

# Optimising HVAC Efficiency Through Set-Backs

## Balancing Energy Usage and Compliance



- GMP air handling units (AHUs) maintain critical conditions in Pharmaron's processing areas, ensuring safe and compliant conditions for drug production.
- However, HVAC units often account for over half the energy usage of a clean room! We assessed how to maintain GMP compliance while actively reducing our environmental footprint for Grade C and D rooms.

## Inactive Rooms Set-Back



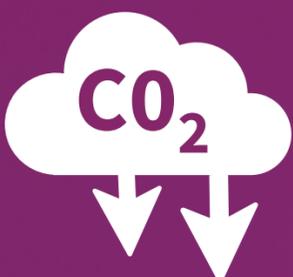
- Initially, our HVACs ran at a constant rate irrespective of activity, but with the Energy and Carbon team the running speed of 6 AHU were set-back when not in use to reduce energy consumption whilst still maintaining compliance.
- In set-back mode systems run at approximately 70% of normal running speed. Rooms return to full operational status within just 15 minutes. The system runs at 100% during batches with set-backs when the room is inactive.

## Considerations During Implementation



- No operational work takes place during set-back, and room pressures and cascade / sink pressure differentials are maintained without backflow during transition.
- Our approach ensures that room pressures and cleanliness are maintained during reduced airflow periods.

## Environmental and Financial Savings



- This initiative has delivered great results, saving over £30K\* in energy costs annually and preventing 18 tonnes of CO<sub>2</sub> emissions each year.
- These savings directly support Pharmaron's Net-Zero commitment and reflect our values in innovation and compliance.