

managing energy



A strategic guide **for Hotels**



introduction



The hotel industry in Ireland has enjoyed significant and consistent growth over the last decade, which is expected to continue in the short to medium term. Global security concerns, currency exchange fluctuations and rising operating costs all impact upon the competitiveness of this industry and the attractiveness of Ireland as a holiday destination. Those hotels that improve their operating efficiencies and that succeed in reducing their operating costs will enjoy competitive advantage.

“Those hotels that improve their operating efficiencies and that succeed in reducing their operating costs will enjoy competitive advantage”

Sustainable Energy Ireland recently commissioned a report on the potential for energy efficiency savings in the commercial sector. The ‘Hotels & Restaurants’ grouping was identified as one of two sub-sectors with the most potential for energy efficiency improvements. The rise in energy costs over the past 5 years has prompted hoteliers to address the management of this critical resource, and many hotels have put effective energy

management policies and procedures in place. Hotels that pro-actively manage energy provide an improved and more comfortable environment for guests and staff at a reduced energy cost. The ability of hoteliers to make rational and informed decisions about the use of energy on their premises will play an increasingly important part in managing the new challenges in the changing business climate. Sustainable Energy Ireland’s remit is to provide relevant and timely information to business and industry, and so we are publishing this strategic guide to energy management for hotels in Ireland. It provides an overview of the new ‘business energy challenges’ facing hotels, and contains useful techniques and tools for you to use in developing a more strategic approach to the management of your energy.

A blue ink signature of David Taylor, Chief Executive of Sustainable Energy Ireland. The signature is stylized and appears to be 'DT'.

DAVID TAYLOR
Chief Executive, Sustainable Energy Ireland

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Hotel Energy Challenge

Irish hotels are facing a tide of rising costs and increased competition. The challenge of inflating energy costs can be eased, or even eliminated, by making energy efficiency and environmental protection a core element of management practice that can lead to sustainable competitive advantage.



by:
ALAN O'HANLON
Sustainable
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As identified by the Irish Hotels Federation, the hotel industry in Ireland is spending in the region of €70 - €100

million per year on energy. At a minimum, a 10% efficiency improvement is achievable, which equates to a reduction of €7- €10 million in energy costs. This could have a significant impact on the competitiveness of the industry.

In many hotels, energy is a substantial proportion of operating costs. After staff costs, energy can be one of the largest elements of expenditure. Energy is often mistakenly regarded as a fixed overhead. However it is actually one of the easiest costs for a business to manage. Hotels can reduce their energy costs by up to 20% without significant investment. It is often easier to increase the profitability of a business by reducing costs than by increasing sales or turnover. To put it into perspective, you need to consider how many additional rooms you would need to sell to generate an equivalent amount of profit. For many hotels a 20% reduction in energy bills could represent the same as a 5% increase in sales. Energy efficiency provides a means of maximising resources and staying one step ahead of the competition.

From an environmental perspective, climate change is the greatest environmental threat the world faces today. Energy efficiency reduces

carbon dioxide (CO₂) emissions, the main greenhouse gas responsible for climate change. The Irish government has committed to reducing greenhouse gas (GHG) emissions to 13% above 1990 levels through the Kyoto agreement by 2008 - 2012. This target was actually breached in 1997, and in 2003, annual GHG emissions were 25% above 1990 levels.

“Many hotels can reduce their energy costs by up to 20% without significant investment.”




The Irish hotel industry is one of the largest energy users in the commercial sector with the most potential for energy efficiency improvements. Therefore commitment by hotels to energy efficiency is integral to meeting Ireland's targets under Kyoto, and safeguarding the environment both today and in the future.

Making a business more environmentally friendly also offers a range of qualitative benefits, such as better public relations and opportunities to enter new markets. 'Green credentials' give a business a marketing

advantage by enabling them to differentiate their product offering from their competition. A business that demonstrates environmental commitment by cutting energy use is likely to gain positive customer opinion and market share. An inappropriate environmental policy can damage relations with business stakeholders such as banks, insurers, employees, suppliers, the media and the local community.

Energy efficient operating practices also lead to warm, pleasantly lit and generally more comfortable working environments. Mismanagement of energy, such as poorly maintained equipment, can suggest to both staff and visitors that energy efficiency and environmental protection are not valued by the

organisation. Good working conditions encourage staff retention, reduce levels of ill health and sick leave, boost morale and productivity and reduce the amount of money that needs to be spent on recruitment. Being energy efficient is a vital method of ensuring that good working conditions are in place. SEI is committed to helping the hotel industry reduce its energy consumption through various programmes and initiatives. Hotels and guesthouses starting out on the process of energy management will benefit from contacting SEI at hotels@sei.ie 

Managing energy costs

A strategic issue for the hotel industry

How the hotel industry is going to develop over the next five to ten years is an issue of major concern for the Irish Hotels Federation. The high cost of energy is one of the factors creating pressure on competitiveness. Becoming energy efficient is now an economic imperative says Federation President, **Richard Bourke**.



