XPRIZE WATER SCARCITY | مبـــادرة محمد بن زايد للـــماء THE MOHAMED BIN ZAYED WATER INITIATIVE

COMPETITION GUIDELINES

Version 1.0

Released on March 1, 2024

XPRIZE Water Scarcity is governed by these Competition Guidelines. The Competition Guidelines summarize the high-level requirements and rules of the competition.

XPRIZE may revise these Guidelines at any time during the course of the competition to provide additional information or to improve the quality of the competition. Unanticipated issues that arise may require modifications to these Guidelines. XPRIZE reserves the right to revise these Guidelines as it, in its sole discretion, deems necessary. All currently registered teams will be notified of revisions to these Guidelines in a timely manner.

For the most updated version of the Guidelines, visit xprize.org/water.

For further details concerning the operation of the competition, such as exact dates and locations of events, specific technical thresholds for performance testing, and operational information, please refer to the Competitor Agreement, Rules and Regulations (not yet released), and/or additional official documents that will be forthcoming throughout the course of the competition.

Guidelines are open for public comment until June 1, 2024. We encourage those interested to submit feedback or questions by emailing waterscarcity@xprize.org. Submitted feedback will be considered and, if found necessary, a revised version of the guidelines will be released after the public comment period is closed.

* Note: Items in bold throughout this document are defined in Section 8: Glossary.

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1. WATER SCARCITY LANDSCAPE

The United Nations (UN) recognized the human right to water in 2010. But, around the world, 1 in 4 people do not have access to clean water, and 80% of people, across all continents, already suffer from serious threats to their water security. By 2030, we will need 40% more water than is available. Water challenges will increasingly concentrate in densely populated coastal cities. By 2050, nearly 70% of us will be living in cities, while 14 of the world's largest cities, including London, New Delhi, São Paulo, and Tokyo, already experience water scarcity or stress.

Right now, a mere 0.5% of Earth's total water resource is available and usable as freshwater to support 8 billion people. The World Economic Forum has consistently categorized water stress among the world's top risks, and Goldman Sachs called water the "petroleum for the next century." Due to a combination of trends, including population and economic growth, urbanization, and climate change, freshwater is growing more scarce, more contaminated, and less accessible to many.

Imagine a world where clean water is equitably and sustainably abundant, enabling people and the environment to prosper.

Seawater desalination is one of many water enhancement methods and strategies available to humanity today, but it is the only method offering a chance to turn the vastness of Earth's oceans, which contain over 96% of Earth's total water resource into a near-limitless source of freshwater. Seawater desalination offers the prospect of reliable freshwater production, regardless of season. Today's commercially available desalination technologies are nearing the limit of their potential efficiency yet remain costly, beyond the reach of low- to medium-income communities. They also come with a host of negative environmental impacts that make their scaling both difficult and potentially harmful, not only to the planet's fragile ecology, but to humanity itself.

1.1 Core Problems

Desalination is at a crossroads. The industry has reached a state of maturity and is a growing market, but big technological breakthroughs have not been seen since the early 2000s. If innovation persists along the current commercial path, advancements will continue to grow marginally. Many innovators have begun breaking away from this path - utilizing advanced and novel materials, rethinking methods and systems, looking at resources holistically, and more.

Listed below are the core problems that prevent the widespread use of desalination to address global water scarcity. XPRIZE Water Scarcity will ultimately work to address these issues, which are the building blocks of the competition's focus, evaluation criteria, and testing methodology.

- **Unaffordable to low- to medium-income communities** - Cost remains the top barrier to desalination. Globally ranging on average \$0.5-\$1.5/m^3, the cost of desalinated water is competitive; but, only where costly large-scale plants and energy can be afforded.

- **Advancements are increasingly incremental and marginal** - For over 40 years, innovation in desalination has focused on cutting costs through energy efficiency and drop-in solutions. **Reverse Osmosis (RO)** was a step change, but the theoretical thermodynamic limit is now in sight.
- **Inefficient across the water-energy nexus** - Commercially leading seawater desalination technologies remain energy and water intensive. Thermal Desalination recovers 25% of water using about 5 kWhe/m^3 and 10-20 kWhth/m^3, while RO recovers 50% of water using 2.5-3 kWh/m^3. Globally, in total, up to 50% more **brine** is produced than desalinated water.
- **Complex and vulnerable operations** - Large-scale, centralized plants are optimized to deliver the lowest cost of desalinated water, but come with extensive and costly capital expenses. They are also complex to operate and maintain, and most new builds show challenges within their first year of operation.
- **Unsustainable lifecycle** - Sustainability challenges rise as one of the top barriers to desalination, including in jurisdictions where the existence of regulations may either preclude the use of legacy technologies or make them uneconomic via added mitigation costs, as well as in jurisdictions where the wide-spread use of such technologies, while not technically barred by regulation, could impose unacceptable environmental costs. Significant sustainability challenges in the desalination lifecycle arise from potential greenhouse gas emissions stemming from electricity of heat supply, negative impacts on critical marine ecosystems stemming from poor intake design and brine disposal, chemical effluents associated with antifoulants and biocides, and materials, including membrane modules, production and disposal.

Despite these unresolved challenges, the adoption of desalination as a solution to address water scarcity is not only expanding, but gaining momentum, helping communities produce alternate sources of freshwater, but at a growing cost.

2. XPRIZE WATER SCARCITY OVERVIEW

XPRIZE Water Scarcity is a 5-year global competition set to drive a step change in desalination technologies - reimagining systems, methods, and materials. Thereby facilitating the widespread use of desalination in a manner that supports greater socio-economic equity and environmental sustainability.

This competition will address issues across desalination and water scarcity in three ways:

1. through encouraging new desalination systems to be more robust, affordable, and sustainable;
2. by supporting novel membrane materials to make existing desalination more robust, affordable, and sustainable; and
3. by exciting innovators across the globe to get involved in developing public perception campaigns to address water scarcity from a broader perspective.

Through this multi-tracked competition, $119 million in total prizes are available to competitors across three competition tracks:

- Track A - The New Desalination System (core competition) - the winning team will reliably and most sustainably generate one million liters of **potable water** per day (1,000 m^3/day) from seawater at the lowest cost, below a target benchmark to ensure global accessibility, over the course of 1 year.
- Track B - Novel Membrane Materials - the winning team will most sustainably and cost-effectively treat seawater to potable water quality using reverse osmosis (RO) membranes, demonstrating an operational lifetime of 10 years or more.
- Ideas Competition - The Value of Water - the winning team(s) will devise the most novel, inclusive, engaging, and sustainable public perception campaign to transform the global perception of the value of water.

Teams may register to compete in one or multiple tracks, including the Ideas Competition.

