

To Tackle the Plastic Waste Crisis in Pharma, Here's

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By Sam White

Opinion Article



By demonstrating big advancements in recycling, pharma companies will be much more likely to attract shareholders and other investors, giving themselves a leg up in the competition to lead the biopharmaceutical industry well into the future.

The biopharma sector is growing so rapidly that it's expected to reach \$566 billion by 2032—about double what it was last year.¹ This growth is promising in its potential to save and improve lives. But it also introduces a huge environmental challenge. The pharma industry is responsible for massive amounts of carbon emissions.



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Some of the biggest concerns involve plastics. A figure cited by Deloitte found that “the biopharma industry generates 300 million tons of plastic waste annually.”² Much of that plastic is single use.

Jacqueline Hollands, global manager of recycling and innovation for MilliporeSigma, discussed this in a *PharmExec* column. “The ideal destination for plastic waste is not incinerators or landfills, but a return to supply chains,” she wrote. “However, the plastics discarded in biomanufacturing are uniquely difficult to recycle.”³

There's also another problem: Many people inside labs don't realize how little plastic gets recycled. Some see a familiar triangle on a piece of plastic and include it in their standard recycling bins, hoping for the best. But as the norm, those pieces are discarded at recycling sites. Traditional single-stream waste haulers are very careful not to include waste from a lab out of an abundance of legal caution involving potential biohazards.

I know well where climate-tech can have the biggest impact. More than a decade ago, I founded Greentown Labs, which became the largest climate tech incubator in North America. Throughout those years, I saw numerous entrepreneurs with great ideas launch all sorts of startups aimed at improving the environment. I also saw where some of the most daunting problems lie. That experience ultimately led me to join GreenLabs Recycling. My team and I focus on recycling plastic from labs in the Boston area.

Fortunately, there's a groundswell of interest in recycling in the pharma community. One of the most important steps to take is to determine what the biggest sources of



plastic waste are in the sector. That's why an audit that MIT conducted of its own labs was so significant. The school has extensive lab facilities and works with numerous industries. MIT's Environment, Health, and Safety (EHS) Office found that, "Approximately 80 percent of the clean plastic waste generated was empty pipette tip boxes and conical tube racks."⁴

It was a powerful sign. Those boxes add up quickly. "We probably throw away hundreds of tip boxes every week," says Leni Jacob, senior scientist at Blueprint Medicines. Her company now works with mine to recycle those boxes, as well as conical tube racks and more. "In 2023, we recycled 1,671 pounds of plastic from our Cambridge lab facility," Blueprint said in a sustainability report.⁵ MIT recycles more and more with us each year as well, as do numerous other organizations.

We also wanted to take our sustainability efforts even further by bringing this plastic back into the supply chain and manufacturing something locally with all that raw material. So we created a circular system with our customers. We use the plastic from each lab to create a product that the same company can use in its labs.

Using the pipette tip boxes, we have been producing recycled waste benchtop transfer bins. Importantly, these bins are made of 100% recycled materials with no dye or coloring, so each scientist gets their unique color with each delivery. Given reports that a very low percentage of recyclable plastics actually get recycled, scientists are grateful to see tangible evidence that theirs is.

In addition, we focus on doing hyperlocal business. Our clients are within 60 miles of our manufacturing site and recycling facility, all in the greater Boston area. This helps



avoid adding emissions through big trucks traveling long distances. We would like to see a growing ecosystem of complementary local operations sprout up. These kinds of businesses build jobs and strengthen local economies, while helping to clean up the environment. So even as we expand our business to fill gaps in recycling around the country, we're creating local partnerships to keep recycling processes nearby the labs.

There's also a big incentive for pharma companies to jump on the bandwagon. Increasingly, investors are looking for companies across the healthcare sector to be more sustainable. By demonstrating big advancements in recycling, pharma companies will be much more likely to attract shareholders and other investors, giving themselves a leg up in the competition to lead the biopharmaceutical industry well into the future.

Sam White, CEO, GreenLabs Recycling

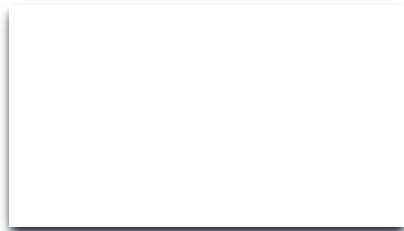
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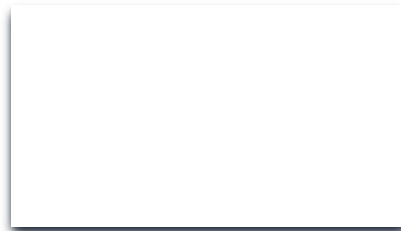


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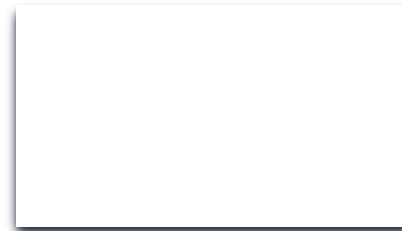
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