According to Richard Bourke, President of the Irish Hotels Federation, one issue of major concern at the moment is how the hotel industry is going to develop over the next five to ten years.

“Since the Tourism Strategy document was launched in 2002, with the stated objective of doubling tourism revenue by 2012, progress has been slower than anticipated. Among the well-recognised factors that have militated against us were 9/11, SARS, the Foot and Mouth crisis, and the lack of buoyancy in the world economy.

“With world economic recovery now underway, the number of tourists visiting Ireland is, hopefully, set to increase significantly. However, any optimism on that front must be tempered by careful consideration of the range and extent of economic factors that will have a major impact on the growth of the hotel industry during the next five to ten years”, he states.

Of key importance is the high cost of doing business, and the marketing challenges created as a result of the enormous increase in accommodation stock nationwide. Since 1996, for example, the total number of bedrooms in hotels and registered guesthouses in Ireland has increased from 25,000 to 43,000. The corresponding figures for Dublin are more dramatic. Here, between 1996 and 2004, the number of rooms increased from 6,500 to 13,000. In addition, if all the various hotel projects currently under construction (or in the planning process) are actually completed by end 2006, Dublin’s accommodation stock will have trebled between 1996 and end 2006.

“The cost of doing business in Ireland could pose a serious threat to the industry’s competitiveness. This is why the Federation and other lobby groups have been working on issues such as the high cost of insurance and trying to ensure that our employees deliver the productivity we need if our businesses are to survive”, Richard Bourke notes.

“More recently, the Federation has been looking at the issue of energy – both from a cost perspective and from an environmental perspective. Some Federation members, including the Jurys Doyle Hotel Group, are in the process of carrying out energy-monitoring and energy-efficiency pilot studies. We hope to have available shortly some case study material that will provide a benchmark for our colleagues in the industry.”

Complementary material will also be available on the Federation’s website www.irelandhotels.com. Aside from the material available from the Federation, a great deal of other practical information and advice on energy-saving strategies is available from Sustainable Energy Ireland.

“The hotel industry spends between €70 - €100 million a year on energy, so obviously, it is a fairly serious cost issue for us. In tackling the issue of energy conservation and management, we need to make sure that our employees are as cost conscious in their work environments as they are in their home environments. Running a comprehensive employee awareness campaign has been shown to be both a highly effective and inexpensive way of creating behavioural change. This in turn helps us to reduce our operating costs. And that’s the bottom line.” 

Hospitality Industry Energy Concerns



If it is to weather the competition from abroad, the Irish hospitality industry will have to become leaner, greener and more efficient notes Adrian Cummins, Chief Executive of the Irish Hotel and Catering Institute.

Five years ago, the hot topic at hospitality industry conferences and seminars was the internet and e-commerce, and the impact that this would have on the hospitality industry in the future. Last year, and the year before, everyone was talking about the rising cost of insurance. This year, and for the next few years, the hot topic will be 'energy costs, being efficient, being environmentally aware'. In short, our businesses need to become leaner and greener if they are to survive and prosper.

This is the view of Adrian Cummins, chief executive of the Irish Hotel and Catering Institute (IHCI).

Environmental issues in general, and energy-related issues in particular, are very much on his mind at the moment – not least because the Irish Hotel and Catering Institute has recently secured significant funding from the Environmental Protection Agency (EPA) for a new programme that will have a major impact on the Irish hospitality industry – both in the short term and in the long term.

“During the past three years, the industry has seen energy costs rise by 40%. Waste disposal costs have increased by up to 500%, while water charges have increased by between 100% and 400% in the past twelve months alone. Horrendous

increases! Being more energy efficient, more eco-friendly is no longer either a luxury or the preserve of the privileged few. It has assumed major economic importance.

“In short our businesses need to become leaner and greener if they are to survive and prosper.”

“The key drivers of change in the Irish hospitality industry are factors such as the massive growth in bed capacity, the huge drop in American visitors to Ireland for reasons including 9/11, the war in Iraq, and the weak dollar euro exchange rate. The good news for Ireland is that there is significant demand in European markets, and throughout the world, for high quality, eco-tourism packages”, he notes.

One of the ways that IHCI members could exploit this potential market, (while simultaneously ensuring their day-to-day survival in an environment where energy

costs are rising dramatically and profits are shrinking), is to educate themselves about becoming more efficient in energy management.