2.1 Competition Timeline & Milestones

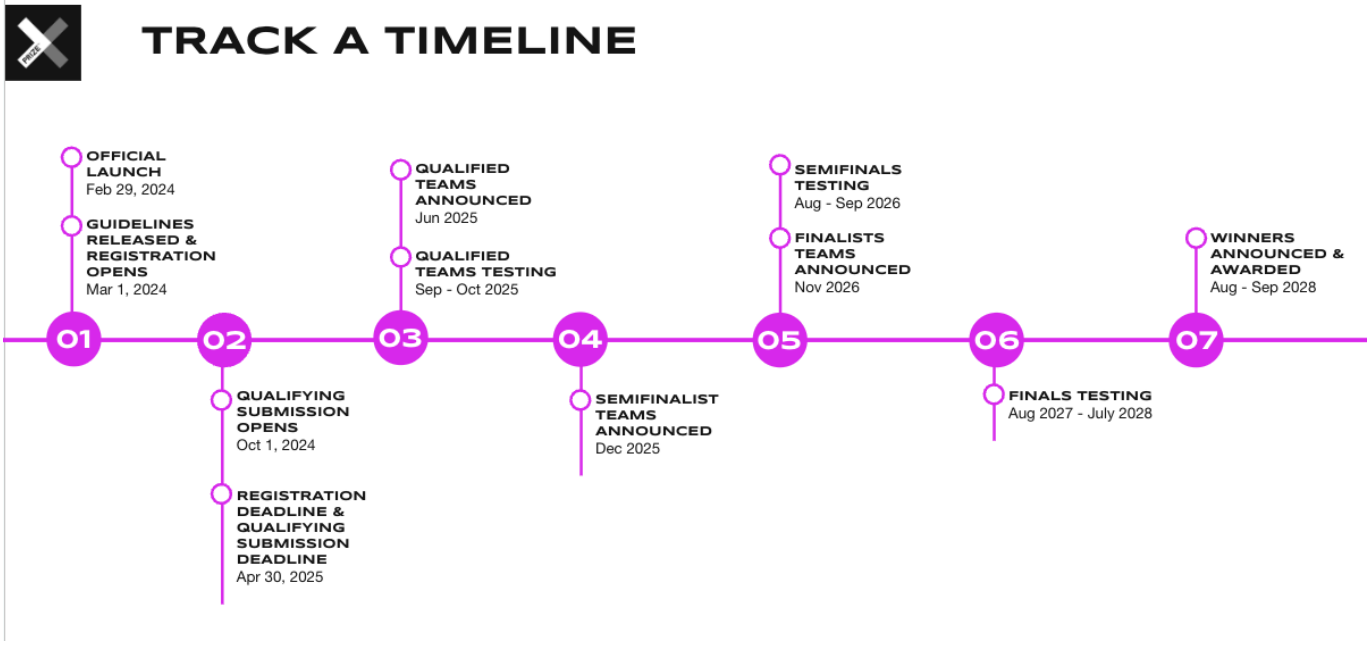
The following tables and timelines are intended to provide an overview of major competition milestones and activities. All teams are reminded to closely monitor competition timelines, especially those teams that choose to compete in multiple tracks. All events and dates should be regarded as preliminary and are subject to change throughout the competition.

COMPETITION MILESTONES & TESTING LOCATIONS

EVENT	TRACK A **THE NEW SYSTEM**	TRACK B **NOVEL MEMBRANE MATERIALS**	IDEAS COMPETITION **THE VALUE OF WATER**
Team Registration	Online via XPRIZE POP	Online via XPRIZE POP	TBD Online Platform
Round 1: Qualifying Submission	Online via XPRIZE POP	Online via XPRIZE POP	Online
Round 2: Semifinalist Submission	Team's chosen location	Team's chosen location	Online
Round 3: Semifinals Testing	Team's chosen location	XPRIZE-selected centralized location	-
Round 4: Finals Testing	XPRIZE-selected centralized location	XPRIZE-selected centralized location	-

For XPRIZE-selected centralized locations, XPRIZE will arrange testing at specific physical location(s), yet to be determined. These locations will be announced well in advance of the testing dates. Each team will be responsible for their own travel and for any costs associated with the transportation of their system.

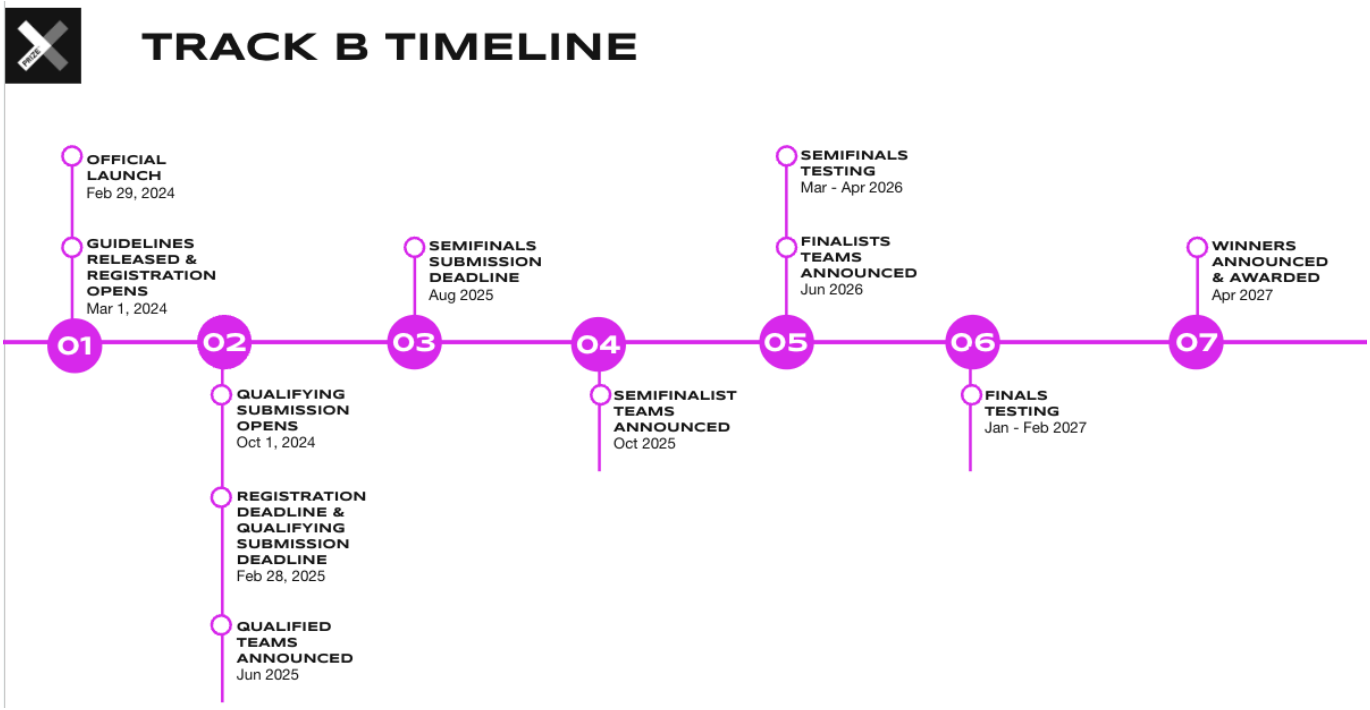
Track A: The New Desalination System | March 2024 – September 2028



DATE	MILESTONE
February 29, 2024	Official Competition Launch
March 1 - June 1, 2024	Competition Guidelines Public Comment Period
March 1, 2024 - April 30, 2025	Registration Period
October 1, 2024	Qualifying Submission Opens
April 30, 2025	Qualifying Submission Deadline
June 2025	Qualified Teams Announced
September - October 2025	Qualified Teams Testing
December 2025	Semifinalist Teams Announced
August - September 2026	Semifinals Testing
November 2026	Finalist Teams Announced

June - July 2027	Finalist Teams Onsite Calibration
August 2027 - July 2028	Finals Testing
August - September 2028	Award Ceremony; Winners Announced

