PROJECT NAME

Seawater purification using Wave or muscle energy and reverse osmosis

TEAM

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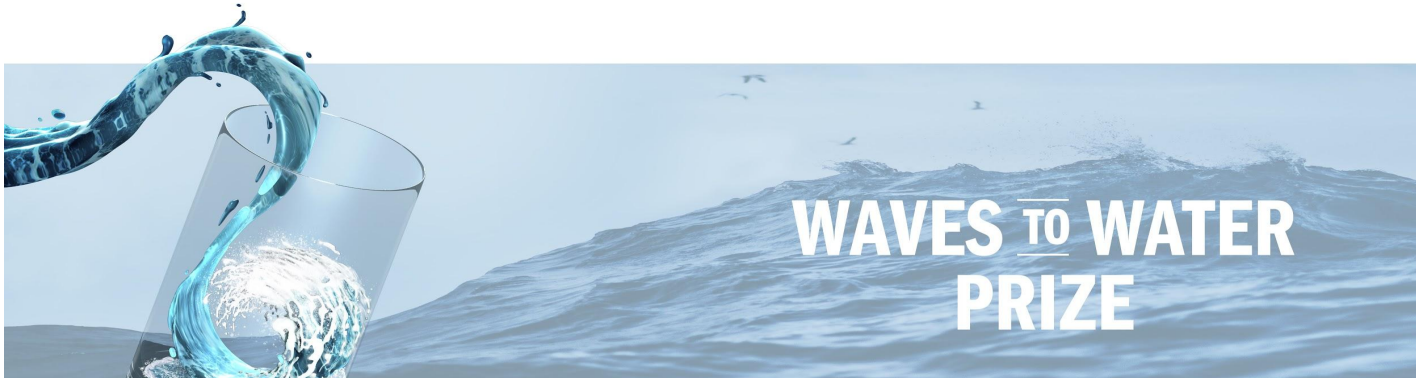
Waves to Water Prize

SUBMISSION FOR CONCEPT STAGE



Link to your 2 Minute Video

VIDEO PITCH: SHOWCASE YOUR IDEA IN 2 MINUTES

Post your publicly accessible video online (e.g. YouTube, Vimeo, etc.). Be creative and produce a video that conveys the suggested content listed below or any other information that will help the judges understand your technology in an exciting and interesting way but do not focus on time consuming activities that only improve production values (i.e. technical elements such as décor, lighting, and cinematic techniques). The advisory judges will score the video based on the content you have provided and each statement is equally weighted.

Online Public Video – What is your system in 2 minutes	
Suggested Content You Provide • Your system and why it will work. • How your solution can address water needs in remote communities or for disaster relief. • Who you are and why you have a competitive edge.	**Judges Score Each Statement on 1-6 Scale** • The video explains how the system meets the goals of the contest – as laid out in Section 1.1 of the rules document. • The video describes how the system can be built in the timeframe of the competition. • The video shows a knowledgeable and skillful team.

FOUR QUESTION WRITTEN TECHNICAL NARRATIVE

Answer each of the following four questions:

Innovation - *Does your system represent a novel solution concept that can deliver water in disaster relief and recovery and in remote coastal communities?*

Technical Feasibility - *Is the solution technically feasible?*

Scalability and Other Benefits *- Does the proposed solution have additional attributes or produce other benefits that would be valuable for other applications beyond the prize?*

Team - *Does the submission include an exceptional and committed team to accomplish the stated goals of the proposed solution?*