Here, the role played by the IHCI in delivering the Cleaner Greener Production Programme (CGPP) will be crucial. The Institute will shortly begin recruiting 100 hotels all over Ireland to take part in the EPA-funded Cleaner Greener Production Programme. During the course of the next two years, Programme participants will learn about environmental issues generally and, specifically, about how to become more efficient in every aspect of energy, water and waste management.

“Because energy issues and environmental issues are such hot topics right now, we expect that the Programme will be way oversubscribed. However, unsuccessful applicants should not be downhearted. The Institute is working closely with Sustainable Energy Ireland (SEI) on the development of energy management for the hospitality industry through the CGPP. We can absolutely guarantee Institute members that they will be provided with sound advice on energy management and related environmental issues if they need it. All they have to do is call us for advice on the CGPP, and SEI if the query relates to energy efficiency or energy management.

“If we manage the tourism industry properly, we will indeed meet our target to increase the number of people working in the industry from 120,000 to 170,000, and to grow tourism revenue from €6 billion a year to €10 billion a year by 2012”, Adrian Cummins concludes. 📌

Given the current emphasis for businesses to become more efficient in their operations, the argument for energy management has never been stronger. But where do you start and what are the practical steps you need to take to get an energy management programme up and running?



Embarking on Energy Management



by:
ALAN RYAN
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Where to start - Management commitment

Having the support of senior management is essential to the success of any energy management programme. The first step therefore is to convince management of the need to address energy consumption, and commit to developing an energy management programme which will integrate with normal business operations. This puts energy on a more formal systematic footing, similar to any of its other core management activities such as HACCP (Hazard Analysis and Critical Control Point), or waste management.

Firstly, a senior manager should be appointed to champion the programme within the hotel at a strategic level. A person should then be appointed to manage it at an operational level i.e. an energy manager. This person

should be of sufficient authority and ability to implement the energy programme throughout the organisation. Ideally the energy manager role should fit with other activities they are carrying out such as waste, water, or environmental management. The ultimate success of the programme will be determined by how motivated the energy manager is, and how committed senior management are to providing appropriate time and resources to energy efficiency.

What next? Gain control

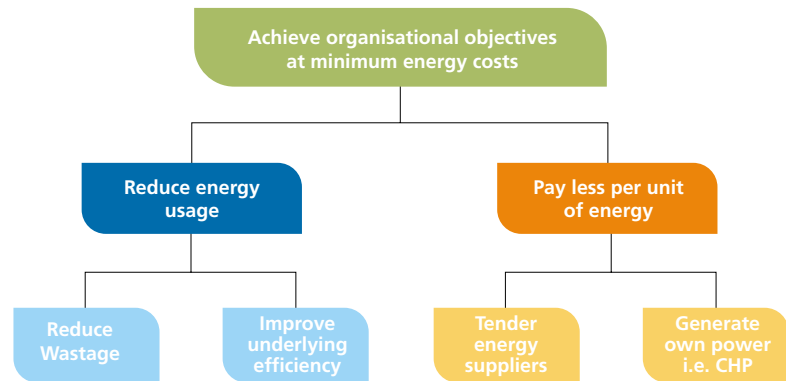
You can't manage what you don't understand. This concept applies even more so to energy management. Your first stop should be to get familiar with your energy bills – what tariff are you on, what is your bill made up of (standing charges, VAT etc), and how much are you using each billing period.

Once you understand your bills, your next step is to understand where your energy is being used, and what opportunities there are for saving energy. This will depend on the extent to which you meter the different areas or zones which consume energy i.e. reception, conference rooms, kitchen, bar, bedrooms. Ultimately you need to identify what areas consume the largest amount of energy. This is where you may need some technical assistance through a formal audit, or you could train a member of staff to carry out this function. Some electricity suppliers provide support and advice. Also some suppliers will conduct surveys free of charge of your premises and present you with quantified savings, especially in the areas of lighting.

When identifying energy saving opportunities, concentrate on no cost housekeeping opportunities before looking at energy saving opportunities which require investment. For example operate high energy consuming equipment more efficiently, and turn off equipment when not in use. A useful tool here could be a Register of Opportunities. This document would list all the energy saving activities identified by the energy manager, staff members, auditors etc, quantify the energy saving, and detail how much it would cost to carry out the initiative.

See figure 1 below.

Concept of Energy Management



Opportunities which the hotel decides to implement should be built into a Programme Plan. The plan would list the people responsible for carrying out the action, and a schedule given for its completion. Ideally, the plan should be approved by senior management.