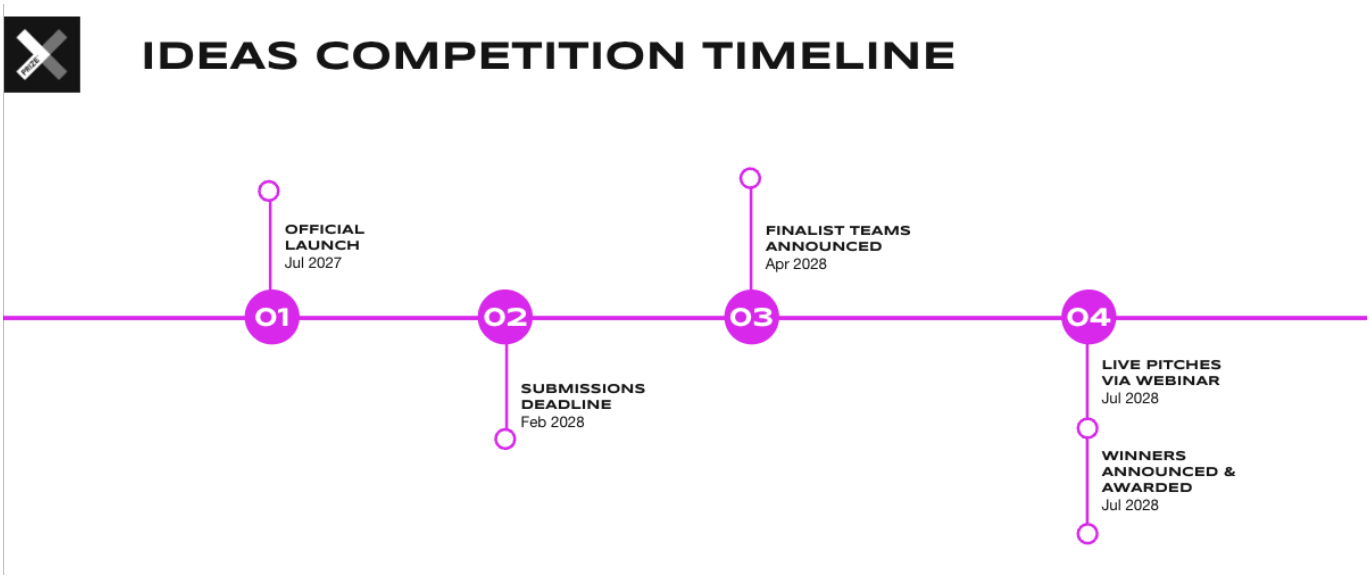
Track B: Novel Membrane Materials | March 2024 – April 2027



DATE	MILESTONE
February 29, 2024	Official Competition Launch
March 1 - June 1, 2024	Competition Guidelines Public Comment Period
March 1, 2024 - February 28, 2025	Registration Period
October 1, 2024	Qualification Submission Opens
February 28, 2025	Qualifying Submission Deadline
April 2025	Qualifying Teams Notified (Embargoed)
June 2025	Qualified Teams Announced
August 2025	Semifinals Submission Deadline
October 2025	Semifinalist Teams Announced

March - April 2026	Semifinals Testing
June 2026	Finalist Teams Announced
January - February 2027	Finals Testing
April 2027	Award Ceremony; Winners Announced

Ideas Competition: The Value of Water | July 2027 – July 2028



DATE	MILESTONE
July 2027	Official Competition Launch
February 2028	Submissions Deadline
April 2028	Finalist Teams Announced
July 2028	Live Pitches via Public Webinar
July 2028	Winners Awarded & Announced

2.2 Prizes | Purses & Awards

XPRIZE Water Scarcity will have a total Prize Purse of $119,000,000 (USD), and the Prize Purse will be distributed as detailed below. Please note that milestone awards will be equally distributed between the number of teams moving forward, up to the “amount per award” number indicated in the tables below.

If the total amount for milestone awards is not met (i.e. there are less awards made than the number of awards indicated in the tables below), it is at the discretion of XPRIZE to re-allocate the funds.

AWARD	AMOUNT PER AWARD	NUMBER OF AWARDS	TOTAL
Track A - New Desalination System			
First Place	$40,000,000	1	$40,000,000
Second Place	$20,000,000	1	$20,000,000
Third Place	$10,000,000	1	$10,000,000
Moonshot Awards	$5,000,000	4	$20,000,000
Finalists Milestones	$2,000,000	5	$10,000,000
Semifinalists Milestones	$250,000	20	$5,000,000
Qualified Teams Milestones	The total award will be distributed between all advancing teams		$3,000,000
		Track A Total Prize Purse	**$108,000,000**
Track B - Novel Membrane Materials			
First Place	$8,000,000	1	$8,000,000
Second Place	$1,000,000	1	$1,000,000
Third Place	$500,000	1	$500,000
Finalists Milestone Award	$220,000	5	$1,100,000
Semifinalist Milestone Award	$10,000	30	$300,000
		Track B Total Prize Purse	**$10,900,000**

AWARD	AMOUNT PER AWARD	NUMBER OF AWARDS	TOTAL
Ideas Competition - The Value of Water			
First Place	$30,000	1	$30,000
Second Place	$20,000	1	$20,000
Third Place	$15,000	1	$15,000
Runner ups	$5,000	7	$35,000
	Ideas Competition Total Prize Purse		**$100,000**
	Total Competition Prize Purse		**$119,000,000**

3. CRITERIA & TESTING OVERVIEW

XPRIZE Water Scarcity is a multi-track competition comprising two technical tracks as well as an Ideas Competition. The prize is designed to collectively drive meaningful impact and future-proof desalination as a viable solution to water scarcity.

Below is an overview of the technical competition tracks (Tracks A and B). Please note, each track includes its own timeline and milestones, while both entail multiple rounds of evaluations. Evaluations will be conducted by an independent **Judging Panel**, which is responsible for making the final decisions on advancing teams from one round of the competition to the next.

Details about the Ideas Competition will be shared separately. Teams may register to compete in one or multiple Tracks, including the Ideas Competition. Progress and success in one Track does not imply commensurate progress or success in the other, and vice versa.

3.1 Track A (Core Competition): The New Desalination System

The core track is seeking the desalination system of the future at a scale that provides reliable, affordable, and sustainable water access to rapidly growing population centers worldwide.

At Finals, the Winning Team will reliably and most sustainably generate one million liters of potable water per day (1,000 m^3/d) from seawater for the lowest total cost that is below a target benchmark to ensure global accessibility, over the course of 1 year.

Winning Team Demonstration Overview:

Over 1 year, teams will reliably (continuously, while mitigating disruptive events):

- Generate 1,000 m^3/d (1 MLD) of potable quality water, sufficient to support 10,000 people (based on WHO Standards)
- Using seawater with globally representative salinity (37 g/L; subject to change based on test location)
- For the lowest total cost of water that is below a target to ensure global accessibility. A target benchmark will be determined based on **Total Cost of Water (TCOW)** model scenario analysis and the cost will be evaluated by the competition cost model, which will be supplied upon issuance of the final **Rules and Regulations** of the competition and which will reflect common assumptions for non-system-related cost variables and scaling effects.
- Most sustainably:
    - Drawing seawater towards a Moonshot Award for marine-friendly intake design
    - Recovering the most seawater resources while introducing no harm to the environment on discharge, towards a Moonshot Award for **brine circularity** - closest to 100% resource recovery and valorization
    - Cutting energy usage and lifecycle emissions, towards a Moonshot Award for energy efficiency: approaching the theoretical limit of 1.06 kWh/m^3 at 50% water recovery
- Demonstrating the ability to scale up to 300,000 m^3/day (300 MLD), towards a Moonshot Award for the smallest land footprint, closest to 100 m^2/MLD

* Note: the scope of the evaluation is intake to output (storage ahead of distribution network). This scope is applicable to land- and subsea-based systems alike.

Track A Testing Rounds

Track A - Round 1: Qualifying Submission

Evaluating all teams; successful teams moving on to Round 2: Semifinalist Submission.

