminent water problems. Attracting great attention in the 1st edition in 2015 at the 7th World Water Forum, the program has become one of the symbolic platforms of implementation which has been followed up in the Korea International Water Week over the past 4 years, focusing on scientific and technological methods that have contributed to the world’s awareness on the importance of the roles of science and technology in solving water challenges.

This year, the World Water Challenge 2021 (WWCH 2021) will also take place as one of the signature programs of the Korea International Water Week (KIWW) 2021 in coming November in Daegu, Republic of Korea.

This 7th edition of the World Water Challenge is expected to serve its role as an important platform to share **not only innovative scientific/ technological methods but also policy** towards solving the defined water problems around the world and to forge a broad network among the experts and stakeholders in water sector as well as the diverse pool of problem owners and solution providers.

Particularly, amid the ongoing COVID-19 situation around the world, WWCH 2021 will continue to deal with the special topic “Water and Health” selected last year along with five Main Topics to demonstrate a pathway to not only overcoming the current pandemic but also achieving the Sustainable Development Goals.

2. ROLES OF THE COMMITTEE AND APPLICANTS

A. EXPERT COMMITTEE

(Problem selection) The committee is the group of experts who have long contributed to the advancement in various fields of water. In total, 12 water challenges including two ‘special challenges’ are selected based on the discussion between the committee members reflecting their expertise and the current status of regional and global water issues as well as the urgency of each water sector. Selected Challenges will be renewed every 3 years in accordance with the change cycle of KIWW overarching theme.

(Evaluation) The committee will evaluate the solutions submitted based on the criteria (ref. pg 4) to select the finalists, and the presentations of the finalists will be also evaluated by the committee at the final round.

B. SOLUTION PROVIDER

Solution provider (the finalists selected by the expert committee) will be invited to present the solutions at the final round of the WWCH. Up to 10 outstanding solution providers will be invited to present their proposals and the best solutions (out of selected for finalists) will be awarded.

3. ELIGIBILITY

A. SOLUTION PROVIDER

Anyone (as an individual or on behalf of an organization) who is interested in contributing to resolve water related challenges with creative/applicable solutions is welcome to submit solutions to WWCH 2021's designated challenges announced.

** Persons (including winners) who participated once (and more) in the previous WWCH are allowed to participate in the WWCH 2021 with the different (or updated) subject and ideas. (Same contents or ideas with the previous contents, will not be considered.)*

4. APPLICATION AND PERIOD

A. ON-LINE APPLICATION

The solution providers are requested to submit solution proposals through the online submission system via KIWW Official website using the provided application form.

- It is strongly recommended for all submitters to read carefully and follow the submission instructions indicated on the provided template.

** The official template for WWCH 2021 can be downloaded on the KIWW website soon.*

(https://kiww.org/fairContents.do?FAIRMENU_IDX=5815&hl=ENG)

- Solution proposals can only be submitted via online submission system. The email submission will not be considered.

** It is requested to create an account first on the sign-up page in order to submit your proposal through the website.*

- Solution proposals must be filled out only in English.
- One person (or organization) can submit more than one proposal with the different solutions.
- Please make sure that all materials submitted for entry will not be returned and they might be used or published partially or wholly by the secretariat.

B. PERIOD

Solutions Submission: Submission due is by **September 10, 2021**.

** Submitted solution proposals will be evaluated by the expert committee in accordance with the evaluation criteria and up to 10 selected solution providers will be invited to the final round during the KIWW 2021.*

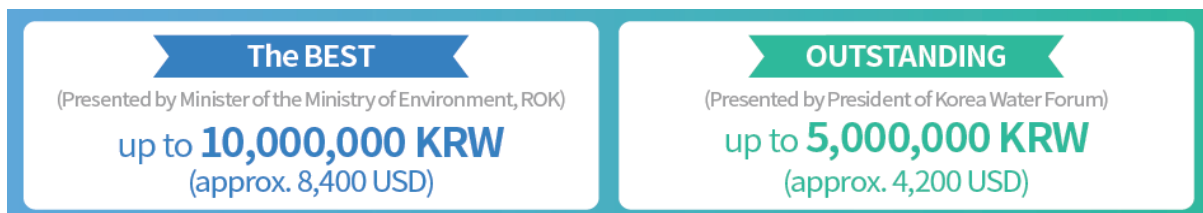
5. PROCESS



6. FINAL ROUND AND AWARD CEREMONY

Selected solution providers will be invited to the final round of the WWCH 2021 to be held as a fully virtual event this year, during the KIWW 2021.

Winners will be presented with a cash prize and trophy, and they will have the chance to be invited to the WWCH Showcase during the KIWW 2022 and/or the 9th World Water Forum to share their solutions with the experts from all around the world.



- The title of the awards and the amount of prize money are subject to change.
- If there is not qualified solutions for the “THE BEST” prize based on the decision of the evaluation committee, there may not be the winner of the year and/or type of award and prize money may change.
- Due to uncertainty of the COVID-19 situation, WWCH 2021 Final Round could be held separately from the KIWW 2021. In case of any changes such as schedule, it will be notified in advance. For the updates, please continuously visit the KIWW website.

7. CRITERIA

A submission can earn a maximum score of 100 points. Each submission will be judged based on five different criteria as below.