Keep it going - Monitor progress

If a programme of energy efficiency is to be sustained in the long term and continue to achieve results it must be embedded within the culture of the hotel and monitored on a

regular basis. There are many and varied methods of measuring progress, from simple meter reading to detailed software systems. The key ingredient to devising a system for monitoring is to ensure it fits well with your current systems, provides usable information and does not become a chore. The starting point for this might be to develop some Key Performance Indicators (KPIs). On a simple basis, you might compare the total energy consumed or spend per number of rooms let on a bi-monthly basis. This will provide a good indication of how successful you are at managing energy usage to match hotel occupancy. Certain KPIs could be then benchmarked against other hotels to compare best practice.

You should try to incorporate your energy monitoring system with other systems where possible. HACCP is one system where procedures and checklists for energy management could be integrated to ensure opportunities are implemented, and staff adequately trained.

Finally, the programme plan and procedures should be reviewed and updated on a regular basis and the register of opportunities should be updated as required. If you require more information, or would like to see samples of the documents discussed, please contact SEI at hotels@sei.ie

FIGURE 1 Sample Register of Opportunities:

Energy Opportunity	Calculation Method	kWh Savings/ Annum	Cost* Savings/ Annum	Capital Cost €
Housekeeping Opportunities				
Train staff to turn off bar and restaurant lights at closing	40 No. 50W spots, 12 hours/day, 365 days	8,760	1,095	0
Turn off Bar ventilation plant 1am-10am	2 AHU's @7kW each, 9 hours/day, 365 days	45,990	5,749	0
Low Cost Opportunities				
Replace all applicable tungsten light bulbs	100 lights @ 82W saving/light, 24hrs/day, 365 days	71,832	8,979	500

AHU - Air Handling Unit.

* Based on average electricity cost of 12.5 c/kWh.

Top Tips for → Energy Efficiency

This section aims to highlight some of the simple actions hoteliers can make that will yield savings in the most energy intensive areas of your businesses. Further information is available from SEI.

Lighting Save up to 75% on lighting costs

Switch lights off when not required: Light switches should be clearly marked indicating to staff which areas they control and which lights should be switched off in vacant rooms (or left on for guest comfort and safety).

Maintain and clean light fixtures: Reflectors, roof-lighting and windows should be cleaned regularly to ensure optimum efficiency. This will reduce the likelihood of additional lighting being turned on to compensate for low light levels. Maintenance requirements should be considered when installations are



designed, as luminaries that are easily accessible are more likely to be cleaned regularly.

Replace older, less efficient tubular fluorescent lighting:

T8 (26mm) fluorescents have similar light output compared to the older T12 (38mm) but use 8% less electricity. Fluorescent tubes should be fitted with appropriate reflectors to maximise light output. High frequency electronic ballasts should also be used, as these are 20% more efficient than conventional electromagnetic ballasts. T8 fixtures are also quieter, do not flicker, and reduce air conditioning costs as more efficient lamps produce less heat.

Replace standard incandescent light bulbs with compact fluorescent lamps (CFLs):

CFLs can provide energy savings of up to 75% when replacing incandescent bulbs while providing equivalent lighting levels. Increased lamp life also significantly reduces maintenance costs

in many common applications formerly dominated by incandescents.

Install lighting controls:

Using energy-efficient control systems, which include manual switches, occupancy linked controls, time scheduling and daylight responsive controls, any combination of which can yield energy savings of between 30% and 50%.

Space heating, hot water generation and distribution Save up to 30% on heating and hot water costs

Service your boiler equipment:

Boilers should be serviced at least annually to ensure efficient and safe operation. A poorly maintained boiler can often use 10% more energy than necessary and may also be less reliable. A boiler efficiency test, including the adjustment of the air/fuel ratio, should form part of the annual service.

Insulate your boiler:

All pipes, valves and flanges should be insulated and checks should be carried out for leaks or corrosion, as wet insulation is no longer effective. Insulation should always be replaced when maintenance work is completed.

Check the temperature:

Use a digital thermometer to make sure that temperature set points are correct, because heating costs increase by about eight percent for each 1°C overheating.

The controls schedule should be reviewed each year to ensure it reflects occupancy patterns. Checking energy use outside normal occupancy can give an indication if controls are operating correctly.

Heat your water to the correct temperature:

Hot water tanks should be fitted with a thermostat to ensure that the water is not heated more than necessary. The hot water temperature should be checked to ensure that it is maintained above 55 degrees to avoid legionella, and below 65 degrees to minimise energy use.

“heating costs increase by about eight percent for each 1°C overheating”

Maintain your hot water system:

Hot water systems should be inspected to ensure that there is no build up of scale or air in the system.