Teams will submit written submissions detailing their proposed solution, along with feasibility and scalability plans, an analytical demonstration of the potential to scale up to the target commercial scale of 300,000 m^3/d (300 million liters per day), operating at 95-98% uptime, including a draft techno-economics assessment featuring their estimated lifetime and water cost.

Judges will weigh technological promise holistically against the overall aims of the competition, including:

- The proposed solution rationale, including a description of the challenges the solution aims to address

- The degree of technological or operational innovation with respect to the evaluation criteria
- The team's ability to meaningfully demonstrate capabilities within the prize timeline
- Challenges that may hinder the demonstration of solutions, including capital needs
- Evaluation of innovation scalability following the competition

Teams may submit Track A Qualifying Submissions beginning October 1, 2024 and must be submitted not later than April 30, 2025. Qualifying Submissions received before the deadline will be reviewed by the Judge panel on a rolling basis. Teams will be notified of their status within 45 days of their submission date. Teams are encouraged to submit as soon as they are ready in order to begin preparing for the Semifinalist Submission.

Track A - Round 2: Semifinalist Submission

Evaluating all qualifying teams; up to 30 teams moving on to Semifinals.

Competing teams will demonstrate a working prototype system while adhering to local environmental protection regulations. Teams will continuously operate their integrated systems in their chosen test locations, generating a volume of 2 m^3/d (2,000 liters per day) over two weeks, at 50% uptime. Details regarding specific test conditions and targets are detailed in the Evaluation Criteria & Targets table in the appendix.

Teams will subsequently submit their water quality and **Operations & Maintenance (O&M)** reports; all documentation must be time-stamped and verified by XPRIZE and/or a third party approved by XPRIZE. Performance will be measured relative to the testing environment, and results will be normalized. Team performance will be evaluated against all competition criteria. Teams will be responsible for organizing their own third party validation, subject to approval by XPRIZE. XPRIZE reserves the right to visit and inspect teams testing procedure and hardware without notice.

Track A - Round 3: Semifinals

Evaluating up to 20 teams, up to 5 teams moving on to Finals.

Ahead of the live demonstration start, competing teams will submit their lifecycle and cost (Total Cost of Water) analyses.

Competing teams will demonstrate a working pilot-scale system, capable of serving a local community of 1,000 people, while adhering to local environmental protection regulations. Teams will continuously operate their integrated systems in their chosen test locations, generating a volume of 100 m^3/d (100,000 liters per day) over one month at 50% uptime. Details regarding specific test conditions and targets are detailed in the Evaluation Criteria & Targets table in the appendix.

Teams will subsequently submit their water quality and O&M reports; all documentation must be time-stamped and verified by XPRIZE and/or a third party approved by XPRIZE. Performance will be measured relative to the testing environment, and results will be normalized. Team performance will be evaluated against all competition criteria categories. XPRIZE will schedule on-site visits with verification consultants and/or judges to witness the live demonstration.

Track A - Round 4: Finals

Evaluating up to 5 teams.

Competing teams will showcase their market readiness by operating at demonstration plant scale. Teams will continuously operate their integrated systems for 12 consecutive months in a centralized test site arranged by XPRIZE. This site will feature water conditions that are representative of the global average of water salinity and temperatures and the yearly occurrence of algal bloom events. Over the course of a year, teams will generate a volume of 1,000 m^3/d (1 million liters per day), at 70% uptime, while effectively mitigating disruptions to service, including simulated power outage, algae bloom, and a flash flood (dry run). Details regarding specific test conditions and targets are detailed in the Evaluation Criteria & Targets table in the appendix.

XPRIZE will arrange and conduct Finals testing at a centralized test site, which is yet to be announced. The location will be announced well in advance of the testing dates. Each team will be responsible for their own travel expenses and for any costs associated with the transportation of their system. Teams are required to arrive at the test site two months ahead of their scheduled testing start date to allow sufficient time for any necessary arrangements, including delivery, receival, setup, safety check, and any trials.

Teams will operate their integrated systems on-site while adhering to the local environmental protection regulations, with XPRIZE tracking the operation of systems. At least once a month, XPRIZE will gather water quality samples for lab testing and collect O&M reports from the operators and **SCADA** (or a similar real-time data platform to monitor and control equipment). Water samples will also be collected pre- and post-treatment for intake and effluent discharge assessments (where applicable). Upon replacement of parts and conclusion of the active demonstration, the overall system and parts will be evaluated for condition.

3.2 Track B: Novel Membrane Materials

Track B is pursuing the search for the perfect membrane to cut the cost of water and increase reliability and sustainability, paving a future path for existing **Seawater Reverse Osmosis (SWRO)** desalination plants.

The Winning Team will most sustainably and cost-effectively treat seawater to potable water quality using reverse osmosis, demonstrating an operational lifetime of 10 years or more.

Winning Team Demonstration Overview:

- Treat seawater (32 g/L and 38 g/L, POC lab scale)
- To a potable quality per WHO standards
- With the highest permeability without compromising salt rejection
- Demonstrating the most sustainable and safe materials lifecycle

- And longest lifetime, 10-25 years, demonstrated through robust performance metrics in accelerated tests

Track B Testing Rounds

Track B - Round 1: Qualifying Submission

Evaluating all teams, up to 50 teams moving on to Round 2: Semifinalist Submission.

Teams will submit written submissions detailing their proposed solution detailing feasibility and scalability toward the target Single-stage SWRO plant (post competition): 300,000 m^3/d, 800 psi, 35-45% WR.

Judges will weigh technological promise holistically against the overall aims of the competition, including:

- The proposed solution rationale, including a description of the challenges the solution aims to address
- The degree of technological or operational innovation with respect to the evaluation criteria
- The team's ability to meaningfully demonstrate capabilities within the prize timeline
- Challenges that may hinder the demonstration of solutions, including capital needs
- Evaluation of innovation scalability following the competition

Teams may submit Track B Qualifying Submissions beginning October 1, 2024 and must be submitted no later than February 28, 2025. Qualifying Submissions received before the deadline will be reviewed by the Judge panel on a rolling basis. Teams will be notified of their status within 45 days of their submission date. Teams are encouraged to submit as soon as they are ready in order to begin preparing for the Semifinalist Submission.

Track B - Round 2: Semifinalist Submission

Evaluating up to 50 teams, up to 30 teams moving on to Semifinals.

Competing teams will be evaluated for their technical maturity and ability to fulfill live demonstration round requirements.

Teams will provide a video showcasing their operational solutions, explaining their approach, and addressing how they meet the evaluation criteria of the Semifinals.

Track B - Round 3: Semifinals

Evaluating up to 30 teams, up to 5 teams moving on to Finals.

Competing teams will be evaluated for the safety, performance, sustainability, and scalability potential of their novel membranes.

Teams will submit their potential scalability plans, Safety Data Sheets (SDS), and lifecycle analysis.

Teams will also submit 3 samples of 4" x 6" flat sheets of < 150 um thickness, and will be tested in a centralized lab arranged by XPRIZE. Details regarding specific test conditions and targets are detailed in the Evaluation Criteria & Targets table in the appendix.

Track B - Round 4: Finals

Evaluating up to 5 teams.

Competing teams will be evaluated for all capabilities of their novel membranes, including separation and robust performance, sustainability, scalability, and cost.

Teams will submit their cost analysis (Total Cost of Water) and updates to the scalability plan and Safety Data Sheets (SDS), if any changes were made to the membrane.

