Solving Plastic Pollution Will Come from Entrepreneurs and Innovation
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Every year, an additional 8 million tons of plastic waste ends up in the ocean, with 90% coming from just ten rivers, eight in Asia and two in Africa. Preventing and cleaning up ocean plastic pollution may be one of the most daunting challenges of the 21st century, but entrepreneurs are responding. Private companies, recognizing the potential financial benefits from collecting ocean plastic and recycling it, have spurred exciting new innovations and recycling methods that may help alleviate plastic pollution.

Possibly the most well-known ocean plastic cleanup effort is a Holland-based company simply named “The Ocean Cleanup.” Founded in 2013, The Ocean Cleanup collects ocean plastic to be

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transported back to land and recycled. By creating an artificial coastline with a 600-meter long U-shaped floater with a 3-meter deep skirt underneath, floating plastic will be drawn inside the U without harming marine life below. The company aims to remove 90% of total ocean plastic by 2040.

Another company, the Plastic Bank, aims to prevent plastic from reaching the oceans altogether. Plastic Bank mobilizes people from affected countries -- currently, Haiti, the Philippines, and Indonesia -- to collect plastic from beaches, rivers, or other areas in exchange for money, goods, or Blockchain secured cryptocurrency. The collected plastic is then sold to clients and recycled. This approach not only works to prevent plastic from entering the oceans in the first place but creates positive incentives for locals to clean up plastic in affected areas.

Environmental entrepreneurs are not only figuring out how to collect plastic, but also how to repurpose and recycle collected plastic into useful products. Companies like 4Ocean and Norton Point take plastic collected from the ocean and recycle it into bracelets, sunglasses, swimwear, and other clothes. Sporting giant Adidas partnered with Parley for the Oceans to produce a line of athletic-wear made from upcycled plastic waste from beaches and coastal communities.

Other entrepreneurs are working to develop procedures for converting plastic waste into fuel. Using a process called “pyrolysis”, plastic waste is shredded to smaller sizes to increase its surface area and exposed to intense heat in an oxygen-free environment. The resulting outcome is a crude liquid fuel that can be further distilled to a quality transport fuel like gasoline or diesel, a gaseous product made up of light organics that can be recirculated back into the industrial process to produce the required heat, and a solid product that can be utilized for different

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purposes.\textsuperscript{9} Some of these operational facilities in the United States include Agilyx, Golden Renewable Energy, and Renewlogy.\textsuperscript{10} Renewlogy, a Salt Lake City-based company, has expanded its abilities beyond recycling and has collaborated with the Alliance to End Plastic Waste to create a “biofence” technology similar to that of The Ocean Cleanup to collect plastic waste flowing in rivers and tributaries.\textsuperscript{11} The operation is set to begin operations in the Ganges river in India in 2019.\textsuperscript{12}

Private entrepreneurs are experimenting with innovative and exciting ideas to alleviate plastic pollution problems, but it is not a problem that will be solved overnight. The Ocean Cleanup is continuing to test its trash collecting system as preliminary runs have exposed technological inadequacies, and the Plastic Bank is only currently operating in 3 countries.\textsuperscript{13} But the range of proposed solutions and other private, innovative, entrepreneurial ventures suggest there is a lot of room for more entrepreneurs to participate in alleviating plastic. We believe that private entrepreneurship has a huge role to play in ocean plastic cleanup and prevention.