Insulate your building:

The condition of the building fabric can have a significant effect on energy use. A general maintenance programme should ensure that doors and windows are in good working order and draught stripping is fitted where appropriate. Install secondary glazing and heavy curtains. Fit automatic door closers and appropriate wall insulation if needed also.

Convert to a gas condensing boiler:

Gas condensing boilers are considerably more efficient than conventional boilers and can be used with most existing gas heating systems.

Convert to combined heat and power (CHP):

Many hotels due to their requirement for both electricity and heat are ideal for the installation of CHP units, which have total efficiencies in excess of 90%.



Catering / Kitchen Save up to 40% on catering / kitchen costs

Switch appliances off when not required:

Kitchen equipment generates heat and if left on will make the kitchen less comfortable to work in as well as waste energy.

Carry out regular maintenance on catering equipment:

Develop and carry out regular maintenance programmes for cooking, refrigeration and washing equipment. Routine scheduled maintenance is necessary to ensure efficient operation of modern catering equipment. It will also increase equipment lifespan, prevent unscheduled breakdowns and increase food safety and hygiene. This can yield savings in the region of 2-25%. Regular cleaning of ventilation systems can also increase efficiency by as much as 50% compared with un-maintained systems.

Purchase and install energy efficient catering equipment:

When purchasing new cooking, washing, refrigeration, or ventilation equipment, care should be taken to specify the most efficient product available within the

budget. The running costs over the lifespan of such equipment are typically 5 to 10 times more than the capital cost of that equipment. Savings of between 5-15% are achievable. Also if you have the choice, purchase cooking equipment that uses natural gas instead of electricity. This can yield considerable savings due to the price differential per unit between electricity and gas.

Use equipment sensibly:

Choose the right size pan to fit the hob and use pan lids. Use a frying pan instead of a griddle for just one customer. Keep chiller and freezer door openings to a minimum. Dishwashers should only be used on full loads. Power drying cycles can be very expensive – try shortening the drying times and use the residual heat in the machine to dry the dishes.

Cooling and Air Conditioning Save up to 30% on cooling and air conditioning costs

Make sure set points are appropriate:

The ideal set point for cooling buildings is 24°C. Cooling much below this results in significantly higher costs.



Avoid simultaneous heating and cooling:

By setting heating and cooling systems correctly, it is possible to avoid situations where air conditioning and heating systems are operating at the same time thereby wasting energy. Heating should be set to come on at 19°C and off at 21°C.

Keep windows closed:

Opening windows and doors when heating or cooling allows ingress of air and greatly increases the load on heating and cooling systems.

Use the natural climate:

Air conditioning and mechanical ventilation are not always required. Switching them off and making good use of outside air for "free cooling" whenever possible should be encouraged.

Maintain equipment:

Air filters, coils, inlet screens and heat exchange surfaces should be cleaned regularly to avoid the build up of dirt.

Swimming Pools Save up to 30% on swimming pool costs

Install a pool cover:

Pool covers reduce convective and evaporative heat losses from the pool and allow pool hall ventilation to be reduced without a resulting rise in relative humidity.



Typical savings for the installation can be 10-30% of total pool energy use with a payback period of 1.5 to 3 years, when used and maintained correctly.

Set the pool water temperature control correctly:

Using a portable temperature probe to check the water temperature in various parts of the pool daily and set the controls accordingly. The optimum temperature will depend on the pool activity (27, 28, 29, and 30°C for fitness, recreation, leisure, and children respectively). A rise of even 0.5°C will result in a substantial increase in energy use, because of the high thermal capacity of water. This will also result in an increased rate of evaporation and subsequently ventilation requirements.

Use correct backwashing procedures:

Backwashing is the reversing of the water flow to clean the filters. Regular cleaning of the filters (see manufacturers maintenance guidelines) is imperative to ensure acceptable pool water quality. Correct backwashing procedures could save 5-10% of pool water heating costs, as well as substantial savings from reduced water usage.

Install a heat recovery system on the pool hall ventilation system:

Heat recovery is the transfer of heat from a warmer source (outgoing air or water) to a cooler source (incoming air or water). Used with pool hall ventilation systems, heat recovery can reduce energy requirements for heating by 30% with a payback period of between 3-5 years.

Purchasing Save 15% on total energy costs

Shop around:

Nominate a person to check energy bills and ensure that the most appropriate tariffs are used on an annual basis. Quotations from other suppliers should be sought to ensure the best rates now

that the market is fully liberalised. Meter readings should be taken every month to establish patterns of use and to cross check utility bills.

