

# Blue Evolution Unveils Breakthrough in Regenerative Seaweed Biomining for Critical Minerals

*Blue Evolution's sustainable seaweed farming revolutionizes mining, fights climate change, and empowers indigenous communities*

SAN JOSE, CALIFORNIA, USA, July 1, 2024 /EINPresswire.com/ -- [Blue Evolution](#), a leader in [regenerative ocean farming](#), is revolutionizing the mining industry with a groundbreaking method for sustainably extracting critical minerals and rare earth elements using seaweed. Supported by a significant grant from the Advanced Research Projects Agency–Energy (ARPA-E) and in collaboration with Pacific Northwest National Laboratory (PNNL) and Virginia Tech, this [biomining initiative](#) utilizes seaweed's natural bioaccumulation capabilities to source these essential materials, providing a renewable and environmentally friendly alternative to traditional mining practices.

Rare earth elements, a subset of critical minerals, are essential for modern technologies like electric vehicles, wind turbines, and electronics. Traditional mining of these elements is often environmentally destructive and socially exploitative. Blue Evolution's breakthrough approach offers a stark contrast, providing a sustainable and eco-friendly method for sourcing these vital resources.



Blue Evolution unveils a groundbreaking initiative with Pacific Northwest National Lab and Virginia Tech to sustainably source rare earth metals and sequester CO2 using seaweed. Photo credit: Rachelle Hacmac

**BLUE  
EVOLUTION**  
BEYOND SUSTAINABILITY

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sourced,” said Beau Perry, CEO of Blue Evolution. “By leveraging the unique properties of seaweed, we can satisfy growing resource demands sustainably. This is a win for both the planet and the economy.”

The process is further enhanced by Blue Evolution’s commitment to nature-based blue carbon capture, utilization, and storage (NBCCUS). This method harnesses seaweed’s ability to absorb carbon dioxide from the ocean, transforming the harvested biomass into various bio-based products that lock away carbon, thus contributing to climate change mitigation.

The initiative also reflects Blue Evolution’s dedication to social responsibility, with strong partnerships in indigenous communities in Alaska, New Zealand, and elsewhere. These collaborations focus on equitable resource development and respect for traditional ecological knowledge, ensuring that the projects support sustainable economic development and environmental stewardship.

“We are creating more than a mining solution; we are fostering a sustainable industry that prioritizes environmental health and community prosperity,” added Perry. “Our efforts in optimizing seaweed for mineral and metal uptake, combined with cutting-edge biorefining techniques developed in collaboration with PNNL and Virginia Tech, are crucial to unlocking the full potential of this resource.”

#### About Blue Evolution

Blue Evolution is at the forefront of regenerative ocean farming and seaweed biorefining, dedicated to restoring ocean health and advancing sustainable futures. Working closely with coastal communities, the company cultivates seaweed for diverse applications, including food, health products, agricultural biostimulants, animal feed, biomaterials, bioenergy, and critical minerals extraction. Through its innovative practices, Blue Evolution is not only restoring ocean health but also driving positive environmental and economic change in coastal communities. For more information, visit [blueevolution.com](https://blueevolution.com).

Tim Cox

ZingPR for Blue Evolution

[tim@zingpr.com](mailto:tim@zingpr.com)

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