Teams will also submit 6 samples of 4" x 6" flat sheets of < 150 um thickness, and will be tested in a centralized lab arranged by XPRIZE. Details regarding specific test conditions and targets are detailed in the Evaluation Criteria & Targets table in the appendix.

5. SAFETY

Safety is a top priority. All reasonable efforts should be made to maximize safety and minimize any potential hazards of any individuals involved with and/or impacted by the Team's testing protocols and any other activities conducted by the Team under the competition. Teams are required to ensure protections for safety throughout all aspects of the competition by ensuring the following minimum safety standards are in place throughout the competition period:

- Insurance. While XPRIZE does not require teams to provide us with proof of insurance, teams are encouraged to carry appropriate levels of insurance coverage to mitigate potential risk and allow for a safe working environment throughout the period of the team's participation in the competition.
- Reduction of risk of physical injury. Teams should take appropriate measures to reduce any potential risk of physical injury to any persons involved with or impacted by testing and/or other activities conducted under the competition.
- Property damage to anything within a testing facility. While it is expected that some equipment will be in an experimental or prototype form, all due precautions must be taken to ensure the safety of all personnel and property in and around such equipment at the testing locations.
- Documentation of safety protocols and systems. Teams will complete and provide documented safety protocols systems in place to XPRIZE, including details of protocols in place for and physical testing prior to any rehearsal or testing event. More details will be provided prior to testing events.

XPRIZE reserves the right to discontinue testing at any time for any actual or possible hazard or perceived safety violation by a Team under guidance from the judges or associated personnel. Additional details regarding specific safety protocols will be issued ahead of testing events.

6. TEAM REGISTRATION

XPRIZE competitions are driven by teams of innovative groups and individuals, comprising subject matter experts, enthusiasts, start-ups, student teams, amateurs, industry veterans, and all problem-solvers in between; a winning idea can come from anyone, anywhere.

Taking part in an XPRIZE competition is an exciting and challenging journey that requires a significant commitment of time, expertise, and resources. Each team will be responsible for the total costs of their participation in the competition, including R&D, general operations, and travel among other costs. For testing rounds conducted at a central test site, XPRIZE will organize and pay for the testing environments.

Teams and individuals are encouraged to collaborate and combine skills during the competition especially to add technical and subject matter expertise to their roster. Teams may recruit additional experts and are permitted to add new members to their team at any time throughout the competition. Teams who decide to merge must notify XPRIZE 10 business days before an official team merger.

Additional details regarding team mergers are provided in the **Competitor Agreement**.

To support team collaboration, XPRIZE will host informational sessions and facilitate team networking meetings throughout the competition. These sessions will allow teams to get to know each other and receive important competition updates. All interested teams are encouraged to join, but participation in these sessions is not mandatory.

While global in focus, English is the official language of the competition. All teams must be prepared to communicate with XPRIZE and make their technical submissions and general inquiries in English.

6.1 Team Registration Process

For Tracks A and B - To participate, all teams must first create an account and log in to the **Prize Operations Platform (POP).**

For the Ideas Competition, registration may take place via a separate registration platform to be announced at a later date.

POP is an XPRIZE designed online platform through which teams will register for the competition, pay the registration fee, and submit required documents throughout the competition. All teams must appoint a Team Leader and a Team Administrative Point of Contact, who will be responsible for maintaining communications with XPRIZE. Teams are expected to maintain their POP profiles throughout the competition, ensuring their profile is up to date with the most recent team information.

Teams may register to compete in one or multiple Tracks, including the Ideas Competition. Progress and success in one track does not imply commensurate progress or success in the other, and vice versa, however, there may be synergy between tracks. To remain eligible to compete, teams must:

Teams will be allowed to register more than one entry in the Competition; provided, however, that each registered entry to participate in the Competition (Entry or Entries) registered by Team, shall be substantially different from the other Entry or Entries also registered by Team. A separate Registration Fee will be required for each additional Entry within the same track.

As of the date that submission of Entries is required, each Team must own (or will own) all technologies, methods, resources and Intellectual Property Rights in Team's Entry or Entries and/or has (or will have) all appropriate license rights in any and all third-party technologies, methods, and resources ("Third-Party Technology") in such Entry or Entries. Please refer to the Competitor Agreement for additional details.

Registration submissions are due by the standard registration deadline of each competition track. However, it is recommended that teams not delay in registering so that your team has access to Registered-Team-only events and activities. Additionally, XPRIZE encourages teams to begin designing their technologies at the earliest opportunity in preparation for the Qualifying Rounds of their respective track(s).

Any person or entity can participate in the Competition, no matter their citizenship or nationality, unless prohibited by US law—see Sanctions Programs and Country Information | US Department of the Treasury. If a Team has a Team Member who is ordinarily resident in such destinations, it will be up to the team to obtain a license of authorization issued by the U.S. Government.

6.2 Registration Survey

Each team will complete a Registration Survey. The Registration Survey activity will be assigned to teams in POP automatically upon creating a team profile. This submission will be used to obtain an initial landscape of competitors, and to support the facilitation of collaboration opportunities between teams. The aggregate information from these submissions may be shared to support team collaboration opportunities. XPRIZE Water Scarcity Operations Team will not distribute specific details about any team without permission.

6.3 Registration Fees and Deadlines

Registration fees are required as a simple qualifier to ensure competitors can obtain the appropriate resources to fully compete in the prize. All fees collected go toward supporting prize efforts, including **Alumni Network** development and prize impact work. Team Registration must take place by the registration deadlines below.

TRACK	REGISTRATION FEE IN USD	REGISTRATION DEADLINE
A	$700	April 30, 2025 12pm PT / 8pm UTC
B	$500 * Teams competing in Track A receive complimentary registration for Track B should they choose to compete in both tracks.	February 28, 2025 12pm PT / 8pm UTC
Ideas Competition	Free	TBD

XPRIZE has sole discretion to register and qualify additional teams across both Tracks from the close of their respective registrations until a date determined by XPRIZE. Teams that register during this period must meet all preceding registration, submission, and testing requirements and pay a late registration fee of USD $2,000. *There is no guarantee late registration will be granted to a team.* Potential teams should contact XPRIZE directly for more details.

6.4 Competitor Agreement

To be considered to advance to subsequent stages of the competition, all **Registered Teams** are required to sign the **Competitor Agreement** to acknowledge the terms expected of teams upon entering the competition. This document contains vital information detailing the requirements teams must meet to remain eligible for the competition. Competitor Agreements will be signed when a team makes their registration fee payment. The Competitor Agreement will be available for teams to review before signing.

6.4.1 Impact Survey

Team Impact Surveys are collected throughout various phases of the Competition. Team representatives are asked to complete surveys to capture baseline data of the teams, the industry, and the technology around the prize. All data is confidential and only shared publicly as aggregate data.

6.4.2 Team Marketing Assets

Team Marketing Assets will be used to create a team page in POP. Teams will be required to create a team name and can share a logo, social media handles, and a team photo to be used by XPRIZE to showcase competitors throughout the Competition.

6.4.3 Team Communication Toolkit

Teams should refer to the Team Communication Toolkit whenever they will use their team logo. The team must refer to the Team Communication Toolkit when using the XPRIZE Water Scarcity logo, or any other sponsor logos to market themselves or the prize. The Team Communication Toolkit will also have instructions on how to submit assets for approval to the XPRIZE brand team.

6.4.4 Pay It Forward Program

The XPRIZE Foundation is a 501(c)(3) non-profit foundation that strives to help solve global grand challenges. XPRIZE operates based on its benefactors' philanthropic considerations and support. Further, XPRIZE aims to support scientists, engineers, and entrepreneurs in pursuing their dreams of solving these challenges and creating new technologies and companies that benefit humanity.