Buy energy efficient equipment:

When purchasing energy consuming equipment, it is important that the ongoing operating costs are considered when specifying and making a purchasing decision. In the case of motors for example, over a typical life of ten years, a motor will consume almost 100 times its purchase cost in electricity.

“Nominate a person to check energy bills and ensure that the most appropriate tariffs are used on an annual basis”

Understand your energy bills:

Understand how much you are paying for energy, how much you are using and when you are using it. Depending on your tariff, you could make savings by operating your equipment at different hours, or shutting off high electrical consuming equipment during peak hours. Take full advantage of any tariff incentive schemes offered, for example, the ESB Customer Supply's Winter Demand Reduction Incentive (WDRI) and Winter Peak Demand Reduction Scheme (WPDRS).

Use energy assessment software:

Energy suppliers may be able to provide value added services such as online facilities or software packages to assist a firm in reviewing their energy usage patterns and identify saving opportunities. 📌

Jurys Doyle Group

SEI spoke to Dan O'Connell, Jurys Doyle Hotel Group Environmental Manager, about the company's energy management practices and procedures and which areas present the best opportunities for generating savings.

SEI: Why is energy management such an important issue for the Jurys Doyle Group?

D O'C: We have 34 properties, comprising 7,000 rooms, in Ireland, the UK and the USA. Clearly, any operation of this scale, which is projecting electricity and gas cost increases for 2005 of the order of 31% in the UK, and 15% in Ireland, must be concerned about energy conservation and management.

SEI: How do you propose to address these issues?

D O'C: Following the successful involvement of our UK properties in the Hospitable Climates Programme, we have designed a similar programme for our 14 Irish properties, where we are currently setting up 'energy action teams' and are introducing a range of employee awareness initiatives.

SEI: What other types of energy-reduction initiatives, if any, have already been carried out?

D O'C: In many properties, which have large catering operations, such as the Burlington Hotel, lighting may account for up to 30% of the total electricity bill. In the Burlington Hotel, we replaced all light bulbs with CFLs, or other low-energy alternatives. It will take some time to verify the levels of energy reductions achieved and to confirm how close those are to the 70% reduction in lighting-related energy consumption that we are aiming for.

In the meantime, in each of our other Irish properties we have been carrying out appraisals of the logistics and costs



involved in replacing all lighting with low-energy options.

SEI: Have you set specific targets for reducing energy consumption?

D O'C: We are aiming to reduce energy consumption throughout the Group by 10% by end 2005. This is in addition to savings achieved as a result of the lighting replacement programme.

SEI: How do you propose to carry out energy-reduction benchmarking in a multi-site operation?

D O'C: As a first step, we installed an energy-monitoring system in our Ballsbridge property, which involved metering various areas of the hotel. This initiative is designed to provide detailed information on the energy used to deliver each of the main service functions – cooking, lighting, space heating and water

heating. An analysis of this exercise will be available mid-2005, and it should provide useful information for the industry in general. It will also be used to support various upcoming Irish Hotels Federation/Sustainable Energy Ireland initiatives.

Elsewhere, benchmarking will evolve from the results of energy consumption measurements taken in each property. We also have access to benchmarking data as a result of our involvement in the Hospitable Climates Programme and other sources.

SEI: Staff involvement and commitment are essential for the successful implementation of any energy conservation and management programme. How do you propose to secure the commitment of your 4,200 employees?

D O'C: Up until recently, environmental issues and issues relating to energy conservation and management were covered in our three-day employee induction programme. Now, this section of the programme has been expanded significantly, and specific energy-reduction directives have been included in all relevant staff training procedures.

In the long term, the implementation of various energy-reduction initiatives throughout the Group will require a major culture change. We expect change to be very gradual. Indeed, it will probably require an adjustment period of about eighteen months before our new energy conservation and management programme becomes fully effective.

SEI: What positive outcomes, if any, have been observed as a result of some of the energy awareness and energy-reduction initiatives implemented to date?

D O'C: There is no doubt that behavioural change in the workplace influences behaviour at home. Many of the environmental and energy-related costs that we face as employers are replicated in employees' homes. Energy awareness creates positive environmental benefits as well as positive financial benefits – for employers and employees alike. ⚡

Q&A

with the Westlodge Hotel

PJ Murphy, Managing Director of the Westlodge Hotel in Bantry, spoke to SEI about a number of successful energy-saving initiatives implemented there in recent years.



SEI: When did the Westlodge Hotel first open for business, and what is the current scale of your operation?

