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Category: Waterborne

Country: United Kingdom

Research Area 1: Climate Change, Mitigation and Resilience

Idea Number: 120

Ocean cleaning environmentally friendly vessel

Plastic pollution of the oceans is an ever-growing issue, that is unfortunately neglected by most of the governing entities, as no incisive action is taken to reduce the pollution rate or remove the plastic contaminating the sea environment. Million tons of plastic end up in the oceans annually, which does not only destroy the natural landscape, but most importantly endangers the marine environment fauna and the overall food chain. The largest garbage concentration is observed in the five Great Garbage Patches, also referred as "Garbage Islands". To tackle this issue, the Blue Sea Project proposes a novel idea, which aims to reduce the amount of floating plastic in the ocean, by designing an environmental-friendly garbage-collecting vessel, aimed at removing the garbage from the Great Pacific Garbage Patch (1st phase). The designed vessel collects the floating plastic (and other garbage) with an innovative reverse-operation technique. An onboard garbage management plant, treats, separates and stores the garbage, until they are unloaded in inland recycling facilities. The vessel is powered by the gate rudder, an innovative propulsion system whose superior performance and energy efficiency is perfectly fit to the vessel's multidimensional operation. The use of Energy Saving Devices (ESD), such as Flettner rotors and solar panels, and batteries reduce the vessel's emissions and provides a significant level of carbon-free autonomy. To summarise, the Blue Sea Project proposes a viable plan, of the design and operation of an eco-friendly ocean-cleaning vessel.



Key Characteristics

Ocean pollution • Ocean-cleaning vessel