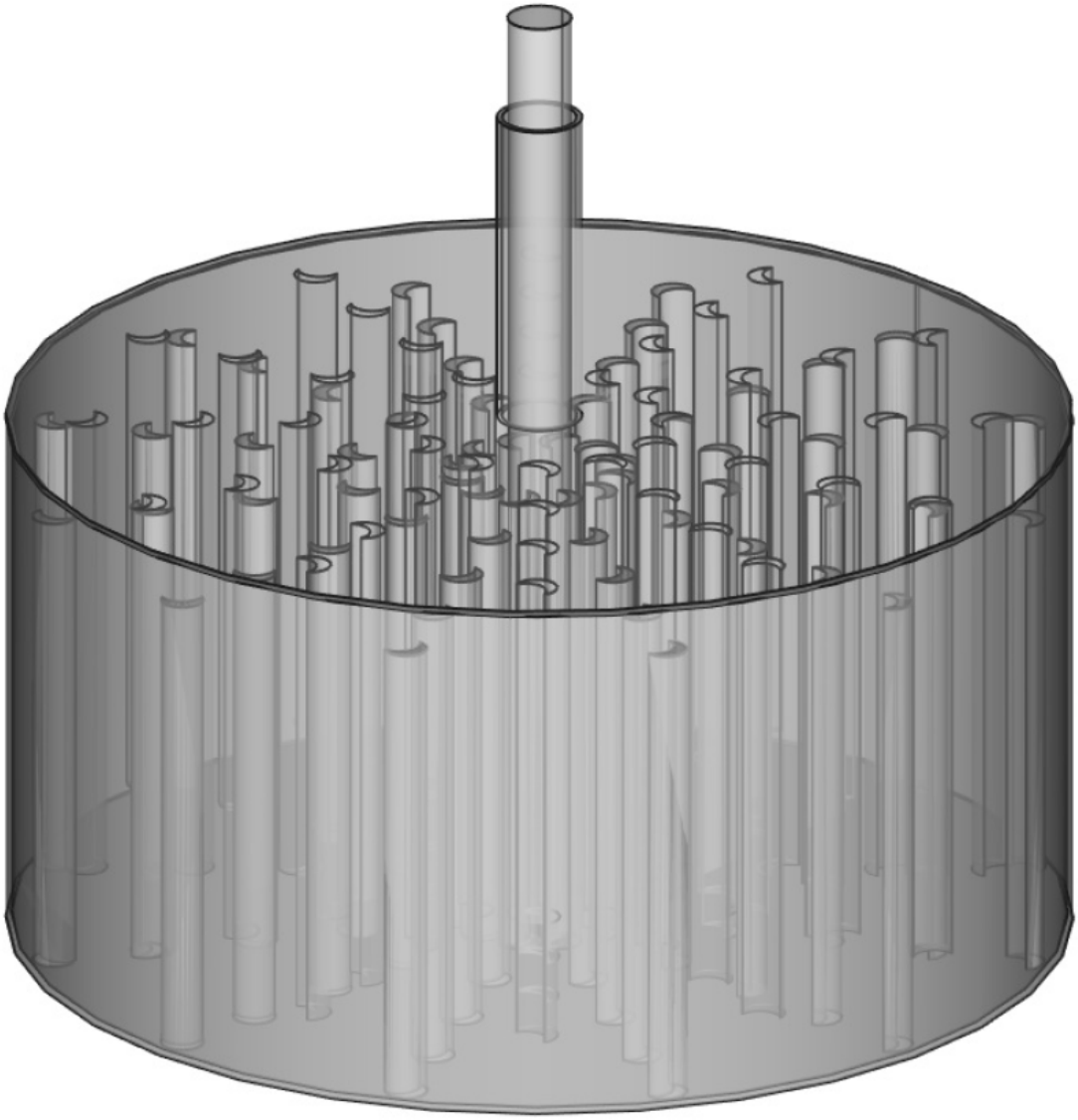
For convenience, these questions are provided in the headings of the tables on pages 3-6 along with suggested content (and corresponding judging statements) to help guide your responses. You decide where to focus your answers. The individual answers to the four questions do not have a word limit, however, the ***aggregate response to these four questions must not exceed 2,500 words****. You may also include up to five supporting images, figures, or graphs. The judges will score the questions based on the content you have provided.* ***Responses should not be entered into the existing table format for each question*** *(Question tables may be deleted prior to submission).*

Question 1: Innovation - *Does your system represent a novel solution concept that can deliver water in disaster relief and recovery and in remote coastal communities?*

