



Case Study

Refrigerant Gas Loss Reduction

Refrigerant gas losses contributed 21% of all Scope 1 emissions (1,476 tonnes) in the 2021 financial year, with the Londrina site in Brazil accounting for 86% of this total. The Londrina site uses equipment containing refrigerant gases to control the temperature of the working environment and for process cooling applications in vaccine production.

Since the 2021 financial year, the site has implemented a loss reduction programme consisting of improved maintenance of all cooling equipment, including the lyophilisation (freeze drying) plant which uses the refrigerant gas R404A to achieve the correct process temperatures to desiccate the vaccines. Through improved equipment management, the site has reduced refrigerant gas losses from the freeze-drying process by 93% to 16.6 kg, saving 237.8kg R404A over the two year period. This is equivalent to a CO₂e saving of 932.6 tonnes, or 15.7% of Dechra's total Scope 1 emissions globally in the 2023 financial year.

The Londrina site has made further improvements by switching one of the refrigerant gases (R-404A), which has a gross warming potential (GWP) of 3922 per kg, to the less damaging R-452A, which has a GWP of 2141per kg. Switching to R-452A led to a 54% reduction in direct emissions from the site. Additionally, the site reduced the refrigerant charge in the equipment by 7%, decreasing from 23 kilograms to 21.4 kilograms, and the adjustments and load balancing led to a 13% reduction in energy consumption. The Londrina maintenance team are preparing a further two circuits of the freeze dryer to undergo the same operational reconfiguration.

Globally, through improved equipment maintenance and reporting of refrigerant gas losses, Dechra has globally reduced total refrigerant gas losses by 51.5% from 110.06 kg in 2023 financial year to 53.37 kg in 2024 financial year. This is equivalent to a reduction of 95.64 tonnes of CO₂e or 1.6% of the total CO₂ Scope 1 emissions.

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Water Stress

Water plays a crucial role in our pharmaceutical operations, as it is extensively used in the manufacturing process of our medicines. Although the overall water usage in our industry is relatively low compared to other sectors, the quality of water we employ is of utmost importance to our business. We utilise highly purified water in production of medicines, and also to clean and prepare equipment between batches/processes within our production facilities. Moreover, in specific locations, water is also utilised for cooling purposes. Additionally, smaller volumes of this good quality water are subjected to further purification to ensure its suitability for use in medical and hygiene products.

Water use is a key environmental measure within Manufacturing and the sites aim to use water responsibly so that usage does not negatively affect the communities where they operate by diminishing the supplies of clean water or degrading the quality of that water. Dechra has a target to maintain our water usage levels below a 2021 baseline and despite an expected growth in manufacturing, this target has been met for the third consecutive year.

During the 2023 financial, following an informal survey in the 2022 financial year, we undertook a more detailed review using WWF Risk Filter Suite, an online tool designed to assess water related risks and evaluates risks like physical, regulatory, and reputational ones tied to water resources. In order to assess the water stress a Water Risk Assessment was initiated this is a systematic evaluation of the potential risks related to water availability, quality, and usage associated with the facilities. This aims to identify and understand the water related challenges that the sites might face and help develop strategies to manage and mitigate risk. As part of this work, we have identified four sites (Pomona, Fort Worth, Bladel and Somersby) in water stress areas and we are conducting detailed water efficiency assessments at all sites and implemented water efficiency projects such as rain water harvesting, upgrading equipment and infrastructure to reduce water requirements.