

IDENTIFYING HVAC ENERGY REDUCTION STRATEGIES FOR AN ORAL SOLID DOSE PHARMACEUTICAL MANUFACTURING FACILITY

CLIENT | LOCATION

Global top 10 pharmaceutical company, China

SECTOR

Pharmaceutical manufacturing

PROJECT BRIEF

Identify HVAC energy reduction strategies throughout manufacturing spaces and laboratories at a single key manufacturing site, quantify potential cost savings and advise site team on approach and implementation.

METHODOLOGY

Data was requested from the client site on the energy consumption, HVAC system design, operation and critical product quality requirements.

Eeco2 analysed this data to determine the likely opportunities for efficiency improvements in each process area. During the site survey, potential opportunities were assessed on 80% of the HVAC systems.

These were evaluated and discussed with key

stakeholders, to determine a viable site plan to implement the improvements identified.

SOLUTION

Eeco2 identified a number of strategies with significant cumulative energy savings, including:

- Switch off fume cupboards out of hours, with appropriate controls in place.
- Switch off or reduce air change rates of HVAC units in areas not currently used for production.
- Install bypass to dehumidifiers in liquids area and raise humidity setpoint within compliance limits.
- Improve door sealing and fabric to reduce air leakage.
- Rebalance air distribution systems to minimise extract whilst providing sufficient outside air for dust extractor and leakage to maintain pressurisation.

We also recommended a practical implementation plan which would ensure that changes can be made safely and efficiently whilst maintaining quality and compliance.

The plan was agreed in principle with all stakeholders, including Quality Assurance and Validation groups.

Much of the implementation can be delivered by the

local site team, supplemented by Eeco2 technical and project management expertise.

RESULTS



4,564,000 kWh (14% site energy reduction)
Energy savings identified (per year)

\$377,000 USD
Energy cost savings identified (per year)

2,065 tonnes of CO₂
Emissions reduction (per year)

The savings identified have an estimated overall payback period of less than 2 years.

A further \$150,000 of annual savings are likely on the remaining HVAC systems not assessed.

“ You always open our eyes to the savings opportunities that exist and how to go about implementing them. Thanks.

Client Senior Manager

FOR FURTHER INFO

T: +44 (0) 1625 660 717 E: info@eeco2.com