In order to continue to sustain our work into the future, XPRIZE requests that teams entering its competitions participate in its "Pay it Forward" program. This program seeks to help underwrite the XPRIZE Foundation's long-term operations and sustainability to continue to find solutions to the world's greatest Challenges. For clarity, all teams who are "non-profit organizations," including any entity exempt under Section 501 (c) of the US Internal Revenue Code, are ineligible to participate in this Pay it Forward program.

In consideration of your Team's participation in the Competition and qualifying and receiving any amount of prize purse, subject to the terms of this Agreement, Team would agree to issue to the XPRIZE Foundation a 10-year option equivalent to 1.0% of authorized fully diluted shares of its registered entity entering the Competition ("Company"). The options exercise price will be set at the same price per share for the Company's next financing event following the Effective Date of this Agreement. If a sale or transfer of the Intellectual Property or significant assets to another entity occurs before a financing event, options rights will transfer to the new entity at the transfer price. If the transfer occurs post-financing, the options will follow the same right as the other shareholders in the Company.

Any value derived from these options will be used by the XPRIZE Foundation as a donation towards building a long-term endowment for XPRIZE. If there are valid reasons why the Company cannot fulfill this obligation, such as being a nonprofit organization, the Company has the option to request a waiver. This request will then be reviewed by the XPRIZE board of directors at the time of signing of this Agreement.

6.4.5 Competitor Undertaking

XPRIZE Water Scarcity’s title sponsor is The Mohamed bin Zayed Water Initiative (MBZWI), a nonprofit organization committed to harnessing the power of international cooperation, technological innovation, and strategic deployment, to overcome global water scarcity for the benefit of current and future generations.

While it is hoped that the XPRIZE Water Scarcity competition will bring forward novel solutions, it is also understood that identifying such solutions is only a first step toward addressing water scarcity and that real progress will also require accelerated commercialization, scaling and adoption. Taking this into account, the Title Sponsor has sought to introduce a mechanism into the design of the competition via which it may contribute to the accelerated commercialization of solutions emerging from this

competition, while simultaneously creating potential future revenue sources that could support further work on this and similar humanitarian initiatives.

The specific mechanism involves a guaranteed 5% participation right in any future securities offering that is deeded to the Title Sponsor by competitors advancing to the semifinals. This right is conveyed via the execution of a Competitor Undertaking at the outset of the competition, but only comes into effect if a competitor advances to the semifinals of the competition.

In function, the Competitor Undertaking would simply allow the Title Sponsor to participate proportionately up to 5% in any securities offering (e.g., equity raise, convertible note issuance, etc.) related to solutions developed via the competition and based on whatever terms the semifinalist competitor had independently obtained and accepted from a lead investor(s) in such an offering, providing the Title Sponsor an opportunity to participate as a “minority, follow-on investor” in any equity raise. Additionally, competitors advancing to the Semifinals would agree over the same period to notify the Title Sponsor of any planned sale of their equity or intellectual property (IP) rights arising from such solution(s).

Additional information regarding the Competitor Undertaking can be found in the Competitor Agreement.

6.4.6 Intellectual Property

As of the date of submission, each Team must own, or hold appropriate license rights to, all technologies, methods, resources, and Intellectual Property included in its submission.

XPRIZE will adhere to national or international regulations regarding ownership of the data used to validate team’s insights produced as part of the competition. Teams will retain ownership of their Intellectual Property on any technology or data integration techniques and processes they bring to the competition, and which they develop as part of their competition entry. All details relating to team technology, innovations, or methods submitted to XPRIZE at the submission deadlines will remain strictly confidential unless clearly and specifically noted.

Please refer to the Competitor Agreement for additional details.

6.4.7 Team Definitions

- **Interested Team:** A team or individual that is interested in participating in the competition and has created a profile in the XPRIZE POP system.
- **Registered Team:** A team that has completed the registration survey, paid the required registration fee, signed the Competitor Agreement, and signed the Sponsor’s Competitor Undertaking. Registered teams are eligible to submit a Qualifying Submission.
- **Qualified Team:** A team that has been selected by the Judging Panel from the pool of Registered Teams based on the strength of their Qualifying Submission.

- **Semifinalist Team:** A team that has been selected by the Judging Panel from the pool of Qualified Teams based on the strength of their Semifinalist Submission.
- **Finalist Team:** A team that has been selected by the Judging Panel from the pool of Semifinalist Teams, based on the strength of their performance at Semifinals testing.

7. ADVISORY BOARD AND JUDGING PANEL

ADVISORY BOARD

- **Selection of Advisors.** XPRIZE will appoint a panel of relevant subject matter and technical experts to serve as the **Advisory Board (AB)** for the Competition. The AB will advise XPRIZE regarding various aspects of the Competition. Each member of the Advisory Board ("Advisor") will enter into an agreement with XPRIZE that will: (i) outline Advisor's duties and obligations; (ii) require Advisor to maintain confidentiality of XPRIZE and team confidential information, in accordance with the Competitor Agreement; and (iii) require each Advisor to acknowledge that he or she shall make no claim to any team's intellectual property.

- **Independent Advisory Board.** The AB will be independent of XPRIZE, Sponsor(s), and all teams and team members. No Advisor, nor any member of the Advisor's immediate family, shall participate, nor have any financial or other material interest, in XPRIZE, the Sponsor(s), and/or any team or team member. All members of the AB shall promptly disclose to XPRIZE any such current, former, or expected future conflict of interest with XPRIZE, the Sponsor, or any team or team member.

- **Role of Advisory Board.** The duties and responsibilities of the AB may include, but not be limited to: (i) assisting with the establishment of qualifications for prospective Judges; (ii) recommending members of the Judging Panel; (iii) advising on the development of testing protocols and judging criteria; (iv) and providing input toward the development of these Competition Guidelines.

JUDGING PANEL

The Judging Panel will comprise subject matter and technical experts who serve as an impartial and independent evaluation team for all aspects of the competition. Judges evaluate, score, and determine teams and ultimately select all award winners based upon the judging criteria of the competition.

- **Selection of Judges.** XPRIZE, in its sole and absolute discretion, will appoint the Judging Panel based on competition requirements as well as recommendations from the Advisory Board. Each Judge will enter into a Judging Agreement with XPRIZE that will: (i) outline the Judge's duties and obligations; (ii) require each Judge to maintain confidentiality of XPRIZE and team confidential information in accordance with the Competitor Agreement; and (iii) require each Judge to acknowledge that he or she shall make no claim to any team's intellectual property.

- **Independent Judging Panel.** The Judging Panel will be independent of XPRIZE, Sponsor(s), and all teams and team members. No Judge, nor any member of Judge's immediate family, shall participate, nor have any financial or other material interest, in XPRIZE, the Sponsor(s), and/or any

team or team member. All members of the Judging Panel shall promptly disclose to XPRIZE any such current, former, or expected future conflict of interest with XPRIZE, the Sponsor, and/or any team or team member.

- **Role of Judging Panel.** The duties and responsibilities of the Judging Panel will include, but not be limited to: (i) evaluating teams' compliance with the Competitor Agreement as they relate to prize operations, these Competition Guidelines, and the Rules & Regulations for the purposes of the Competition; and (ii) the awarding of points and selection of teams that will proceed to each subsequent round of the competition.