A. EVALUATION CRITERIA for SOLUTIONS

Evaluation Items	Detailed Contents of Evaluation	Score
Comprehension	<ul style="list-style-type: none"> ○ If the solution provider exactly understands the problem including background, objectives, scope, cause and effect, and impact on the global water issues. 	20
Contribution to “Sustainability”	<ul style="list-style-type: none"> ○ If the solution provider clearly understands the meaning of sustainability. ○ If the solution sufficiently demonstrates the contribution to achieving the sustainability in development. ○ If the solution provider considers possible alternatives in achieving sustainability in the solution. 	25
Feasibility	<ul style="list-style-type: none"> ○ If the solution sufficiently satisfies the requirement of the problem owner with a feasible manner, such as economic, technical, legal, and political feasibility in its implementation. ○ If the solution is suitable for the implementation and easy for approaching its circumstance. ○ If science and technologies applied to the solution are practically applicable to the field. ○ If the local resources are efficiently used in the solution. ○ If the solution is designed to have a lasting impact on the problem. 	25
Challenge	<ul style="list-style-type: none"> ○ If the solution effectively helps overcome any challenges and achieve the goals of water issues. ○ If the solution provider proposes innovative methods in solving the problem. 	15
Impact	<ul style="list-style-type: none"> ○ If the solution provider well describes the expected effects of the solution on the lives of plants, animals, and human beings. ○ If the effects of activities in solving the water problems are obviously described. 	15

8. CHALLENGE LIST

Main Topic	Challenge
Water and Health	(Challenge) Scale-up of WASH for Public Health (Keywords) Water, Sanitation, Hygiene (WASH), water-borne diseases, wastewater, water quality, handwashing, sanitation facilities, public health infrastructure,
	(Challenge) Efficient Method for Wastewater Surveillance to Detect Spread of Disease (Keywords) wastewater management, sewage, prevention, early warning system, monitoring wastewater for viral loads, emerging pollutants, contaminated waste, pharmaceuticals, industrial waste, microbial risk, hazardous material, water treatment
Efficient Water Management	(Challenge) Integrated Management of Diversified Water Resources (Key words) water supply in an isolated tropical area, rehabilitation of deteriorated infra, policy for integrated water management, governance for transboundary and shared water resources
	(Challenge) Innovating Financing for Local Water Solutions (Key words) circular economy
Resource Recovery from Water and Wastewater System	(Challenge) Energy Efficiency in Sewage, Wastewater, and Sea Water Recycling and Reuse (Key words) energy consumption
	(Challenge) NEXUS for Efficient Utilization of Limited Water Resources and Energy Recovery (Key words) water recycle, water-food-energy nexus, RO(Reverse Osmosis), renewable energy
Water and Natural Disasters	(Challenge) Flood Prevention and Management for Sustainable Water Cycle and Urban Regeneration (Key words) climate change, flood prevention, sustainable management
	(Challenge) The Depletion and Pollution of Water Caused by Climate Change (Key words) climate change, drought management, water shortage
Smart Water Technologies	(Challenge) ICBM, ICT based Water Management (Key words) water management, urban regeneration, intelligent public sewage treatment facilities, big data utilization, internet of things, IoT water management
	(Challenge) 'Smart' Solutions for Water Management : Definition and Case of 'Smart Solutions' by Region, Sector, and Target (Key words) simple technologies to save water in irrigation, innovative management to prevent flood or drought
Ecosystem and Water	(Challenge): Nature-based Solutions for Ecological Recovery and Reinstatement of Natural Process of Rivers (Key words) green infra, environmental flow, river restoration, ecosystem service
	(Challenge) Ecological Urban Water Cycle in Adaptation of Climate Change (Key words) utilizing LID and GI, resilience cities, ecological flow

9. MAIN TOPICS

Topic 1: Efficient Water Management (SDGs links: SDG 6.4 Water Use Efficiency)

- Water efficiency
- Agricultural water efficiency
- Industrial water efficiency
- Energy efficiency in water and waste water systems

Keywords: sustainable water resources management, water resources security, water production improvement technology, water supply management, water and industry, water-energy-food nexus, water resources development, trans-boundary water resources management, dam and river system operation

Topic 2: Resource Recovery from Water and Wastewater Systems (SDGs links: 6.1 Safe Water, 6.2 Sanitation)

- Water recycling and reuse technologies
- Energy production from water and waste water cycles
- Nutrient recovery from waste water

Keywords: water and wastewater treatment technology, safe and clean technology for drinking water, sanitation and health science, sea water desalination, water-energy production technology, renewable energy, total water pollution load management, river quality management, hydropower technology

Topic 3: Water and Natural Disasters (SDGs links: 11.5 Reduction of Economic & Human Losses)

- Climate change assessment and adaptation
- Drought analysis and management
- Floods and damage reduction
- Remote sensing and GIS applications to natural hazards

Keywords: climate change scenarios and prediction, drought analysis and management, water resources risk scenarios, risk assessment and adaptation, water and disasters, water related composite hazards, coastal disaster and tsunami, urban and Rural floods and resilience

Topic 4: Smart Water Technologies (SDGs links: 6.5 IWRM)

- Management of urban and Rural, industry, and irrigation water
- Implementation of integrated water resources management
- Design and implementation of smart water grid
- Information and communication technologies for water management

Keywords: water and creative economy, smart water management, smart disaster management system, smart agricultural water management, standardized smart water grid technology, water management information systems, RS and GIS applications for securing water resources, best management practices of IWRM, advanced water governance through multi-directional information system.

Topic 5: Ecosystem and Water (SDGs links: 6.6 Water & Ecosystems)

- Science and technology for green infrastructure management
- Economic valuation on ecosystem and water
- Effects of ecosystem on water quality

Keywords: water and environment, water and green growth, vulnerability analysis for water environments, marine ecology and sea level rise, wetland conservation and restoration, green infrastructure.