

CIRCULAR TRANSITION INDICATORS

CASE STUDIES



Organization Name:
Hovione

Industry:
Chemical/Pharmaceutical

Number of employees:
2,006

Annual revenue:
USD \$ 366.5 million

Website:
<https://www.hovione.com/>

Key challenges

The study focused on the circularity analysis of the production process of a pharmaceutical substance manufactured in two factories in different geographies (Portugal and Ireland). During the analysis, several challenges emerged associated with boundaries definition and data collection. Hovione produces active pharmaceutical ingredients by chemical synthesis, characterized by discontinuous processes, with high turnover and a multiplicity of materials and operations. This implies a complex and high level of detail when mapping the process.

The definition of the system boundaries and data from multiple operational units was a lengthy process. This revealed the need to streamline the collection of required data for circularity metrics. Focusing on securing data availability and more agile collection will ensure we can apply CTI to multi-products and multipurpose manufacturing processes.

Solutions

Data availability represented our biggest challenge. An expeditious approach was chosen to complement material and energy data from theoretical process data of the chemical synthesis, supported by manufacturing data. We established dedicated multidisciplinary discussion forums to increase company-wide awareness on the circular economy and the challenges of reconciling improvements in environmental performance with the strict requirements of the pharmaceutical sector. The simultaneous implementation of the CTI assessment for the same production process at the two Hovione sites, Portugal and Ireland, allowed for internal sharing of best practices associated with data collection and monitoring of consumptions.

Results

The final result reflects the impact of the circularity criteria applied to pharmaceutical processes: use of virgin raw materials with a high degree of purity (pharma grade), single-use materials related to packaging and high-water consumption for process support operations, such as utilities production. These factors translate to great potential of circularity that is unexplored, which is transversal to both installations.

The action plan developed to increase the circularity of materials in the production process will focus on improving the value of outflows, increasing the circularity of support water in the process and standardizing practices between sites.



Engaging in the Circular Economy is key to Hovione's Sustainability Strategy. Optimizing the circular and sustainable use of resources will minimize our impact on the environment and will contribute to climate mitigation and to the bottom line.



Austin Geraghty,
Global Health, Safety & Sustainability Senior Director, Hovione

Why are circular metrics interesting to your company?

Hovione stands out as an innovative company and a contributor to technological evolution and development, both in terms of pharmaceutical products' manufacturing and its environmental strategy. The concern for environmental impacts is in the company's DNA, ranking high on the factors considered in value chain management.

Monitoring and mapping of production processes is an essential step to ensure compliance with the strategic priorities in sustainability. Circular metrics are a tool that will allow our company to achieve its goals and define strategies for the future.