PJ M: The hotel was built in 1969 and is now owned by my brother Finbar and I. Originally, we had 60 bedrooms and one banqueting room. Over the years, we extended and refurbished the complex several times and it now comprises

90 bedrooms, 11 self-catering cottages and a leisure centre with swimming pools, gym and squash courts. In 2004, we added new banqueting and conference rooms.

SEI: At what point did energy efficiency become a major priority?

PJ M: Throughout all stages of the development of this complex, energy efficiency has been a top priority. We have repeatedly enlisted the support of our ESB Account Manager, Pat Dromey, who has provided invaluable

advice both with energy audits and the various energy-saving projects that we have implemented over the years.

SEI: What areas presented the biggest opportunities for energy efficiency savings?

PJ M: During an audit carried out in 2002, lighting was identified as an area where significant potential savings could be made. As a result, we reduced lighting electricity consumption by 80%. Additional financial savings are possible because most of the new energy efficient light bulbs have an increased lifespan and need replacing only after 11,000 hours or 15,000 hours of usage – depending on the brand used.

SEI: Which of your energy-saving projects have presented the greatest challenge?

PJ M: Because some light fittings were quite old, it wasn't easy to retrofit energy-efficient lighting. However, with the help of our ESB Account Manager, we managed to locate a supplier. Now, every one of the 1,200 bulbs used across the site is fitted with energy-efficient bulbs.

Implementing cultural changes in relation to energy conservation practices and procedures proved challenging – but not overly so. Starting in 2002, when we introduced a major energy awareness

campaign for our 50 staff, we achieved behavioural changes by identifying areas of high energy consumption within each department. We then demonstrated clearly how to reduce it. Now, the energy-efficiency message is reinforced at monthly departmental meetings. We also carry out regular internal audits.

SEI: Apart from the 'relamping' programme, what other energy-saving measures have you introduced across the site?

PJ M: We discovered that the swimming pool runs perfectly efficiently on one pump most of the time. The second pump is activated only during peak-activity periods. This initiative has resulted in annual savings of €1,000 on electricity.

We installed PVC strip curtains over the walk-in fridges and freezers, and in front of the 'goods inward' doors at the rear of the hotel, to cut down on energy wastage/heat loss.

All 'common area' light switches are colour coded – yellow for switching on mornings only; green for mid-afternoon; blue for evening; red for night time – very simple for staff to operate.

SEI: What energy-saving innovations and technologies have you come across during the course of your research?

PJ M: When we refurbished the banqueting room in 2004 we installed a dimmable 'Scene Setting System'. This has six energy-saving programmes, which create different lighting effects for weddings, conferences and formal dinners, or on occasions when we need to show the room to prospective clients. One important feature of the system is a programme setting designed to minimise energy wastage during cleaning activities.

Also in 2004, we investigated the range of swimming pool covers available. Due to the irregular shapes of our pools, conventional covers were not an option, so we chose a 'liquid' pool cover, which uses colourless, odourless and totally harmless crystals to form a seal on the water surface, when the pool is still for any length of time. Using this technology, it should be possible to save up to about €4,000 annually on gas usage. !

An interview with...

SEI spoke to **Martin Cooley**, Group General Manager, O'Callaghan Hotels, about using an ESCO to provide all energy and maintenance services for its four Dublin-based operations – the Davenport, the Alexander, the St Stephen's Green Hotel and the Mont Clare Hotel.

SEI: How important an issue for O'Callaghan Hotels is the ongoing management of energy resources?

MC: We have always understood the importance of managing energy resources efficiently. In fact, we were one of the first hotel chains in Ireland to install combined heat and power (CHP) units.

Energy accounts for about 15% of our total running costs, and has been increasing at four times the rate of inflation. Our energy bills have increased by about 40% since 2001 alone. Already, there is huge competition in the hotel industry, and with large numbers of newly constructed rooms due to come on stream in the Dublin area shortly the requirement to reduce overheads is becoming even more urgent.

SEI: You were one of the first hotel chains in Ireland to hand over responsibility for on-site energy management and maintenance functions to an energy services company (ESCO). What prompted you to take this initiative?

MC: The relationship between planned preventive maintenance and energy maintenance is absolutely critical. If costs are to be minimised, preventive maintenance and energy maintenance must be managed in tandem. Our contract with the energy services company Dalkia delivers both. It also guarantees us a 20% saving on energy costs for the next five years.

SEI: What are the other advantages of using an ESCO?

MC: Dalkia is responsible for all on-site plant and equipment during the course of our five-year contract. If a lift goes out of order, a chiller goes on the blink, or one of the 9,000

light bulbs in our four hotels need changing, a member of the Dalkia team must rectify that immediately. In addition, if something like a boiler cannot be repaired, Dalkia must replace that boiler – at no cost to us.

