

SeaSweepers Unveils Scalable Climate-Tech Solution to Tackle Marine Plastic Crisis

Solution to Tackle Marine Plastic Crisis Powered by AI, Blockchain, and Circular Design, SeaSweepers Launches a New Model for Ocean Plastic Recovery and Reuse

MIAMI, FL, UNITED STATES, March 23, 2025 /EINPresswire.com/ -- [SeaSweepers](#) Unveils Scalable Climate-Tech Solution to Tackle Marine Plastic Crisis Powered by AI, Blockchain, and Circular Design, SeaSweepers Launches a New Model for Ocean Plastic Recovery and Reuse

Climate-tech startup SeaSweepers has announced a bold, scalable approach to solving one of the world's most urgent environmental challenges: marine plastic pollution.

Over 11 million metric tons of plastic enter the oceans each year, much of it unrecyclable by current systems. Traditional recycling infrastructure, originally built in the 1970s was designed for clean, uniform, single-polymer plastics like PET bottles. These systems are ill-equipped to process the sun-damaged, biofouled, and entangled debris commonly found in marine environments.

As plastic fragments into micro- and nanoplastics, it makes its way into seafood, salt, and drinking water and ultimately into the human body. These microscopic particles can carry endocrine disruptors, heavy metals, and other toxins, contributing to a growing public health



concern. Studies have found microplastics in human placentas, bloodstreams, and lungs, prompting widespread calls for action and accountability.

The environmental consequences are equally stark. According to the United Nations Environment Programme (UNEP), plastic pollution causes over \$13 billion in annual damage to marine ecosystems. It impacts more than 700 marine species, many of which ingest or become entangled in synthetic debris.

SeaSweepers, led by founder and CEO Naveen Sydney, is addressing this crisis with a circular model built from the sea up, powered by AI, blockchain, and modular recycling systems engineered specifically for marine plastics.

"I grew up in a small fishing hamlet in South India where the sea shaped my earliest memories," said Sydney. "Now, I'm combining engineering and a love for the ocean to tackle the crisis that's threatening coastlines, livelihoods, and ecosystems around the world."

The company's model includes:

- Collection via coastal communities, nonprofits, and citizen scientists
- Edge-based AI sorting to identify polymers and contaminants in real time
- Mechanical preprocessing to remove biofouling and metals
- Blockchain traceability to log chain of custody, composition, and location
- Reprocessing using energy-efficient filtration and extrusion systems
- Circular product development, transforming waste into durable recycled goods

SeaSweepers' pilot plant will handle 20,000 tons annually, with integrated AI vision systems, multi-stage washing and drying, and real-time polymer analysis to ensure high recovery fidelity. The modular system is designed to scale across coastal regions globally, offering localized impact with global potential.

The company has already recovered over 4,000 pounds of marine waste, such as derelict fishing gear, ropes, and nets validating its preprocessing workflows and confirming the recyclability of high-value polymers like HDPE and polypropylene.

Unlike traditional blockchains that are energy-intensive and speculation-driven, SeaSweepers' ledger is:

- Carbon-neutral
- Optimized for traceability and scalability
- Built to support ESG reporting, policy compliance, and supply chain transparency

"This isn't about hype or tokens," said Sydney. "It's about data integrity, verified recovery, and rebuilding public trust in recycling. Every piece of plastic has a story and we're giving it a second life with proof."

The recovered plastics can be transformed into a range of high-utility products, including:

- Recycled lumber for outdoor decking and marine infrastructure
- Modular furniture for coastal communities and public spaces
- Floating docks and wave barriers
- Durable components for urban infrastructure, such as curbs and boardwalks

These products not only close the loop on plastic waste, but also provide a revenue-generating pathway for local economies to benefit from circular design.

SeaSweepers' emphasis on digital traceability plays a critical role in enabling real-time verification of collection, sorting, and reprocessing. This data can serve:

- Impact investors seeking measurable outcomes
- Policymakers enforcing extended producer responsibility (EPR) standards
- Brands aiming to prove compliance with sustainability goals

By combining physical recovery with digital accountability, SeaSweepers ensures that each recovered item contributes to a broader ecosystem of trust, transparency, and circularity.

"Our vision is to help governments and industries move beyond intent into measurable impact," said Sydney. "Without traceability, recycling becomes a black box. We're opening that box, one data point at a time and giving both consumers and regulators the tools to hold systems accountable. This is how we begin to counter greenwashing and rebuild public trust."

With global awareness rising and consumer demand for sustainable practices reaching a peak, SeaSweepers is poised to become a key player in shaping the next chapter of climate and materials innovation.

"When we pick plastic out of the ocean, we're not just recovering waste, we're recovering dignity, ecosystems, and futures," said Taryn, Chief Sustainability Officer at SeaSweepers. "This work is deeply personal for our team. We know that clean coastlines aren't just good for the planet, they're essential for the communities that depend on them."

"Sources available upon request"

About SeaSweepers:

SeaSweepers is a climate-tech company building scalable systems to recover, trace, and reuse ocean plastics. By combining AI, blockchain, and circular design, the company is redefining how plastic waste is valued and processed starting at the source.

Learn more: <https://www.seasweepers.io>

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