

Dunoon Hotel, Llandudno: Reducing their energy bills and carbon footprint



By optimising your existing system you can significantly reduce your fuel bills and carbon footprint without a large capital outlay.

Location: Gloddaeth Street, Llandudno, LL30 2DW

Directors: Charlotte and Rhys Williams

Tel.: 01492 860787

Email: reservations@dunoonhotel.co.uk

Website: www.dunoonhotel.co.uk

Grading/Awards: AA*** (81% Merit Rating), Michelin Guide listed, UK Hotel of the Year Wales (Les Routiers 2009)

Number of Rooms: 49

Estimated internal floor area: 3,500m²

Seasonal Opening: March – December 16th

Building Construction: Solid walls, some single and some double glazed windows.

Description: The Dunoon Hotel has been owned by Charlotte and Rhys since 2002, it is a 49 bedroom hotel with bar and restaurant facilities, located in the centre of Llandudno. Constructed during the 19th Century development of Llandudno, the Dunoon Hotel is a Victorian Grade II listed building. It has a traditional style of antiques and oak panels, offering a relaxed and comfortable atmosphere. The ethos is evident in the individual and high quality finish of the bedrooms.

How did the Dunoon Hotel begin to go Green? In 2008 the Carbon Trust agreed a formal partnership arrangement with the Llandudno Hospitality Association, the objective was to undertake a benchmarking study for members of the Llandudno Hospitality Association with selective energy audits of five hotels, of which the Dunoon was one.

Previous to this study Charlotte and Rhys had not considered the environmental performance of their business in any great detail.

'Until the Carbon Trust visit I had no clear idea how to save money on utilities other than putting pressure on my broker. We were prompted to ask the Carbon Trust for help for financial gain with the added benefit of carbon reduction.' Charlotte Williams

The Energy Audit: The Energy Audit was undertaken by a consultant on behalf of the Carbon Trust in July 2008. The audit consisted of a 1 day visits. Prior to the audit visit Charlotte had forwarded the Dunoon's gas, electricity and water bills to the Carbon Trust, so that they could work out the hotel's current usage.

Benchmarking - The Starting Point: At the time of the Carbon Trust Energy Audit the heating and domestic hot water was provided from three boiler-rooms by atmospheric boilers controlled by Sangamo timeswitches. All radiators had thermostatic radiator valves and most lighting used energy efficient compact fluorescent lamps but a few GLS lamps remained. Insulation was needed in the lofts and domestic hot water calorifiers.

The refrigerators and freezers were correctly set; some heat was emitted into the atmosphere.

Recommendations

Recommendation and Key Actions	Estimated Annual Savings			Estimated Cost (£)	Payback Period (years)	Timescale for implementation Months
	Saving £	CO ₂ tonne	KWh			
Install lagging jackets on current domestic hot water calorifiers	£670	4.1	22,000 gas	£800	1.2	0-6
Replace remaining GLS tungsten lamps with compact fluorescent lamps	£420	2.1	3,900 elec	£1,200	2.9	0-6
Loft insulation	£840	5.1	27,500 gas	£2000	4.8	0-6
Boilers – replace with condensing boilers	£7,625	46.3	250,000 gas	£55,000	7.2	0-18
Totals	£9,555	57.6	303,400	£61,000	6.4	

Work undertaken up to summer 2010

The radiators have been flushed out (zero cost) - work undertaken Nov-Feb 2009

Pumps have been installed pumps on the return valves - work undertaken in May 2009

The boiler in the Manager's flat has been replaced - Capital outlay of £3,000, but savings in first year after installation were £2,000!

Savings to-date: Prior to the energy efficiency measures being implemented the annual gas bill in 2007 was £24460.41, after the changes described above the annual gas bill in 2009 was £18087.95. This represents a saving of 26%. Some of these savings were due to variations in the cost per unit, which up to August 09 was £2.894 and after August 09 was 2.517.

A comparison of gas consumption for the first 8 months of 2007 and the first 8 months of 2010 shows a saving of 22.8%.

What next for the Dunoon? Charlotte is now considering the low carbon options available for the replacement of the Dunoon's elderly boilers. In particular she is researching the suitability of installing a Combined Heat and Power System, which could potentially provide electricity for the neighbouring building. Associated with the replacement of the boilers will be how to install better controls on the heating system, a zoned system would be ideal but not easy to retrofit.

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