



# Lifecycle Chiller Replacement - North Middlesex University

## The Challenge

The chillers serving the PFI were over 12 years old with high ongoing maintenance costs. The units consumed more energy than available newer design units. Whilst it is recommended that the Chillers be replaced every 14 to 20 years, we decided to draw down lifecycle funds early to replace the units.

This avoided an equivalent of 2,229kg of CO<sub>2</sub>.

The addition of the 'top hats' to the new chillers allowed improved airflow around the units. At higher external temperatures, the energy savings are circa 72%.

- 99.9% of the old chillers recycled (9,600kg)
- 72% energy savings measured in peak summer load
- 2,229kg equivalent CO<sub>2</sub> avoided

## Our Solution

Following a thorough study of the cost and energy savings, our team at North Middlesex University Hospital designed the chiller replacement (2No). An early lifecycle drawdown was agreed upon.

## Project Overview

A design and specification to replace the chiller were commissioned and proposed to the client's financial and energy savings estimations. Following various meetings with the client and suppliers, a preferred bidder was identified, and a project plan was implemented.

The replacement works were well planned and well executed with no disruption to the day-to-day operation of an extremely busy hospital.

The old units were taken away by our supply chain partners LH PLC, where nearly 100% (the metal, the working fans, the controls, the cabling, the refrigerant, the oil, etc) were recycled or reused. Only the insulation has yet to find a recyclable solution.

## Client Benefits

Despite a 27% increase in Cooling Degree Days since 2019, the new chillers consumed less energy. Degree days are a tool that can be used in the assessment and analysis of weather-related energy consumption in buildings.



"This project was particularly challenging with the location of the lifting site being in the Ambulance bays and Entrance to the Children's A&E. Through good communication and stakeholder management we navigated all hurdles including keeping the hospital sufficiently cooled throughout the project duration. I am delighted with the chillers which have made an instant impact on the hospital. Not only are we saving money through energy reduction but the climate within the hospital during peak temperatures has improved leading to a more comfortable environment for staff and visitors alike."

- **Robert Dashwood - General Manager**

For further information please contact  
[energyfocusedfm.uk@equans.com](mailto:energyfocusedfm.uk@equans.com)