- **Grounds for Judging Panel Decisions.** Official decisions made by the Judging Panel will be approved by a majority of the Judges that vote on each such decision after careful consideration of the testing protocols, procedures, guidelines, rules, regulations, criteria, results, and scores set forth in the Competitor Agreement, these Competition Guidelines, Rules and Regulations, and all other applicable Exhibits to the Competitor Agreement. If any vote of the Judges results in a tie, then the Judging Panel shall determine, in its sole and absolute discretion, the mechanism to settle the tie. Similarly, if one or more teams are tied at any stage during the competition, the Judging Panel shall have the sole and absolute discretion to settle the tie.

- **Decisions of the Judging Panel are Final.** The Judging Panel shall have sole and absolute discretion: (i) to allocate duties among the Judges; (ii) to determine the degree of accuracy and error rate that is acceptable to the Judging Panel for all competition calculations, measurements, and results, where not specified in the Rules & Regulations; (iii) to determine the methodology used by the Judging Panel to render its decisions; (iv) to declare the winners of the competition; and (v) to award the prize purses and other awards. Decisions of the Judging Panel shall be binding on XPRIZE, teams, and each team member. XPRIZE and teams agree not to dispute any decision or ruling of the Judging Panel, including decisions regarding the degree of accuracy or error rate of any competition calculations, measurements, and results. Teams shall have no right to observe other teams' testing or evaluation, or to be informed of other teams' calculations, measurements, and results, unless such information is made publicly available by XPRIZE.

8. GLOSSARY (AND KEY TERMS)

Advisory Board (AB): A select group of prominent advisors who contribute their wisdom, knowledge and guidance to various aspects of the prize.

Alumni Network: The XPRIZE Alumni Network provides ongoing support for teams post-competition for their continued success with a vibrant platform where alumni can connect, learn, and grow.

Brine: Water with high salt concentration leftover after treating water through desalination; most times mixed with chemicals used in the process. At present, discharging it back into the sea is the most common and economical practice, posing major risks to ocean life and marine ecosystems.

Brine Circularity: The concept of finding innovative and sustainable ways to close the loop on brine - utilize and manage the brine that is produced as a byproduct of current desalination processes.

Capital Expenditure (CapEx): The cost of developing or providing products, parts, or systems

Competitor Agreement: A legal and binding document that details the responsibilities of competitors for the prize.

Finalist Team: A team that has been selected by the Judging Panel from the pool of Semifinalist Teams, based on the strength of their performance at Semifinals testing.

Interested Team: A team or individual that is interested in participating in the competition and has created a profile in the XPRIZE POP system.

Judging Panel: Subject matter and technical experts who serve as an impartial and independent evaluation team for all aspects of the prize.

Lifecycle Analysis (LCA): A methodology assessing the environmental impact of a product, service, or process throughout its life stages.

Operational Expenditure (OpEx): The ongoing cost is an ongoing cost for running a product, business, or system.

Operations & Maintenance (O&M): The performance of day-to-day activities required to maintain operations.

Potable Water: Safe and clean to drink and be used for cooking. It's important for potable water to be free from harmful bacteria and other contaminants.

POP or Prize Operations Platform (POP): The standard internal XPRIZE portal for teams to input data for use in this Competition.

Prize Purse: This refers to money offered, won, or received as a prize. It also refers to the overall amount of funds allocated to all prizes in this competition.

Qualifying Submission: A formal plan that outlines and shows proof of the team's capabilities and their progress towards developing a technology that meets the Competition goals.

Qualified Team: A team that has been selected by the Judging Panel from the pool of Registered Teams based on the strength of their Qualifying Submission.

Registered Team: A team that has completed the registration survey, paid the required registration fee, signed the Competitor Agreement, and signed the Sponsor's Competitor Undertaking. Registered teams are eligible to submit a Qualifying Submission.

Reverse Osmosis (RO): The leading desalination treatment method, considered the desalination benchmark. In RO, saltwater is pressed through a semipermeable membrane, allowing freshwater to pass through while the salt is trapped on the other side, yielding brine.

Rules and Regulations: A document detailing the testing protocols, specific rules, dates/times, and other details that will govern the competition and will be binding on teams.

Semifinalist Teams: A team that has been selected by the Judging Panel from the pool of Qualified Teams based on the strength of their Semifinalist Submission.

Seawater Desalination: Desalination is a water treatment process in which salts are removed from the water to produce water for different uses, including agricultural, drinking, and industry.

Seawater Reverse Osmosis (SWRO): the leading seawater treatment method, using pressure to remove salt from water.

Supervisory Control and Data Acquisition (**SCADA):** Supervisory Control and Data Acquisition): systems used for controlling, monitoring, and analyzing industrial devices and processes.

Total Cost of Water (TCOW): The cost in which water is priced and sold. Total cost is the minimum financial cost of producing some quantity of output, it is a total reflecting fixed and variable costs.

APPENDIX

A.1 Track A - Criteria & Targets

CRITERIA	INDICATOR	SEMIFINALIST SUBMISSION	SEMIFINALS	FINALS
Scale	Scalable	**Screening:** Prototype 2 m^3/d (2,000 L/d).	**Screening:** Pilot 100 m^3/d (100,000 L/d).	**Screening:** Demonstration Plant 1,000 m^3/d (1 MLD).
	Land Footprint	-	-	**Screening + Scoring:** ≤200 m^2/MLD (extrapolated to a 300 MLD plant). **Moonshot award:** ≤100 m^2/MLD (extrapolated to a 300 MLD plant).
Water	Water Input	Local seawater (teams will normalize results to 37 g/L at 20ºC).		Seawater at 37 g/L at 20ºC (exact conditions per centralized testing location).
	Water Output	**Screening:** Potable quality (in accordance with WHO Standards, specifically Cl- 250 mg/L and Na+ 200 mg/L targets must be met).		
Robust & Reliable O&M	Safe and Reliable	**Screening:** 2 weeks at 50% uptime.	**Screening:** 1 month at 50% uptime.	**Screening:** 1 year of ongoing runtime at 70% uptime. **Screening:** Finished the competition in working condition. (Autopsy: consider system condition, changes to the system, and ranges (min-max) of resources consumed). **Scoring:** Higher uptime over ease of maintenance (measured in labor hours).
	Resilient and Robust	-	-	**Screening + Scoring:** Mitigating disruption to service. Evaluating the ability to maintain or restart service (required time and staff) following 3 simulated disruptive

CRITERIA	INDICATOR	SEMIFINALIST SUBMISSION	SEMIFINALS	FINALS
				events: power outage, algal bloom, and flash flood.
Sustainability	Intake			**Screening:** Intake screen size ≤3mm. In Finals, teams may use the intake and outfall of the centralized test site. **Scoring (moonshot award in Finals):** marine-friendly intake design, minimizing the impact on marine environments. Assessing biomass via entrainment and impingement (when applicable); at a minimum, performance must be as good as subsurface intake.
	Resource Recovery & Brine Mgmt (Outfall)			**Screening:** Introducing no harm to the environment - no release of harmful materials into the marine environment. Any chemicals used in treatment and by-products generated or precipitated must be removed from the brine and disposed of safely. Any discharge into the marine environment must be dispersed and diluted, presenting a salinity concentration of no more than 1 g/L difference within a 50m radius of outfall point(s) and no more than 0.8 g/L difference within a 1,000m radius of outfall point(s). During Finals, teams may use the intake and outfall of the centralized test site. **Scoring (moonshot award in Finals):** recovering the most seawater resources, closest to 100%. **Moonshot award in Finals**: at least 70% of seawater resources recovered and closest to 100%, while demonstrating a viable economic model.
	Energy Intensity of Water Treatment			**Scoring:** ≤2.5 kWh/m^3. Higher synergy between energy innovation and water treatment (e.g., energy recovery and energy generation during the process) will be awarded scores under this category. **Moonshot award in Finals:** closest to approaching the theoretical thermodynamic limit of 1.06 kWh/m^3 at 50% water recovery; no more than 1.5 kWh/m^3.

