

Arctic Ice Project .org



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Who We Are:

The most studied ice restoration effort in the world, the Arctic Ice Project is developing a safe, localized technique to enhance the Arctic's natural ability to reflect solar radiation out of the atmosphere, increase the Earth's planetary albedo, and slow the rate of global warming.

By doing so we can act as a decade-long stop gap, slowing sea level rise and global temperature increases until the world's economies have decarbonized.

Based in Redwood City, CA, we are testing our technologies at sites across the continent in Minnesota, USA; Utqiaġvik, Alaska, USA; Winnipeg, Canada; and the Sierra Nevadas, USA.

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Notable Press Coverage

The daring plan to save the Arctic with glass

23 September 2020
BBC

Our Future Depends on the Arctic

14 December 2019
New York Times

Scientists are Trying to Save Melting Arctic Ice

29 September 2019
Grist

Our Most Promising Solution: Hollow Glass Microspheres



We are proposing the deployment of a thin layer of very small hollow glass microspheres across targeted regions of the Arctic, improving the reflectivity of sea ice. This approach mimics natural processes that reflect solar energy out of our atmosphere.

While we're in early-stage field research, this technology alone represents an opportunity to reduce peak climate risks by buying up to 15 more years to decarbonize. For the sake of humanity, it's imperative that we further our understanding of climate interventions such as this type of localized surface albedo modification.

Frequently Asked Questions

Why not just fix the problem of greenhouse gases?

To avoid the worst climate risks, we need to do both. Restoring Arctic reflectivity may be the single safest lever we have to slow climate devastation and give the world's nations the urgently needed time to complete the transition to decarbonization, and sustainable energy and fuels.

Why is the Arctic so important?

Our earth's natural heat shield, the Arctic is warming at more than twice the global rate, a phenomenon known as Arctic Amplification. Over the past four decades, the Arctic has lost over 95% of its oldest, most reflective ice. Many experts now agree there is the possibility of ice-free Arctic summers by 2030.

Is this material like the microplastics that are polluting the oceans?

No. The sand-like materials we're testing and evaluating to help ice be more reflective are very different than plastics. While plastic can be toxic and is unnatural in the environment, we are examining nontoxic materials that are naturally present throughout the Earth's ecosystems.

What happens when the Arctic melts?

The loss of reflective Arctic ice leads to warming for the rest of the planet, having damaging and far-reaching impacts as far away as the tropics. California droughts and wildfires are exacerbated by the loss of Arctic ice reflectivity and the resulting changes in weather patterns.