SEI: Can you give an example of a specific intervention by Dalkia that generated significant savings?

MC: We had a situation recently where the energy monitoring specialists at Dalkia's head office noticed an increase in gas consumption in one of our hotels, and immediately set out to investigate why. They discovered that a non-return valve had broken, as a result of which we were unwittingly heating our cold water supply. If it hadn't been for their analytical expertise and swift intervention, we would have continued to waste significant amounts of gas – possibly indefinitely.

SEI: How does Dalkia monitor energy consumption on particular pieces of equipment?


MC: We have installed an extensive network of electricity, gas and water meters across the four sites. This enables us to establish exactly what amounts of energy are being consumed where. The meters are linked to a system, which is monitored off-site by energy experts. They compare readings with targeted consumption for particular operational areas, or for particular items of plant and equipment. If they spot any deviations, the maintenance team is alerted immediately.

SEI: This sounds like an expensive service. What's the bottom line?

MC: What distinguishes an energy services company from a facilities management company is that its

fees are based on performance-based contracting. Revenue is directly linked to actual energy savings achieved. In other words, Dalkia only makes money if it saves us money!

Apart from major financial savings, the big benefit of this service is that we have 24-hour access to a team of energy management specialists and maintenance personnel. Some of these people are based on site here, but all are employed directly by Dalkia.

This unique arrangement leaves us free to get on with hospitality management and marketing. That, of course, is our core expertise. 



The Value of Energy Training

The rising price of energy leads to an increase in operating costs for hotels and a potential reduction in profitability. As discussed earlier in this guide, expending some time and effort identifying energy saving opportunities provides a positive and valuable pay back.

Every euro of energy saved directly contributes to the bottom line of the hotel and therefore improves competitiveness.

The business of managing energy in a hotel is no different than managing any other aspect of the business. There are certain skills and techniques required that allow a manager to operate effectively and these skills can be

developed through relevant experience and access to external expert-led training.

Such training allows firms the opportunity to train staff in a shorter time frame and apply skills internally. Clearly the value of the training must be quantified to balance the fact that staff will be 'off-line' for a day or two but the

real value of training is delivered only when it is consistent with the mission or purpose of the organisation. It is all about adding value to the business.

In this environment where energy policies and technologies are being constantly updated, some hotel managers are turning to energy management training courses to give them that competitive edge.

Between UK and Irish companies, a huge range of training packages are on offer. Typically, courses focus on specific management techniques, energy efficient technologies or cover a broad range of energy management issues. An open learning style timetable is used to accommodate full time work schedules.

With such an array of courses available, any training should be evaluated on the basis of the value that it brings to an organisation. The benefit of energy management training is that the skills acquired can very quickly deliver results through their practical application.

As can be seen from the 'top tips' section of this guide, even relatively simple ideas can translate into reduced costs.

SEI offers a number of short training courses over the year and is open to suggestions for additional course options.

For all businesses the value of energy training is in the application of simple techniques leading to reduced operating costs and increased profits.

For further information on training courses run by SEI, please email: hotels@sei.ie



Upcoming training & events...

March

Boiler Efficiency Course

Energy efficiency and safety issues in operating steam and hot water boilers

Energy Auditing Course

Practical introductory course to energy auditing

April

Energy Effective Lighting

Introduction to energy effective lighting including demonstration of equipment

Energy Management Course

Introduction to energy management

May

Energy Management Course

Introduction to energy management

June

Refrigeration and Cooling

Energy efficiency opportunities in air conditioning and cooling systems

September

Energy Management Course

Introduction to energy management

Energy Awareness Week

Series of nationwide events highlighting the benefits of energy efficiency

October

Boiler Efficiency Course

Energy efficiency and safety issues in operating steam and hot water boilers

Sustainable Energy Awards

Presentation of the annual Sustainable Energy Awards

November

Energy Management Course

Introduction to energy management

For further information on dates and locations of training course available, please visit www.sei.ie or email hotels@sei.ie

THE ANNUAL SUSTAINABLE ENERGY AWARDS

reward excellence in energy management in the industrial, commercial and public sectors. They are an opportunity for companies to gain national recognition for achievements in reducing energy use and CO₂ emissions.

IF YOUR COMPANY CAN DEMONSTRATE SUPERIOR MANAGEMENT OF ENERGY IN ANY OF THESE CATEGORIES:

- Co-ordinated Energy Management Programme
- Electrical Energy Project
- Thermal Energy Project
- Energy Awareness Campaign
- Energy Service or Supply Company
- Excellence in Design or Specification
- Energy Manager



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Our Mission

*is to promote and
assist the development
of sustainable energy*

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