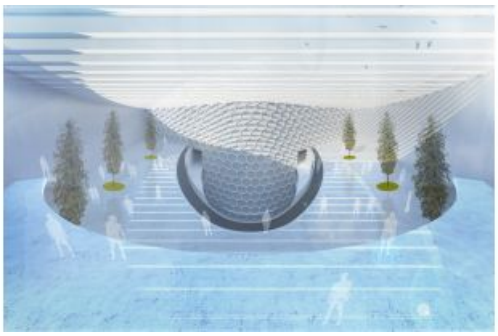
VIDEO INCLUDED

How an Iceberg-creating Submarine Can Rebuild the Polar Ice Cap



A team of designers led by Faris Rajak Kotahatuhaha (Indonesia) proposes re-freezing seawater in the Arctic to create miniature modular icebergs using a submarine-like vessel, in a bid to combat climate change. The Indonesian designer worked on the prototype with collaborators Denny Lesmana Budi and Fiera Alifa for an international competition organized by the Association of Siamese Architects.

Over the past three decades, the Arctic Ocean has lost 95% of its oldest and most durable ice. This extreme melting event, triggered by the climate crisis, has placed Arctic food chains in grave danger, forcing seals, fish, wolves, foxes and polar bears into ever smaller ranges. Inspired by the benefits of re-forestation, the team think their prototype could help save these habitats, leading to what they call 're-iceberg-isation' in the Arctic.

Re-freezing Seawater

According to designs, the vessel would work by re-freezing Arctic sea-water into hexagon-shaped icebergs - each about 2,027 cubic metres (535,477 gallons) - which would ultimately cluster together to form new ice floes. First, the designers explain, the floating submarine would sink under the surface, collecting seawater in a shaded tank. Next, some of that salt would be extracted using a system of reverse osmosis, which would make it easier to freeze.

Through the use of air turbines, the remaining seawater would then be frozen into a hexagon-shape iceberg and released back into the ocean after a month. Kotahatuhaha acknowledges that the idea will not stop climate change or reduce emissions, but he and his colleagues think that rebuilding lost sea-ice could help provide rich habitats and hunting platforms.

Read more about the prize-winning concept at www.asacompetition.com