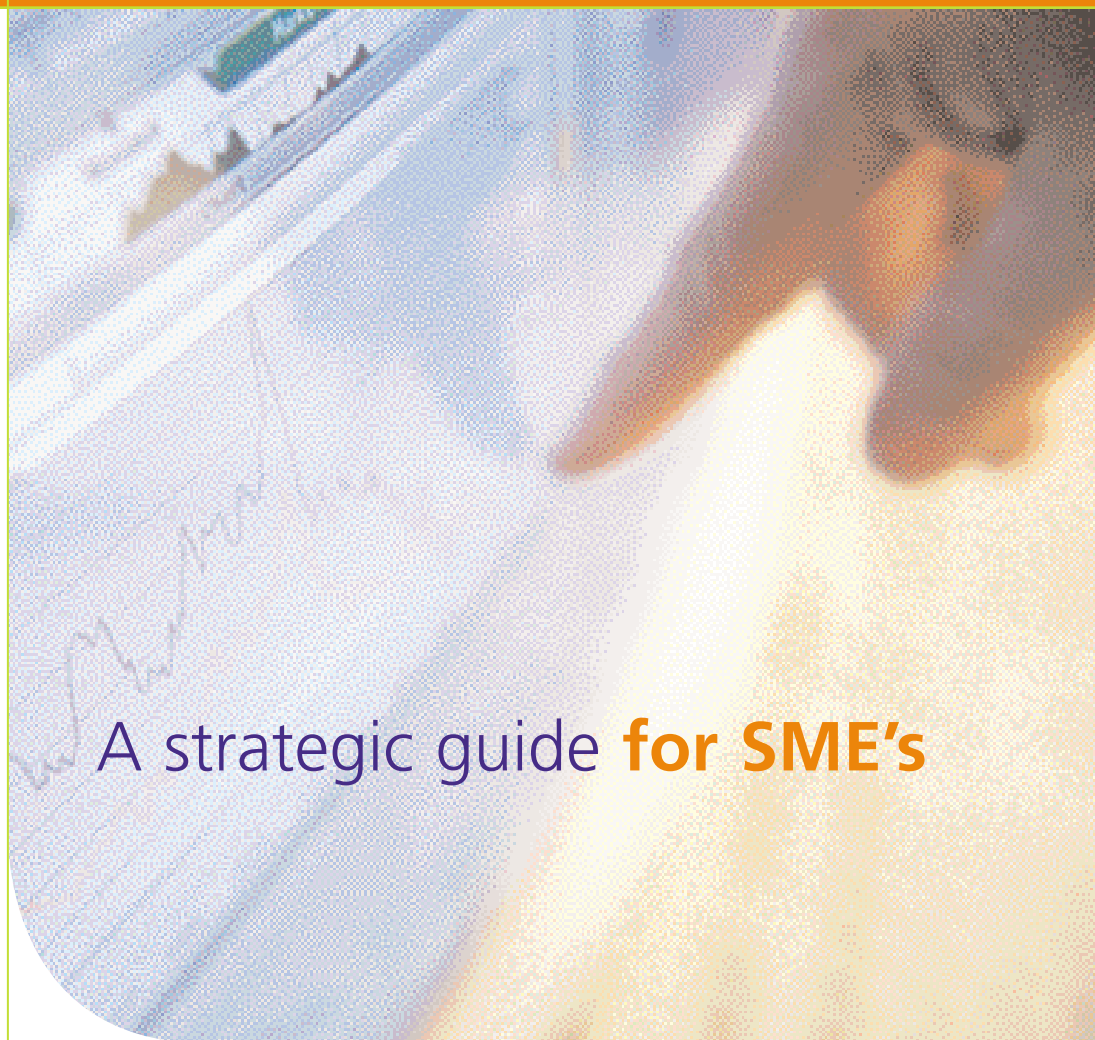


managing energy



A strategic guide **for SME's**



introduction

Companies in Ireland are faced with a new set of challenges, as the expansion of the European Union and globalisation affect the business landscape.