CRITERIA	INDICATOR	SEMIFINALIST SUBMISSION	SEMIFINALS	FINALS
	Lifecycle Emissions & Materials	-	**Screening + Scoring:** Lower footprint than present-day SWRO. Evaluating LCA, cradle to grave (extrapolated to 300 MLD, accounting for lifetime). **Extra points (optional)** toward full reliance on direct carbon-free energy.	**Scoring:** LCA verification
Cost	Total Cost of Water (TCOW)	-	**Screening + Scoring:** Lowest cost as calculated using TCOW that is below the target benchmark to ensure global accessibility, derived from an analysis of actual system costs prevailing in the industry as adjusted by application of the competition cost model. **Extra points (optional)** for the lowest CapEx. ***** The winning team will demonstrate, as part of the overall technical evaluation, the lowest cost of water that increases access to seawater desalination to the greatest share of the global population, demonstrated via a competitive cost analysis. Competing teams must calculate and substantiate their total cost of water reflecting their actual capital and operational costs and utilizing a competition cost model that will include common assumptions for non-system-related cost variables and scaling effects. Teams will submit a cost-analysis using the competition cost model and extrapolating their systems to the target scale of a 300 MLD plant and reflecting full lifecycle costs. Team-supplied inputs (CapEx and OpEx) to this TCOW framework will be certified in the Finals.	

A.2 Track B - Criteria & Targets

CRITERIA	INDICATOR	SEMIFINALS	FINALS
Target Use	An Existing Plant	Plant: Single-stage SWRO plant, 300 MLD, 800 psi, 35-45% WR.	
Scale	Scale of Demonstration	**Screening:** Teams will submit 3 samples of 4" x 6" flat sheet of < 150 um thickness.	**Screening:** Teams will submit 6 samples of 4" x 6" flat sheet of < 150 um thickness.
	Scalable	**Screening + Scoring:** Submit potential scalability plan, detailing the ability to scale up membrane production toward 5,000 m^2/d within 3 years: disclose composition of matter, method of making, and rate of production at full scale.	**Screening:** Updates to scalability plan (if any changes made to membrane composition).
	Footprint	**Screening:** A flat sheet that can be rolled into a spiral wound element of existing industrial standard RO module, at least 400 sqft. of nominal membrane area (spacer type is left open).	-
Water and Separation Performance	Water Input	Seawater. As defined in Standard Test of seawater membrane test: 32 g/L-NaCl, 5 ppm boron (typically boric acid), 25ºC (77ºF), pH 8.0, 800 psi (55.2 bar), 8% recovery.	Seawater. As defined in Standard Test of seawater membrane test: 32 g/L-NaCl, 5 ppm boron (typically boric acid), 25ºC (77ºF), pH 8.0, 800 psi (55.2 bar), 8% recovery.
	Water Output	**Screening:** Potable quality (sodium and chloride in accordance with WHO Standards) and no harmful by-products.	**Screening:** Potable quality (sodium and chloride in accordance with WHO Standards) and no harmful by-products.
	Intrinsic Permeability	**Screening:** 2 LMH/bar & 99.7% salt rejection (in standard test).	**Screening:** 2 LMH/bar & 99.7% salt rejection (in standard test).

CRITERIA	INDICATOR	SEMIFINALS	FINALS
		Scoring: >2 LMH/bar without compromising salt rejection or the same permeability with higher salt rejection.	**Scoring:** >2 LMH/bar without compromising salt rejection or the same permeability with higher salt rejection.
	Boron Rejection	-	**Scoring:** ≥90% (in standard test)
Robust Performance	pH Tolerance	-	**Screening:** <2X increase in NaCl passage (standard test) after immersion into HCl at pH 1, 50ºC for 48 hours, and after immersion into NaOH at pH 13, 50ºC for 48 hours.
	Temperature & Salinity Stability	**Screening:** 2 LMH/bar & 99.3% in 38 g/L NaCl, 35ºC (95ºF), pH 8.0, 800 psi (55.2 bar), 8% recovery. **Scoring:** >2 LMH/bar without compromising salt rejection or same permeability with higher salt rejection.	**Screening:** 2 LMH/bar & 99.3% in 38 g/L NaCl, 35ºC (95ºF), pH 8.0, 800 psi (55.2 bar), 8% recovery. **Scoring:** >2 LMH/bar without compromising salt rejection or same permeability with higher salt rejection.
	Compaction Resistance	-	**Scoring:** >90% of permeability maintained at 800 psi with 18 MW de-ionized ultra-pure water.
	Biofouling Resistance	-	**Screening + Scoring:** Least flux decline, no worse than Hydranautics SWC6 performance, over 1 week of exposure to real seawater dosed with bacterial nutrients to stimulate biogrowth. If the approach to solution is Chlorine Resistance, then chlorine will be added to the test and material stability will be evaluated: **Screening + Scoring:** > 1,000 ppm-hr exposure with < 2X increase in salt passage; 50% of points = 10,000 ppm-hr exposure with <2X increase in salt passage; 100% of points = 100,000 ppm-hr exposure with <2X increase in salt passage.

CRITERIA	INDICATOR	SEMIFINALS	FINALS
			Note: if a solution includes external input, appropriate testing will be designed.
	Scaling Resistance	-	**Scoring:** Least flux decline, no worse than Hydranautics SWC6 performance, over 1 week of accelerated simulated exposure to real seawater with pH unadjusted (~8.3 pH)
	Oxygen Stability	-	**Screening + Scoring:** <2X increase in salt passage following 1 week of exposure to fully oxygenated real seawater (i.e., no SBS or de-aeration applied)
Sustainability	Safe Materials	**Screening:** No worse than current membranes and must comply with the EU's Restrictions Roadmap under the Chemicals Strategy for Sustainability. Evaluating Safety Data Sheets. **Scoring:** Using bio-based solvents.	**Screening:** Updated submission and re-evaluation if any changes are made to membranes.
	Sustainable Materials	**Screening:** No worse than current membranes. **Scoring:** LCA, cradle-to-grave, evaluating feedstock and processing requirements, as well as End-of-Life prospects in accordance with the Zero-Waste Hierarchy Pyramid.	**Screening:** Updated submission and re-evaluation if any changes are made to membranes.
Cost	Total Cost of Water	-	**Screening + Scoring:** Lowest cost as calculated using TCOW that is below the target benchmark to ensure global accessibility, derived from an analysis of the solution's implementation in the target plant (Single-stage SWRO plant, 300 MLD, 800 psi, 35-45% WR).

CRITERIA	INDICATOR	SEMIFINALS	FINALS
			* The winning team will demonstrate, as part of the overall technical evaluation, the lowest cost of water that increases access to seawater desalination to the greatest share of the global population, demonstrated via a competitive cost analysis. Competing teams must calculate and substantiate their total cost of water (TCOW) reflecting their actual capital and operational costs and utilizing a competition cost model that will include common assumptions for non-system-related cost variables and scaling effects. Teams advancing to the finals will submit a cost-analysis using the competition cost model and extrapolating their systems to the target scale of a 300 MLD plant and reflecting full lifecycle costs.

Please note: The assessment of the Lifecycle Analysis (LCA) and Total Cost of Water (TCOW) will be done using a single framework for each, developed with a single, independent, and vetted testing partner for each analysis, respectively. Additional details of the assessment and weighting of the judging criteria will be published in a future rules and regulations document.