

Seeking practical solutions to plastic pollution

Clean Oceans International

Clean Oceans International (COI) is a non-profit organization based in Santa Cruz, California, on the Santa Cruz Harbor and gateway to the Monterey Bay National Marine Sanctuary. It seeks to reduce plastic pollution in the oceans through a comprehensive global approach that includes research, technical innovation, public awareness, and effective plastic waste management strategies.

It conducts research with non-profit, academic and government organizations such as the National Oceanic and Atmospheric Administration. COI also collaborates with Cabrillo Community College's science department on an ocean debris survey pilot program. COI works with student volunteers conducting simple research of plastic pollution deposition, generating useful information with minimal financial outlay and creating awareness of plastic pollution through community networking.

COI promotes conversion of plastic waste into liquid fuels using plastic-to-fuel (PTF) conversion technology. It has introduced a small scale portable PTF conversion system that uses electrical heat to convert plastic waste into diesel fuel. Based on this technology, it plans to educate local communities and create a financial incentive for these communities to recycle plastic, keep their shorelines clean, and minimize plastic waste. Using its newly created research lab, COI will work with Santa Cruz's recycling facility to convert plastic waste on site, averaging over 7,250 kilograms per week. Using a 10:1 plastic-to-fuel conversion ratio, COI looks to offset 6,057 litres of diesel fuel per week from what the facility is already buying.

Future plans include outfitting its chartered research vessel with a second-generation portable PTF convertor for the beginning of a world tour to discuss plastics in the environment. The PTF tour would conduct





Captain Jim "Homer" Holm, founder and executive director of Clean Oceans International, with the small-scale, portable plastic-to-fuel conversion system.

plastic debris cleanup operations and convert the waste plastic collected into fuel to help power the vessel operation as well as demonstrate to isolated coastal communities that plastic waste can be managed profitably and sensibly.

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