Increasing environmental legislation, rising energy costs and the pending introduction of carbon taxation will all impact on the operating costs of doing business in Ireland. Firms that can successfully improve their operating efficiencies and reduce their operating costs will enjoy competitive advantage. Sustainable Energy Ireland's recent pilot project on negotiated agreements found that there is room for firms to improve their energy efficiency and to enhance their competitiveness as a result. It will be the ability of firms to make rational and informed decisions about the use of energy on site that will play an increasingly important part in helping to manage the new challenges in the changing business climate.

In furtherance of Sustainable Energy Ireland's remit to provide relevant and timely information to business and industry, we are publishing this strategic guide to energy management in Ireland. It provides an overview of the new 'business energy challenges' facing small and medium size enterprises in Ireland and contains useful techniques and tools for firms to use in developing a more strategic approach to their energy management.

"Firms that can successfully improve their operating efficiencies and reduce their operating costs will enjoy competitive advantage."

DAVID TAYLOR
Chief Executive,
Sustainable Energy Ireland



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Business Energy Challenge

Irish businesses face a tide of rising costs, but the challenge of inflating energy costs can be mitigated, or even eliminated, by making energy efficiency and environmental protection a core element of management practice and can lead to sustainable competitive advantage.

After a number of years of rapid expansion in the 1990s, Irish industry has had to face three years of challenging market conditions. The companies who are returning to profitability in 2004 are those that have managed to cut their cost base dramatically, in the face of falling or static demand. Industry bodies such as IBEC and the SFA have identified a rising Consumer Price Index (CPI), continuing wage inflation, escalating insurance costs and rising energy prices as threats to Irish competitiveness.

When the government announced the beginning of a consultation process for the introduction of carbon taxes in September of last year, representatives of some of Ireland's largest and most energy-intensive industries warned that the imposition of carbon taxes could deal a serious blow to the viability of their operations.

However, at this stage it is not known which policies will be implemented. But regardless of the decisions made by the Department of Finance, the long-term reality is that the Irish economy will have to come to terms with rising energy costs and environmental accountability, along the lines of "the polluter pays."

In order to prevent energy costs from posing a threat to the viability of an enterprise, management will need to engage in the energy efficiency process. By examining ways in which energy efficiency can actually improve the bottom line, executives transform the issue of energy efficiency from a cost burden into a sustainable competitive advantage. Because energy conservation does not mean that services or utilities must be cut back or cut out in order to save energy, it simply means that the same degree of utility is achieved with less energy, through a series of prudent actions and choices.

The four measures which will have an impact on firms and their CO₂ emissions are Integrated Pollution Prevention and Control (IPPC) licensing, carbon taxes, emissions trading and negotiated agreements.

The Protection of the Environment Bill, 2003 brings Irish pollution control measures into line with the corresponding EU directive on IPPC licensing. Its also provides explicit recognition of emission limit values (ELVs), which creates the potential for setting limits for greenhouse gas emissions at a particular industrial site. However, there is a stated preference for more flexible CO₂ emission controls, so the likelihood of a site finding itself subject to an absolute limit of CO₂ emissions is relatively low.

The concept of emissions trading has received a lot of attention, despite the fact that it will affect relatively few firms directly. Sites that are subject to trading will have to hold one permit for every tonne of CO₂ that they emit each year. The state will allocate a limited number of permits and the firm can either buy or sell permits on the market, so that its permits match its emissions.

But in order to be included in emissions trading, a site must typically have thermal plant with an aggregate rated input which exceeds 20 megawatts, a condition which would exclude all except about eighty or so industrial sites in Ireland. For most firms, their experience of trading will be confined to the inevitable price rises in electricity as fossil fuel powered generating stations who are included in the trading scheme build the price of their permits into their costs.

