

# Building A More Sustainable Future For Pharma



Across industries and regions, companies are under significant pressure to make their operations more environmentally sustainable. Change is required to avoid crisis, with society already facing the alarming repercussions of increased global warming.

“Global climate change is appropriately in the news every day, and the pharmaceutical industry has certainly played its role in creating negative environmental impacts,” states David Maier, Vice President and General Manager, Global Generics Market Unit at West Pharmaceutical Services, a leading supplier of packaging and services for injectable medicines. Studies have reaffirmed this stance, highlighting pharmaceuticals as a significant contributor to global warming.<sup>1</sup>

As pharma companies look to adopt greener, more sustainable processes, old ways of working need to be changed. This reality also presents opportunities to innovate and optimize existing practices in ways that will have lasting impact.

## Balance Needed To Achieve Sustainable Generics

There are many environmental, economic, and social factors that must be considered for generics companies and their suppliers to make their operations more sustainable. “Generics are known for their cost-effectiveness. Balancing sustainability initiatives with financial constraints can be difficult, as changing practices often require upfront investments that may not yield immediate returns,” notes Maier. Regulatory compliance is also key, and further spending is often needed to ensure that eco-friendly processes and technologies adhere to these requirements.

Additionally, it is not enough to change just one part of the generics manufacturing process. The industry relies heavily on a global supply chain for raw materials and active pharmaceutical ingredients (APIs). If one part of this fails to meet sustainability criteria – for example, the responsible sourcing of materials and ethical labor practices – it can mitigate the positive steps taken in other areas.

These challenges require industry to come together. Maier asserts that collaboration between vendors and customers is critical to improve sustainability and address emissions, energy and water usage, and waste reduction.

“To that end, West takes a concerted, cooperative approach with our customers and other stakeholders, working together to help each of us efficiently achieve our environmental, social, and corporate governance (ESG) targets for mutual benefits,” he states.

Means of doing this include investigating shared power purchase agreements, researching more sustainable materials, exploring shipping methods and studying beneficial reuses of products.

## Performance Meets Sustainability In Packaging

One area of challenge for meeting ESG goals is packaging. In particular, the glass vials utilized for single-use, sterile, injectable medicines have historically resulted in significant waste. “It’s been estimated that pharma and generics companies use around 150,000 tons of Type 1 glass annually to make vials. Due to complex regulations, most of this glass is then discarded as medical waste, ending up in landfills across the world,” says Maier.

While there is a clear need to make sustainable decisions about product design, eliminating single-use glass vials is not viable, due to sterility and patient safety requirements for generic products. However, industry is continually innovating to create greener alternatives. In order to provide their customers with

optimal design solutions, West Pharmaceutical Services has partnered with Corning Incorporated® to become the exclusive distributor of Viridian™ Vials. “Corning® Viridian™ Vials are fundamentally a Type 1 borosilicate vial, but they’re better. These vials provide both operational and environmental improvements over existing products on the market,” notes Maier.

The sustainable design of Corning® Viridian™ Vials reduces glass waste-to-landfill by 20%, and manufacturing CO<sub>2</sub>e emissions by up to 30%.<sup>2</sup> However, their benefits are not limited to being environmentally friendly. The low coefficient of friction drives higher fill-finish speeds and throughput, which can increase manufacturing efficiency by up to 50% for improved output and value.<sup>3</sup> Additionally, their coating reduces the likelihood of cracks and damage, preserving product integrity during transportation and delivery, which is key for patient safety. Their conformity to ISO standard external dimensions also means they can be dropped into existing operations, without the need for significant changes or reporting to regulatory authorities.

Creating operational efficiency and safeguarding product quality is critical to the longevity of sustainable practices. If changes result in increased expenditure and reduced results, pharma companies will not embed them into their operations. This is particularly the case for generics firms that are already stretching the feasibility of their operations.

“We must explore new processes and methods without diminishing the quality and efficacy of the products we make, and that our customers and their patients rely on,” states Maier. Thankfully, expenses can be decreased by reducing energy and water usage, providing incentives that, in turn, meet ESG targets. Furthermore, reduction of operational waste and secondary packaging, and finding beneficial reuse for products, can also be cost-positive and create efficiencies.

## Focusing On A Responsible Future

In order to keep on track, most companies now have clear sustainability plans or policies which govern their operations, and West is no different. “As we celebrate our 100-year anniversary, we realize that we must continue to evolve our ESG strategy and be ambitious, innovative leaders in this area. Our sustainability program has been designed to target reductions in the areas where we can have the greatest impact,” says Maier. “Our 2030 targets are expected to include achieving 50% renewable electricity; continuously improving energy-efficiency by 3% year-on-year; reducing absolute emissions by 40%; achieving a 15% water-intensity reduction; and eliminating up to 100% of operational waste to landfill.”

West also recognizes its responsibility to collaborate with customers and lead them towards more sustainable product and process choices. “Beyond what West is doing for our own operations, we are working closely with our customers to help them achieve their environmental goals. For example, we partner with them to reduce, reuse, and recycle secondary packaging, and work together to explore sustainability improvements throughout the product life cycle and supply chain,” notes Maier.

**“Corning® Viridian™ Vials are fundamentally a Type 1 borosilicate vial, but they’re better. These vials provide both operational and environmental improvements over existing products on the market.”**

David Maier, West Pharmaceutical Services

True sustainability goes beyond just environmental considerations, which West has acknowledged in its wider ESG priorities. These include:

- Climate
- Reductions in Operational Waste
- R&D for the Environment
- Responsible Supply Chains
- Talent Attraction and Retention/Engagement

The latter are critical in bringing expertise to customers and ensuring all decisions are made with sustainability in mind.

By taking such a comprehensive approach, Maier believes West will make a real impact. However, their work is by no means done in this area. “We will continue to monitor ever-developing global sustainability standards and regulations to ensure we are aligned with leading organizations and following best practices in setting science-based targets. This will enable West to provide a better world for further generations and look forward to our next 100 years in business.”

*Corning® and Viridian™ are trademarks of Corning Incorporated.*

*West Pharmaceutical Services, Inc. is the exclusive distributor of Corning® Viridian™ Vials.*

## REFERENCES

1. Lotfi Belkhir and Ahmed Elmeligi, *Carbon footprint of the global pharmaceutical industry and relative impact of its major players* (2019) <https://www.sciencedirect.com/science/article/abs/pii/S0959652618336084?via%3Dihub>
2. Results based on 3<sup>rd</sup> party Life Cycle Assessment of Corning Pharmaceutical Technologies conducted by Sphera Solutions Inc
3. Dombrowski, et. al., *Full Throttle For Vaccine Filling*, Corning, Optima, ThermoFisher (2021)