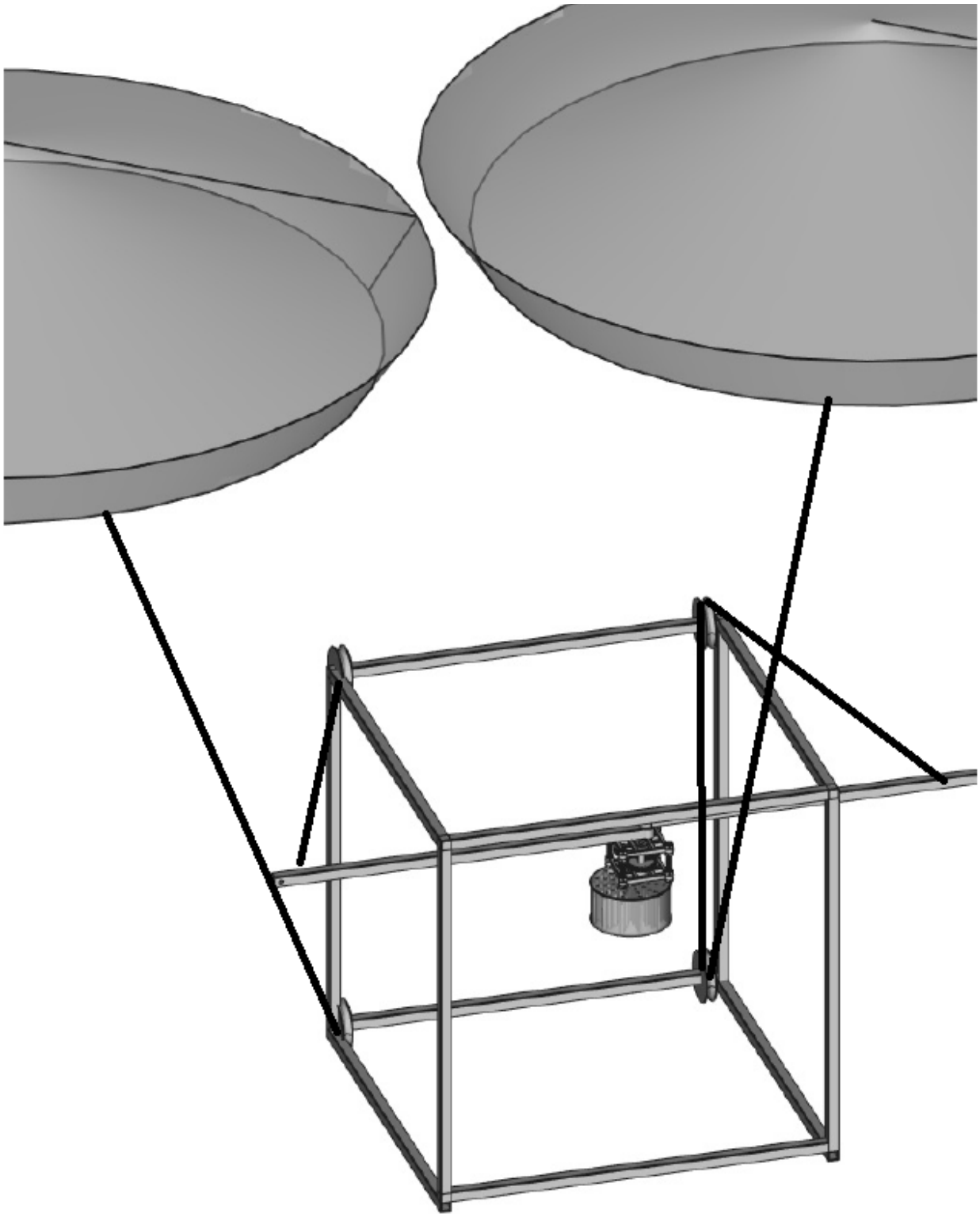
Response to Question 1:

