

CHALLENGE

With soaring energy prices, it was important for Wexford Creamery to reduce water, electrical and thermal loads, and to decouple energy consumption from production. It needed to know exactly where and when energy was being used, and how much.

SOLUTION

Hanley Energy installed a Powersoft Energy Monitoring System; 32 meters were installed on the biggest energy consumers. The data is recorded every 15 minutes and relayed to data-collection and analysis software. This enables the Energy Team to have a clear view of energy consumption across the whole site, and thus to establish targets, track progress, and take immediate action when required, a crucial part of energy management.

RESULTS

Thanks to the combination of management commitment, the Hanley Energy monitoring solution and the engagement of employees in energy-saving initiatives, since 2007 Wexford Creamery has decoupled energy consumption from increased productivity. Milk and cheese production has increased by 10% and 22% respectively yet energy consumption has only risen by a moderate 7%.



Collaborative approach is key to Wexford Creamery energy reduction success

The Irish dairy industry is worth €3.4 billion to the economy and is one of Ireland's biggest employers. Wexford Creamery, operating since 1959, processes high-quality dairy produce for Irish and global markets, processing over 95 million litres of milk annually.

Wexford Creamery, located on a 10,000 m² site, is largely owned by local milk producers. It engages in sustainable innovation to ensure its success in Ireland's growing agri-food sector. This includes efforts to reduce energy consumption throughout operations.

The starting point for energy efficiency ...

Dairy processing is a resource-intensive operation. From an energy perspective, the key is to decouple energy consumption from production. Wexford Creamery operates three production plants: cheese, whey and liquid milk production, which is a 24/7 operation.

In 2007, as energy prices soared, the management team decided to reduce water, electrical and thermal loads. This decision kick-started the collaborative approach that is the foundation of any good energy management system. Management commitment is important, but it is equally important to have a balance of technical support and employee participation. In an early indication of management commitment to energy management, an Energy Team was appointed.

There are three essentials for energy-saving success: management commitment, technical expertise and employee management.

The initial challenge

A member of the Energy Team, Nicola Cooney, who is Services, Systems and Health and Safety Coordinator at Wexford Creamery, says:

"The challenge for us was that we did not understand where and when we used energy. We had an idea of what processes and equipment consumed the most energy but that was about it. We needed expert help and spoke to several service providers. We selected Hanley Energy as we were impressed with their in-depth knowledge and personal approach. They made it sound so easy!"

Wexford Creamery was Hanley Energy's first client, and it is a relationship that has flourished over the years.

"We couldn't have completed this project without Hanley Energy.

Their knowledge and the data from the energy monitoring system allowed us to develop and deliver an energy monitoring programme for all employees that reduced energy consumption close to 50% or 1.2 GW in a 10-week period.

This project won a prodigious Sustainable Energy Award for a Leading Energy Efficiency Project for a Large User. Not alone did we win the award, we also avoided 729 tonnes of CO2 emissions and over €150,000 in costs."

Nicola Cooney,
Services, Systems,
Health and Safety
Co-ordinator
Wexford Creamery, and a
member of the Energy Team

Energy management is a process of continual improvement that sustains energy savings. It begins with understanding how much energy is being used, and creating an energy baseline from which savings can be recorded. Installation of a monitoring system is essential to record and develop an energy baseline.

Monitoring system enabled clear view of energy usage across site

Hanley Energy assessed the requirements of Wexford Creamery, and designed a system suitable for the needs of a busy manufacturing site. It installed a Powersoft Energy Monitoring System. A total of 32 meters were installed on the biggest energy consumers, such as steam boilers, mains and sub-electrical distribution boards, and water mains. The 32 meters record data every 15 minutes and this information is relayed to data-collection and analysis software. This enables the Energy Team to have a clear view of energy consumption across the whole site.

Using the software, the Energy Team can now track how much energy is being used and where it is being used. The team can thus produce detailed reports showing usage, trends and costs, both monthly and annually. This has allowed Wexford Creamery to establish targets and track progress, and it enables immediate action to be taken when abnormal energy usage is detected.

Monitoring solution bears fruit through employee awareness and action

The Energy Team were happy to have excellent energy monitoring data – but how were they going to use it? The company ethos has been founded on a collaborative and cooperative business model, so the Energy Team decided to translate this into an employee energy awareness programme, called **The Energy Awareness Savings Initiative**. The main aim was to reduce baseline usage as far as possible with a mixture of engineering solutions and good work practices. They knew that, if they could reduce baseline usage, the rest would follow.

Over a 10-week period the Energy Team engaged with employees to encourage them to identify energy-saving opportunities and assist in implementing ideas. Employee awareness and participation was encouraged through weekly energy reports sent to each department, highlighting challenges and improvements, and commending good practices. In addition, energy consumption data was posted at locations around the site. Once employees understood how much was spent on energy, and how this contributed to overall competitiveness, they were motivated to reduce energy consumption.



Staff were encouraged to reduce energy consumption with an Energy Awareness Savings Initiative



The Energy Awareness Savings Initiative - examples of communications

- "If the AUTOMATIC DOORS in the Cold Store are not kept closed, it is costing the company €3,000 per year."
- "It costs the company €230 per day to run the chill-water plant for chilling incoming milk."
- "Do you know that the lights in the factory corridor cost the company €19 per week in energy? The lights in the main office block cost €40 per week in energy. Please switch off the lights."

"I have been working with Wexford Creamery since 2007, and am continually impressed with their dedication to energy management. Since installing the Powersoft monitoring and targeting system, they have excellent energy data. This data has allowed the Energy Team to identify, prepare and implement robust proposals for capital investment based on facts."

Dennis Nordon,
Managing Director,
Hanley Energy

How energy monitoring has benefited Wexford Creamery

The energy monitoring system has had the following direct benefits for Wexford Creamery:

- Energy use and production are decoupled. For example, between 2010 and 2011, milk production increased by 10% and cheese production by 22%, resulting in a moderate increase in energy usage. Thanks to the energy management and monitoring programme energy consumption increase by only 7%.
- Wexford Creamery has met key ISO 50001 requirements such as the establishment of energy performance indicators (EPIs), and a system to monitor, measure and analyse energy data.

Next steps

Looking to the future, Nicola Cooney says: "Wexford Creamery has gone through significant change as an organisation, but one thing that has remained constant is our ability to manage our energy consumption. We couldn't have done this without the support of Hanley."

"We are now expanding our monitoring system, and are using the services of Hanley Energy to implement this. Our trust in Hanley Energy is based on their ability to deliver and their wonderful approach to customer service. We are looking forward to continual improvements in energy management."



About Us

Hanley Energy Ltd is a dynamic, Irish-owned and Irish-managed company specialising in the design, supply, installation and support of customised energy and critical power management solutions for a diverse range of business sectors. Hanley Energy has delivered cost-effective solutions for clients located in Ireland, the UK, Germany and the USA.