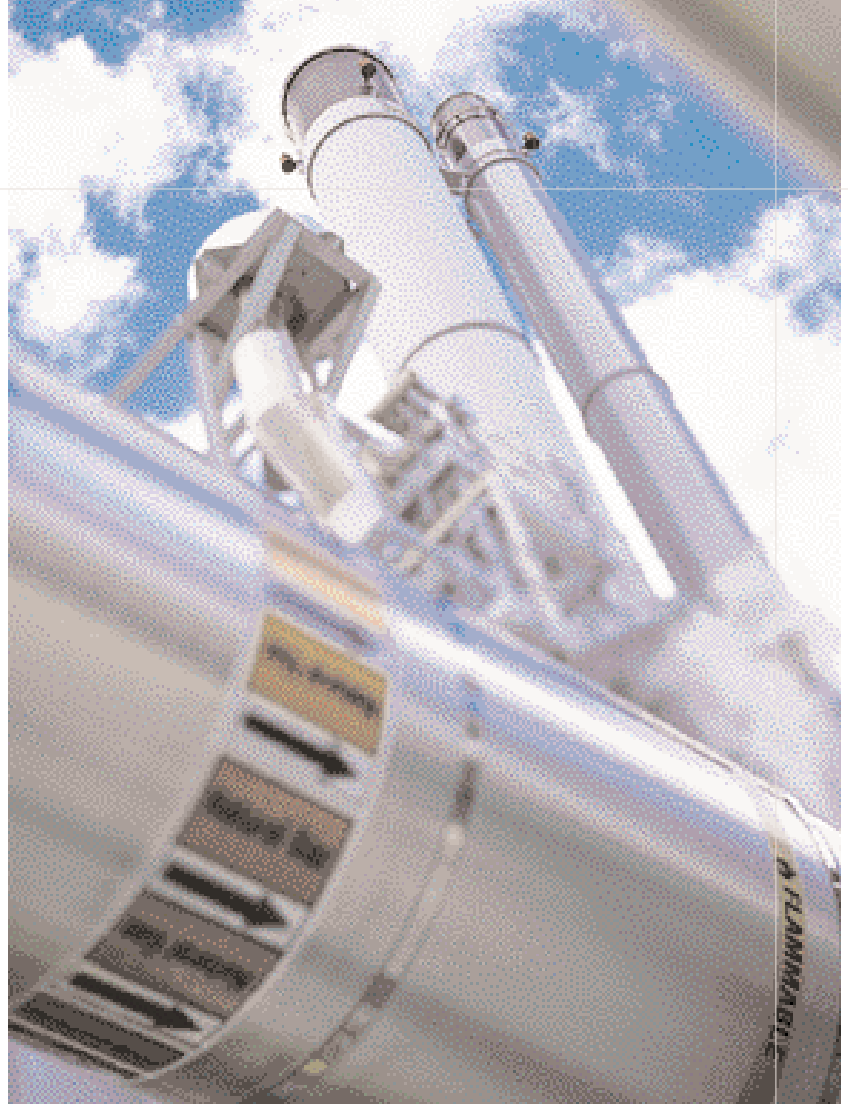
Budget 2003 flagged the fact that some form of energy or carbon tax will be introduced across the economy by the end of 2004. Little detail is available at this stage, but it's clear that, one way or another, prices increases are on the way.

Negotiated agreements may offer the best way for enterprises to be masters of their own destinies in the face of carbon taxation. Negotiated agreements are a system whereby companies or industrial sectors negotiate energy efficiency and CO₂ emission targets with the State, with a view to gaining partial, or even complete exemption from carbon taxes. SEI has just completed a pilot negotiated agreements project with a number of Irish companies, who tracked their energy consumption and emissions patterns and made meaningful improvements. These improvements will not only allow them to escape rising energy costs in the future, but which will also add to the bottom line in the present and near future. In fact, all of the actions required of the participants yielded a positive economic benefit in themselves. The scheme overall showed that energy and emission savings were at least twice what would be achieved by the introduction of a tax alone.