THE PROPOSED SOLUTION IS MINIMALISTIC IN THE SENSE IT CAN BE OPERATED BY WAVE ENERGY TO PURIFY WATER USING CAVITAION AND CONDENSATION. IT CAN BE PACKED IN COMPACT TRANSPORTABLE FORMAT AND COULD WEIGH LESS THAN 30 POUNDS AND SET UP IN LESS THAN 120 SECONDS. THE DEVICE CAN BE HOOKED ON THE SEASHORE AT APPROPRIATE PLACE, WHERE IT CAN BE SUBMERGED COMPLETELY OR IT CAN EVEN BE PLACED ON THE BEACH SAND / ROCK AND LONGER TETHERING CABLE CAN BE USED TO TRANSMIT THE WAVE ENERGY TO DEVICE. WHEN WAVE GOES UP AND DOWN, THE BUOY OSCILLATES ACCORDINGLY, ENERGY IS TRANSFERRED TO DEVICE USING A ROPE AND RACHET GEAR, WHICH THEN TURNS THE FLYWHEELS VIA COUNTERCLOCKWISE GEARING MECHANISM. RACHET GEAR TRANSFERS ENERGY TO THE GEARBOX ONLY IN ONE DIRECTION. THE SYSTEM DOESN'T NEED SPECIALIZED EQUIPMENTS OTHER THAN BUOY, ROPE, PULLY, RACHET GEAR, GEARBOX, CONTAINERS WITH FINS INSIDE, FLEXIBLE PIPES AND CONTAINER TO COLLECT PURIFIED WATER. WHEN WAVES START ROTATING THE ASSEMBLY, CAVITATION OCCURS INSIDE THE CONTAINER, WHICH STARTS HEATING THE WATER IMMEDIATELY, AFTER SOME TIME, THE WATER TURNS INTO VAPOR WHICH IS COLLECTED VIA THE PIPE AND THEN EITHER EIR COOLED OR RUN THROUGH THE SEA WATER TO TURN THE VAPOR INTO PURE WATER.

CAVITATION HAPPENS IN BELOW CONTAINER AS THEY ARE ROTATED COUNTER CLOCKWISE VIA ROPES FROM BUOYS.



BELOW IMAGE SHOWS COMPLETE ASSEMBLY OF THE ARRANGEMENT, BLACK SOLID LINES ARE ROPES FROM BUOY TO GEAR, VIA PULLY SUPPORTS.



Question 2: Technical Feasibility - *Is the solution technically feasible?*	

Response to Question 2:

GENERATING HEAT USING CAVITATION IS PROVEN TECHNOLOGY, CREATING WATER VAPOR BY HEATING WATER USING CAVITATION AND THEN COOLING IS NATURAL PHENOMENON, WHICH WORK 100% AND DELIVERS 100% PURE WATER. IT IS WELL KNOWN THAT APPROXIMATELY 36KW ENERGY IS AVAILABLE IN 1 METER SQUARE AREA. WE CAN HARNESS MAXIMUM ENERGY FROM THE WAVE USING TO METHODS BY USING BUOY AND PROPELLERS AT THE SHORELINE. THIS ENERGY IS TRANSFERRED TO FLYWHEELS TO CREATE PURE WATER.

SINCE WE DIRECTLY CONVERT THE WAVE ENERGY INTO MECHANICAL ENERGY, WITH MINIMAL AMOUNT OF TRANSFER MEMBERS, THE SYSTEM CAN ACHIEVE CLOSE TO 90 - 96% OF EFFICIENCY.

THE SYSTEM CAN GENERATE ABOUT 1-2 LITERS OF PURIFIED WATER PER 5 - 10 MINUTE.

Question 3: Scalability and Other Benefits - *Does the proposed solution have additional attributes or produce other benefits that would be valuable for other applications beyond the prize?*	

Response to Question 3:

Manufacturing of this device is as simple as it gets. It doesn't require specially designed parts. All parts are available in market and machine can be assembled in very short period of time. The process can be scaled at higher level using multiple devices attached in series to each other. It is also possible to use this technique at very higher scale, single unit but that is covered as part of another invention. There are no environmental concerns as machine doesn't discharge anything else than higher concentration of salt water and minerals, which can be collected and used for further processing or discarded in the sea immediately. Since it is based on renewable power, no pollution is created at all.

Question 4: Team - *Does the submission include an exceptional and committed team to accomplish the stated goals of the proposed solution?*	

Response to Question 4:

I'M THE ONLY ONE PERSON ON TEAM BUT I DO HAVE ALL THE SKILLS TO MAKE IT SUCCESS. I DO HAVE WORKING PROTOTYPE OF THE MACHINE, WHICH I MADE ON MY OWN USING THE MATERIALS AVAILABLE OFF THE SHELF. I CAN TAKE IT IN PRODUCTION AT VERY RAPID SPEED, AS I DO HAVE MY OWN MANUFACTURING FACILITY, WHERE I MANUFACTURE OTHER ITEMS BASED ON MY OWN INVENTIONS.

SUPPLEMENTARY INFORMATION

FOUR QUESTION NARRATIVE WORD COUNT: _____ total words