

# RECIRCULATION FEASIBILITY STUDY PROVIDING ENERGY REDUCTION OPPORTUNITIES AT API R&D FACILITY

## CLIENT | LOCATION

Global Pharmaceutical Manufacturer | UK

## SECTOR

Active Pharmaceutical Ingredient (API) R&D

## PROJECT BRIEF

Following identification of a potential project in the ESOS report, EECO<sub>2</sub> Ltd was appointed to carry out a detailed feasibility study, for the recirculation of air from the exhaust system back to the supply air handling unit (AHU) at this API R&D facility. The AHU was 100% fresh air and therefore a significant energy consumer for both electricity and steam. The area had potential solvent release, so the solution needed to have appropriate safety and control measures.

## METHODOLOGY

The scope of the detailed feasibility study was customised to suite the needs of the project, including; refined energy calculations, schematic design works coordinated with respect to a complicated plant area

## METHODOLOGY CONT.

and most importantly, open discussions with site engineering, safety and quality teams on proposed solutions. The outcome of the study identified a number of potential options to deliver reduced airflow (air change rate reduction) and partial recirculation linked to space sensors, allowing excess air during any emergency events.

## SOLUTION

The report concluded that with a structured, risk-based approach, energy savings of £80,000 per year can be delivered, with a payback less than 2 years. API facilities have great potential for improving safety monitoring while achieving more efficient HVAC operation following a systematic risk-based approach to project development.

- Air Change Rate Reduction
- Partial Recirculation
- Out of Hours Recirculation



## RESULTS



Energy savings identified (per year):

**964,000 kWh**

Energy cost savings identified (per year):

**£80,000**

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

## FOR FURTHER INFO

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