THE ROLE OF **CDMOS** IN CREATING *A MORE SUSTAINABLE* PHARMACEUTICAL SUPPLY CHAIN

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If the global community is to limit, or reduce global warming, phase out fossil fuels and create a sustainable future, it will take commitment, collaboration, and innovation. There needs to be a major change in mindset and ways of working, especially in traditionally competitive markets, such as pharmaceutical manufacturing.

As regulations, guidelines and trends develop at a considerable pace, those life science organisations who survive into the future will need to be ahead of the curve. In this context, investing in environmental social governance (ESG), is a necessity. Working together with sustainability assessors, ESG-focused technology providers or supply chain advisors, as well as logistics and packaging companies and their customers, CDMOs have a key role to play in making pharma logistics and supply chain management more sustainable.

SHARED RESPONSIBILITY

Most of the big pharmaceutical manufacturers have committed to reducing CO2 emissions, lowering their generation of waste and consumption of water and energy. According to CPHI's 2023 annual survey, 60% of executives forecast that innovators will require CDMOs to implement sustainability metrics as a part of contracts within the next two years. 93% of executives stated that "visibility on supply chain partners' sustainability record' is either 'extremely important' or 'important".

While many of the larger pharmaceutical companies will ask CDMOs to find the most sustainable options, smaller companies and start-ups might not have that goal at the forefront of their minds. It is the responsibility of the CDMO to offer advice and guidance on how to achieve their goals in the most sustainable way possible.

REDUCING COMPLEXITY IN THE SUPPLY CHAIN

More than 70% of the emissions produced by life sciences and health care companies originate in their supply chains, with logistics being a significant contributor. But balancing the need to ensure the quality, safety, and regulatory compliance of treatments, with the complexities of how they need to be transported, such as with temperature control, can be a challenge.

LOGISTICS WITH ECONOMIC CREDENTIALS

Rachel Griffiths comments: "At PCI Pharma Services, the clinical team is tasked with transporting products manufactured in one part of the world to clinical trial sites elsewhere, with little or no control over selecting those locations. So, all the options available must be considered, alongside our logistics partners, in optimising the shipments and reducing airmiles.

For instance, there are occasions when a product that is made in Europe is requested to be shipped to the US for packaging and sent back to Europe for distribution. We strive to avoid this by, for example, packaging in the local region where possible to reduce our carbon footprint."

LOGISTICS: FROM SINGLE-USE TO REUSABLE SHIPPERS

Shippers are often temperature controlled, requiring them to be broken down and components separated before they can be

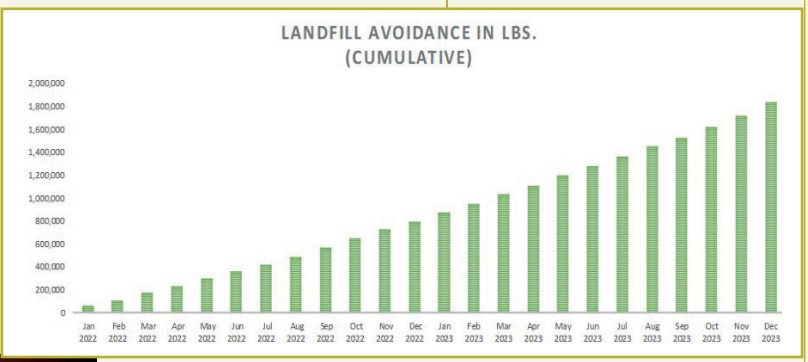
PACKAGING

As well as switching to reusable shippers, efficiencies can be gained by designing more streamlined and/or recyclable packaging and minimising the amount of empty space in the shippers.

COLD CHAIN LOGISTICS

As more cell and gene-based therapies are being developed, tested, and commercialised, their requirement for ultra cold chain logistics and the complexity of their manufacture – which makes tech transfer to other locations difficult – means that more innovation will be needed, if the vast potential of these treatments for patients is to be realised, sustainably.

For example, innovation in renewable energy for transportation and refrigeration is going to play a key role in the coming years in enabling the pharma industry to reduce its carbon footprint. Dry ice – a solid form of CO^2 – is currently essential for shipping materials below -25°C and finding a more sustainable alternative is a major challenge for the industry to overcome.



PCI Pharma Services Landfill Avoidance Summary 2022-23

recycled. This process often results in high rates of waste and energy consumption. A move to reusable shippers is one way in which CDMOs such as PCI Pharma Services are reducing their environmental impact.

REDUCING LANDFILL

For example, in the last two years, by using reusable shippers developed by Cold Chain Technologies, PCI's clinical segment sites prevented nearly two million lbs of waste from ending up in landfill.

For every 100 EcoFlex™ shippers being shipped compared with 100 similar sized single use shippers, it saves: 16 trees, 434 litres of oil, 390,423 litres of water and 990 lbs of waste avoidance – hence a major reduction in landfill.

ESG TAKES CENTRE STAGE

It is not just because pharma innovators are demanding better sustainability from their partners that innovation and change are apace in the pharma supply chain. CDMOs have a key role to play in driving forward sustainability best practices within the complex ecosystem of suppliers and stakeholders that are involved in getting drugs to patients. But it's not just about talking the talk; life science organisations have to also walk the walk.

Assessing and establishing baselines and benchmarks with the help of organisations such as EcoVadis can be a huge undertaking for CDMOs, but are a critical step towards making measurable change, as well as providing third party analysis for procurement departments. Working with the Science-Based Targets Initiative to set targets in line with the Paris Agreement goals is a reputable approach to track near-term and long-term sustainability performance.

Talking about PCI Pharma Services' ESG activities, Gigi Bat-Erdene explains: "While implementing impactful measures already, such as rolling out the reusable shippers, initiating a sustainable procurement programme, switching to recyclable packaging and renewable energy where possible, at PCI Pharma Services, we are also finalising a comprehensive ESG strategy, the goal of which is for the organisation to become net zero by 2045.

Three years ago, we surveyed our investors, customers, employees, and local communities and asked them what mattered most to them. From this insight and with the changing guidelines, regulations and trends in mind, we established nine impact targets: carbon footprint; energy efficiency; waste management; water conservation; labour and human rights; health and safety; diversity, equity, and inclusion; community impact and sustainable procurement.

Our first ESG report will be published in 2024, outlining our baselines and clear targets and how we plan to achieve them. We now have 60 representatives across regions focused on ESG and C-level involvement in the ESG steering committee. ESG is embedded throughout the organisation, from the bottom up. We are committed to sharing our ideas, progress, and successes, with the goal of helping to make our industry more sustainable, for good."

CDMOS OF TOMORROW

As most of the larger pharma companies have their own Scope 3 net zero targets, they are placing greater emphasis on the ESG credentials and commitments of their suppliers and collaborators. In turn, CDMOs need to collaborate with their suppliers and work together to standardise on data gathering and reporting, as well as leveraging modern technologies.

Cooperating like never before, with, for example, power purchase agreements, sharing innovation and best practice will become the norm. The role of CDMOs in this critical journey of transformation should not be underestimated as gatekeepers of the supply chain.

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