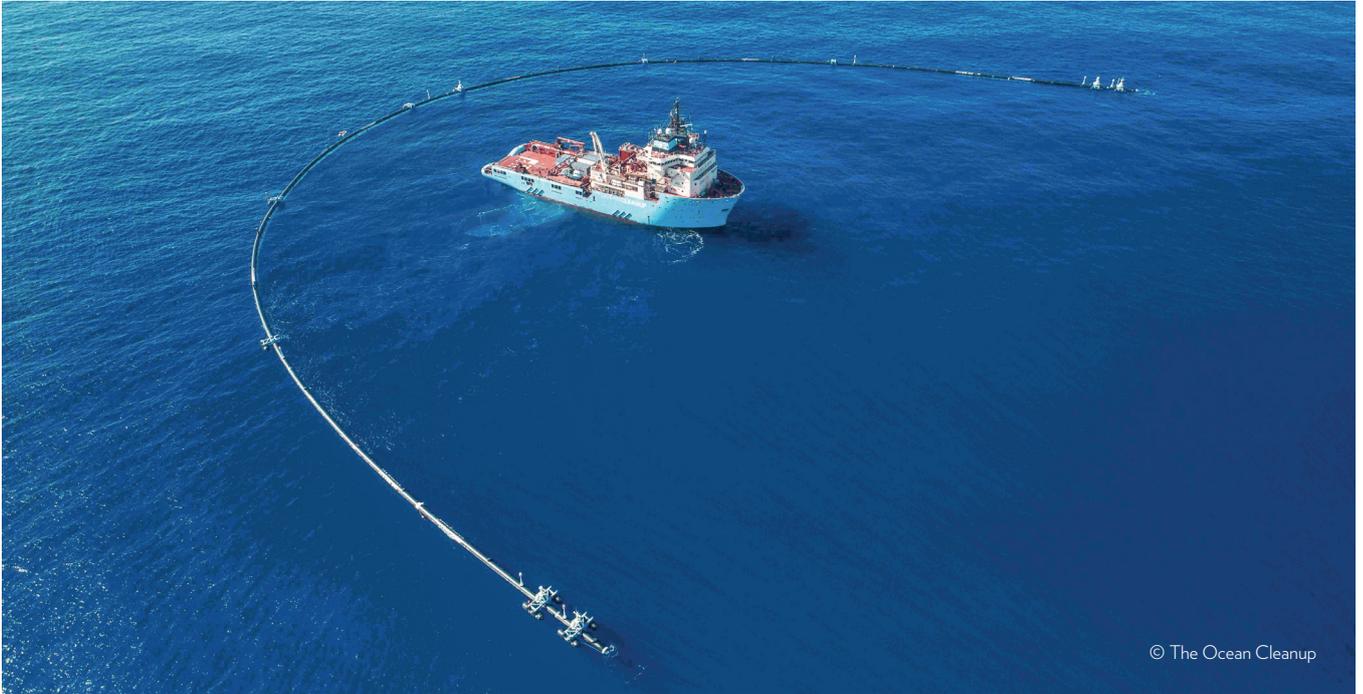
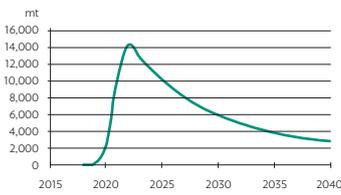


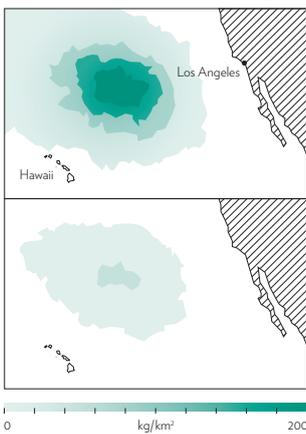
THE OCEAN CLEANUP VALORISATION



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Expected annual mass of plastic salvaged from the Great Pacific Garbage Patch (137kt total, avg 7kt/yr over 22 years)



2030 without cleanup (above)
2030 with cleanup (below)

Research on plastic recycling

The Ocean Cleanup develops advanced technologies to rid the world's oceans of plastic. The organisation aims to make its clean-up efforts largely self-sustaining by 'valorising' the collected waste materials. Ocean plastic waste differs from the plastics that are currently recycled. Research on recycling of ocean plastic and its possible uses is essential to the design of processes that can transform recovered ocean debris into valuable, durable products.

