

CASE STUDY: Middletown House Nursing Home, Courtown, Co. Wexford

Heat and electricity, as well as
comfort and peace of mind –
with Calor LPG

“ We’re delighted with
the new heat and
power system.
It’s doing everything
Calor said it would. ”

- Calor’s technical expertise provides full heating solution
- Combined heat and power package gives control and fuel cost savings
- Overall energy efficiency of up to 99%
- Reduced electricity demand by delivering a constant 5.5kW of electricity

Business can count on

CALOR



Opened in 1984, Middletown House Nursing Home has built up an enviable reputation for comfort and care to the highest standard.



Middletown House Nursing Home & Retirement Village consists of 1, 2 and 3 bedroom houses.

BUSINESS Middletown Nursing Home

NAME Joseph Butler

POSITION Owner

Owners Joseph Butler and Ingrid Ashmore-Butler have considerably refurbished and extended the former hotel to provide modern amenities without impacting on the traditional character of the building.

Catering for 50 residents with a range of requirements, the nursing home employs 50 dedicated staff. In addition, within its four acres of landscaped grounds, twenty 1, 2 and 3 bedroom houses have been built to provide an independent lifestyle for residents, with peace of mind that the nursing home's services are just next door.

'The comfort and well-being of our residents is paramount, and that approach has been at the heart of our business since day one,' says Joseph. 'We've built up a community based on quality of life, support and attention to our residents' needs. Constant, reliable and controllable heat is a must.'

Recently, Joseph and Ingrid decided to further enhance the facilities of the complex, extending the main building and upgrading the old oil-fired heating system. The project was technically challenging, as the nursing home required constant heat and power, ideally from a single fuel.

Dermot Killeen, Calor's Project Engineer, explains: 'We were contacted by Frank Daly of Kinviro, a partner company of SenerTec, which manufactures the Dachs CHP system. We knew that LPG would provide the



Residents can relax in the lounge and enjoy the benefit of Calor LPG heating.

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

Heating and electricity

answer in terms of cleaner, efficient fuel, but the customer required an integrated system that met the needs of their business.'



The Calor powered CHP system delivers a constant 5.5kW of electricity and 12.5kW of heat.

Combined heat and power provides fuel efficiency

Combined Heat and Power (CHP) is a well-established technology that allows heat and electricity to be produced simultaneously from the same fuel source – gas. Previously the preserve of large industrial projects, CHP is now available in 'micro-CHP' systems for smaller commercial users such as nursing homes and leisure centres which demand a constant, reliable supply of heat and electricity.

A key advantage of CHP, aside from its flexibility, is the impressive efficiency it provides. Heat from the combustion process is captured and used in the heating system, resulting in reduced running costs and lower CO₂ emissions.

The Dachs CHP system installed at Middletown uses 20.5kW heat input to deliver a constant 5.5kW of electricity and 12.5kW of heat. In addition, it provides a back-up to the solar panels that are the primary source of hot water. Given its longer maintenance interval compared to oil fired equipment, the LPG-powered CHP system targets the base load heat and electrical requirements of the nursing home, with oil and electricity only being used at peak times. Efficiency is further enhanced with the installation of a 750 litre 'buffer' tank, where thermal energy is stored during low demand periods for heating and hot water and released when required.



A Calor bulk tank provides all of the gas required.

The CHP unit provides electricity to the nursing home complex with the overall demand for electricity being reduced meaning lower costs and reduced carbon emissions.

But that's not all: the CHP unit has a condenser in addition to its internal heat exchanger, extracting

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maximum heat from the exhaust gases. This returns an additional 2.5kW of energy back to the system, boosting efficiency from a minimum of 88% to a maximum efficiency of 99%.

Joseph Butler confirms that the CHP system has produced real benefits. 'Working with Kinviro and Calor has already delivered results. It's early days, but already we've noticed a real reduction in our electricity bills. We're delighted with the new system.'

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

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028 9045 5588 (NI)

CLICK www.calorgas.ie

E-MAIL info@calorgas.ie

THE BENEFITS AT A GLANCE

- CHP allows simultaneous generation of heat and electricity from LPG
- Energy cost saving of €2,500 a year
- Around 17 tonnes less CO₂ each year
- Increase in energy efficiency improves Building Energy Rating
- CHP system ensures efficiency by reducing unnecessary firing of boilers
- Gas is not susceptible to interruptions, unlike electricity
- Stable gas price throughout the day – avoids peak time charges
- With lower CO₂ and sulphur emissions, gas is more environmentally friendly



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