

CASE STUDY: SuperValu, Tullow, Co. Carlow

SuperValu

A heating and cooling system that provides substantial savings for one of Ireland's largest retailers

“ Calor understood our requirements and provided a solution that produced real cost reductions for our energy usage. ”

- Calor specified reliable energy supply and compact bulk storage
- Sanyo's Gas Heat Pump provided an ideal solution to SuperValu's needs
- Energy costs savings of up to 40% and CO₂ emissions reduced by up to 22%

Business can count on

CALOR



Real Food, Real People

One of Ireland's most established retailers relies on Calor for its energy needs.



SuperValu, Tullow shoppers benefit from the new GHP installation in the winter.

BUSINESS SuperValu

NAME Tommy Hickson

POSITION Owner

that would deliver a significant reduction in running costs. He contacted Purcell Refrigeration, Thurles, Co. Tipperary, installers of Sanyo Air Conditioning units, with his requirements. Tommy's original briefing to Purcell Refrigeration was for heating. He wanted to ensure the system would be capable of heating the store in the event of the lowest ambient temperatures. One of the main features of the GHP unit is that it can guarantee 100% heat output in ambient temperatures down to -20°C. Tommy's details were then passed on to Nick O'Callaghan, Senior Projects Manager at Purcell Refrigeration who looked at the brief. He was aware that there had been problems in the past with electric supply in County Carlow and that Sanyo Air Conditioning had a GHP unit that might be the answer to Tommy's requirements. Nick contacted Vincent Mahony, Sanyo Ireland's air conditioning general manager who explains that the project presented a technical challenge.

'Generally speaking, a larger installation such as a supermarket will have a multiple heating and cooling system,' he says. 'This will consist of a large outdoor air conditioning unit connected to several units inside the building. Costs are therefore reduced by having one large unit serving several smaller units at once, and removing the need for several external power supplies and pipe connections.'

Fortunately, given Sanyo's extensive product range, a solution was at hand: a gas-driven heat pump unit, or GHP, providing heating and cooling. This consists of a



The new GHP system provides warm air and cool air.

A widely recognised name throughout Ireland, SuperValu Supermarkets are committed to the local communities in which they operate. Part of the Musgrave Group, one of Ireland's largest privately owned companies, SuperValu employs over 15,000 people through a network of franchises. This local ownership sees the SuperValu name established as an integral part of the local community, while providing shoppers with the consistent standards and wide choice of a national retail group.

Tommy Hickson, owner of SuperValu, Tullow is committed to efficiency and best practice at his store.

'We are committed to providing quality and value to our customers,' he says. 'This extends right through our operation. Greater efficiency ultimately means better value for our customers and a reduced environmental impact.'

Tommy needed to upgrade his existing air conditioning system for his 14,000 square foot store in Tullow, Co. Carlow and performance and efficiency were high on the agenda. Tommy was keen to see the design of a system

Technical expertise provides the solution

single outdoor unit with a heat exchanger and compressor unit, powering five indoor ceiling-mounted units, each comprising a heat exchanger and fan. The indoor units can be controlled individually or as a group, from a single controller. As the system is gas powered, single phase electricity can be used to power the DC starter motor.



GHP unit is located on the roof of the store.

The next step was to consult Ireland's leading supplier of Liquefied Petroleum Gas (LPG), Calor, to discuss the best approach for design and installation of a system that would be the first of its kind installed in a supermarket in Ireland.

'We've regularly worked with Sanyo in the past and were keen to apply our expertise to this project,' says Calor's Project Engineer, Dermot Killeen. 'A key consideration was to ensure a reliable supply of LPG to meet the load requirements of the system, but also to have minimal impact on the existing layout of the store and its surroundings.'

Calor's solution was the installation of two 'mini bulk' LPG tanks, each holding 450 litres. These were unobtrusive, taking

up minimal space in the store's car park while providing enough capacity to power the heating and cooling system. An added benefit from this option was that SuperValu would see further cost savings through bulk gas prices.

As an added benefit, Dermot recommended that the installation was fitted with Calor's unique telemetry system. Telemetry prevents the bulk tanks from running out of Calor LPG. The system works by knowing how much gas has been used and when a gas delivery is required. A contents gauge monitors the gas level and a tank level transmitter sends a signal to a dialler unit that sends a message to Calor's Head Office computer which keeps a record of how much gas is left in the tanks. A delivery is scheduled in good time to ensure that there's no worry of running out.

SuperValu, Tullow owner Tommy Hickson says his customers are already seeing the benefits during the winter months. Instead



Two 450Ltr mini bulk tanks located in the store car park.

of having issues with defrosting as you would with electric systems the GHP system provides instantaneous heat and it's far cheaper to run.

For further information please call 1850 812 450 (ROI) 028 9045 5588 (NI)

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Substantial savings

Comparisons between LPG and electricity, based on the store's energy use, show annual cost savings of up to 40%. The system has also produced a substantial reduction in the store's environmental impact, with 19 tonnes less Carbon Dioxide produced compared to an equivalent electric powered system – a reduction of up to 22%. The figures were calculated to include hot water heat recovery, which is not currently utilised.

About Calor

At Calor, we have been delivering innovative energy solutions for over 70 years. Our team can deliver a complete tailor-made energy solution for your business needs. By working with manufacturers of renewable technologies, we stay at the cutting edge of developments in the energy industry. Accordingly, we recommend the most energy efficient solutions for your business, allowing you to keep pace with changing building regulations and reduce CO₂ emissions.

Comparative Greenhouse Gas Emission Levels

Fuel	gCO ₂ /kWh (NCV)
LPG	229.3
Electricity	542.8
Oil	257.0
Coal	340.6
Peat Briquettes	355.9

Source: SEI Energy in Ireland Report 2009

CALL 1850 812 450 (ROI)
028 9045 5588 (NI)

CLICK www.calorgas.ie

E-MAIL info@calorgas.ie

THE BENEFITS AT A GLANCE

- Heating and cooling
- Calor's unique telemetry system ensures that there's always a supply of Calor LPG
- Increased efficiency and reduced running costs
- Savings of up to 40% a year compared to electricity
- Reduced CO₂ emissions of up to 22%
- These figures apply to a two-pipe system and assume the full utilisation of the hot water heat recovery
- Kinder to the environment – gas has lower carbon emissions
- Calor LPG is the cleaner, high efficiency fossil fuel
- Gas tanks do not require the construction of containment bunds – unlike oil
- Underground gas installations do not require a pump, unlike oil installations
- Hot water heat recovery available
- 100% heat output available to -20°C ambient temperature



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