At present, recycled materials have a low perceived value. In the plastics industry, the price of recycled materials is typically only 50–80% of the price of 'virgin' materials. In consumer products, too, recycled materials often have a low perceived value. To counter this, we aim to strengthen the brand identity of The Ocean Cleanup, building on the ethical and emotional value of its mission and the specialty material it produces. Combined with expertise in the technical potential of

various recycling processes, we believe this will enable us to increase the perceived value and use of recovered ocean plastic waste.

Several business models are currently being explored (e.g. licensing or own products). To improve understanding of the perceived value of recycled materials, we will be conducting comprehensive market research and brand development activities.

We aim to produce high-quality recycled materials that fetch premium prices. This can enable virtuous cycles in which recycled materials make perfect 'business sense' and are rewarded in terms of (corporate) sustainability and consumer preferences. We are developing a mechanical recycling process for certain types of ocean plastic (e.g. rigid plastic, fishnets, and ropes) and a thermal recycling process for others. Our recycling operations will begin in early 2019 with the arrival of the first batch of recovered ocean plastic.



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We will certify to industry stakeholders and consumers that our material is collected from the Great Pacific Garbage Patch (and eventually other garbage patches), ensuring the transparency of our entire supply chain. We have begun developing our own system to certify the origin of materials as well as a comprehensive Quality Management System of the material itself and its further processing. To ensure the usability of our materials, we have launched a material development project to improve the properties of mechanically recycled granulates.

Circular and self-funded

Finally, we want to ensure that our recycled materials do not end up as ocean waste again. We aim to develop a lifecycle tracking system for our materials and products, striving for a fully circular system over the long term.

Still, there are several challenges to mechanical recycling of ocean plastic, related to additives, potentially accumulated toxins, and the degradation of materials in ocean water. Thus, we have begun researching solvent-based recycling to acquire near-virgin quality material from ocean plastic waste. Solvent-based recycling technology is not yet available at industrial scale, but opportunities may open up as we strive for durable high-quality products.

The development of products in The Ocean Cleanup valorisation programme goes together with our branding activities. We want our goods to provide a springboard for reaching more people, raising awareness of ocean plastic pollution and funding our efforts to solve the problem through product sales. The goal is for the products to

generate at least enough profit to fund our ocean operations. We seek to produce high-quality durable consumer goods for environmentally aware consumers and those who want to support our mission.

Facts & figures

- Oceans are the world's largest source of protein.
- Without action, there will be more plastic in the ocean than fish by 2050.¹
- 8 million tons of plastic enter the ocean every year.
- Trash accumulates in five ocean garbage patches, the largest of which is the North Pacific or Great Pacific Garbage Patch, located between Hawaii and California.
- Over 1.8 trillion pieces of plastic float in the Great Pacific Garbage Patch, equalling 250 pieces of debris for every person in the world.
- 6,300 million metric tons of plastic waste have been generated to date: 9% was recycled, 12% was incinerated, and 79% has accumulated in landfills and the natural environment.²
- Discarded fishing nets, or 'ghost nets', can float around the deep ocean for decades.
- More than 100,000 mammals and 1 million seabirds die each year because of marine plastics; harms of marine debris have been reported for 663 marine wildlife species. Over half of these reports document entanglement in and ingestion of marine debris. Over 80% of the impacts were associated with plastic debris.
- The Ocean Cleanup was founded in 2013 by then 18-year-old Boyan Slat.

For more information about The Ocean Cleanup, please visit: www.theoceancleanup.com

“For society to progress, we should not only move forward but also clean up after ourselves.”

Boyan Slat, CEO and Founder

¹The Ellen Mc Arthur Foundation ²Science Advances