

# IDENTIFYING HVAC ENERGY REDUCTION STRATEGIES AT A PHARMACEUTICAL MANUFACTURING FACILITY

## CLIENT | LOCATION

Global top 10 pharmaceutical company, China

## SECTOR

Pharmaceutical manufacturing

## PROJECT BRIEF

To identify HVAC energy reduction strategies throughout various key manufacturing and storage spaces at a single key manufacturing site and quantify potential cost savings.

## METHODOLOGY

Data was requested from the client site on the energy consumption, HVAC system design, operation and critical product quality requirements in key process (higher grade GMP) areas.

Eeco2 analysed this data to determine the likely opportunities for efficiency improvements. These were evaluated and discussed with key stakeholders, to determine a viable site plan to implement the improvements identified.

## SOLUTION

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

- Add VSD to extraction fans in several key areas to enable fresh air to be reduced
- Reduce air change rates
- Introduce temperature and relative humidity deadbands
- Introduce PID loop tuning
- Install control sensors and implement turn off strategy for finished goods warehouse.

Our recommendations included a practical plan for implementation including budgets and payback period.

This project assessed 43% of the site HVAC energy consumption, and therefore recommended a thorough, focussed review of non-classified areas, including secondary packaging, laboratories and other non-GMP areas which were not included in this initial scope.

## RESULTS



**6,788,000 kWh** (11% site energy reduction)

Energy savings identified (per year)

**\$350,000 USD**

Energy cost savings identified (per year)

**2,311 tonnes of CO<sub>2</sub>**

Emissions reduction (per year)

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

A further \$220,000 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

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