



Energy Reduction at Pfizer Grange Castle

How ICIS enabled Pfizer to reduce Energy and Emissions

The Facility

The €2 Billion Pfizer Grange Castle Facility in Ireland is one of the largest integrated biopharmaceutical campuses in the world, and is the only facility in Europe to manufacture biopharmaceuticals, pharmaceuticals and vaccines within the same facility. Consisting of multiple Manufacturing Suites, Bulk Drug Substance production along with Warehousing, QA/QC Laboratories and a complete Pilot Lab Facility, the Pfizer site is one of the largest energy consumers in the country and within the Pfizer organisation.

The Challenge

Pfizer GC required a sustainability solution that would enable them to identify, monitor and target the largest energy consumers at the facility, and engage in energy reduction projects to reduce their overall consumption and carbon emissions. Management were tasked with the challenge of reducing the Energy spend by **€1 Million** in the first year of the reduction program; which would also result in the saving of millions of tonnes of CO2. Due to the size and quantity of equipment within the Pfizer GC facility to be monitored, the cost of a traditional metered energy monitoring system was deemed unfeasible after a design study. Management needed an alternative to the traditional approach of energy management, and so turned to ICIS for support with our patented virtual metering sustainability software platform.

Pfizer GC had a corporate requirement to achieve the following:

- Identify significant Energy Users and Energy Flow at the facility
- Target low cost, short term energy projects to maximise savings
- Continuously monitor, review and track energy usage and savings made
- Reduce energy consumption by 15% over a 5 year period

The Solution

In order to achieve their goals, Pfizer GC engaged with ICIS in order to utilise our sustainability solution to provide the necessary information and analytical tools that would enable them to quickly and efficiently implement their energy reduction program. The ICIS platform, utilising existing data sources such as the Process Control System, BMS, Electrical and Historian System was implemented with zero downtime and with no new hardware installations.

With the unique ICIS technology, Pfizer could:

- Build complete energy maps for all WAGES from a building level right down to the process equipment
- Backfill energy data, removing the need to wait for a number of months for a new meter to collect it
- Grow the system modularly, allowing for the targeted analysis and review of specific energy users
- Gain quick wins on energy savings projects, as there is no delay in analysis like traditional metering systems
- Leverage existing infrastructure and data sources such as OSI-PI, Delta V, Schneider, Honeywell

By utilising our approach in leveraging existing meters and the ICIS virtual metering for equipment and energy flow, the ICIS solution was deployed over a number of weeks to the facility. ICIS quickly identified users, processes and operational activities that could be changed simply and efficiently to kick off the reduction program with some fast wins that allowed momentum to build for larger scale projects.

The Projects

Using the information provided by the ICIS platform, Pfizer GC could confidently engage in a number of energy reduction projects ranging from large scale capital expenditure ones to free system and work practice changes.

A small example of some of the projects implemented are:

- Waste Water Reduction: Saving over ~500m³/Day
- Cooling Tower Optimisation : Saving over ~€200K/Year
- Chiller Optimisation : Saving over ~€300K/Year
- Warehouse Lighting: Saving over ~€100K/Year

This sample list of projects gives an idea of the savings made possible by utilising the ICIS platform to present the facilities performance information and costs to management in justifying projects.

The Results

The results achieved by Pfizer GC show clearly the benefits of using the ICIS platform as opposed to a traditional metering solution.

- A reduction of over €500K in capital expenditure by using ICIS in comparison to alternative systems
- Zero plant downtime for the installation and configuration of the ICIS platform
- Identification of energy users and projects within weeks of the ICIS deployment
- A reduction of over €1 Million on their yearly energy spend post reduction projects
- ICIS identified inefficient processes, operational activities and equipment that was using excessive energy

The ICIS platform now provides Pfizer GC with a targeted analysis toolset that is easily expanded upon. Weekly energy usage reports and baseline information is generated that enables management to keep an active view on the facility which they now incorporate into their standard facility business meetings.

The Awards

In recognition of the ICIS solution, and the energy savings made with minimum cost and interruption to facilities business activities, Pfizer Corporate awarded the site:

- Wyeth TO&Ps Energy Monitoring Award 2009
- Pfizer European Energy Monitoring Best Practice Award 2010

The Future

Pfizer GC continue to utilise and expand the ICIS platform and are now on target to achieve over a 15% reduction in Energy usage and Carbon Emissions since their program started. The facility has now also targeted itself with achieving **ISO 50001** certification for energy management in 2012, with the ICIS platform acting as its driving force behind the monitoring and analysis required to achieve this goal.

About Us

ICIS have been providing sustainability software solutions since 2007 and are the market leaders in virtual metering technology. For further details visit www.icissoftware.com

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