SEI are currently planning for the next phase of negotiated agreements when they may apply to a broader section of Irish industry. Small and medium enterprises will have to prepare for this new policy environment, by moving energy efficiency higher up their agendas. Firms will need to track their emissions and demonstrate that they have been addressing issues of efficiency. Companies that are now starting out on this process will benefit by contacting SEI, who will act as a partner in this process. Because regardless of the ultimate mix of regulatory policy in this area, carbon-based energy is a precious resource and wasting it will be more expensive in the future.



The cost of carbon taxes will have a negligible inflationary effect upon Ireland's industrial cost base, but coupled with negotiated energy agreements could be a valuable economic incentive to help Ireland fulfil its obligations under the Kyoto Treaty.



The Cost of Carbon

The Economic Effect of Carbon Taxes

According to a report released by SEI at the end of 2003, industrial energy use in Ireland now accounts for over €800 million per annum and is responsible for 10 million tonnes of CO₂ emissions. This represents a quarter of national energy-related emissions.

The report, Profiling Energy Consumption and CO₂ Emissions in Industry, examined energy consumption and CO₂ emissions across the entire Irish industrial sector.

It found that industrial energy use is dominated by a few large consumers. Of the 4,500 firms assessed, 431 firms accounted for 80 percent of all industrial CO₂ emissions. One hundred and twenty firms accounted for 60 percent of emissions, while just 14 firms accounted for 30 percent of emissions. But the industries that emit most carbon aren't simply big businesses, they are energy-intensive businesses.

"Carbon taxes, if applied to the entire economy, will have a disproportionate effect upon large energy-intensive businesses rather than on companies that are large in terms of contribution to GDP, but it is likely that large energy-intensive businesses will participate in the EU Emissions Trading Scheme and be exempt from a carbon tax," said Katrina Polaski, senior policy analyst with SEI. "Big business in general would experience a cost increase of less than one percent."

The companies most affected by carbon taxes would be the food, beverages and tobacco industry, as well as the mining, quarrying, metal fabrication and manufacture, and in non-metallic minerals. In 1998, these sectors combined represented approximately 6% of gross value added in industry.

At 2002 energy prices, a carbon tax at the rate of €20 per tonne of CO₂ would result in firms paying an additional amount of between 21 and 28 percent for oil, excluding those firms in EU Emissions Trading. Natural gas would incur lower carbon taxes, resulting in an increased of between 15 and 19 percent for gas in the firms affected.

For the 97 percent of firms which employ 96 percent of the workforce, such a tax

would translate into an increase of less than 0.3 percent in a company's direct cost base.

Only 19 firms would experience a cost increase which exceeded the range of between 0.4 and 0.7 percent of their cost

“The countries that are farthest from their targets are those who were allowed to increase their emissions, such as Ireland...”

base. Fifteen of these firms are energy-intensive users, some of which may be exempt from the carbon tax, as they would be obliged to participate in EU emissions trading because of the scale of their energy use.

The electricity used on site may not be subject to a carbon tax, however, the price of electricity will include the costs of the EU Emissions Trading permits which all fossil fuel generating plants will be required to participate in, and will therefore increase.

Ireland is allowed to have greenhouse gas emission levels of up to 13% above 1990 levels by 2012. In contrast, the UK has to reduce its carbon emission levels by 12.5% in comparison to their 1990 levels by 2010.

Ireland was allowed to increase its emissions over the period, because it was recognised that Ireland's economy needed to grow, which would require growth in energy consumption," said Katrina Polaski. "Energy use is the primary precursor to greenhouse gas emissions, so we needed to increase our emissions to grow the economy."

But although this would seem to make Ireland's Kyoto obligations less onerous than those of other industrial countries, Ireland actually has a difficult target. The UK generating industry has switched from coal to gas over the past decade, which

means that it has already met its target. Germany was able to incorporate East Germany into its targets and was able to meet those targets by closing polluting factories in the former DDR. France's electrical generation needs are met by the nuclear industry, which doesn't emit carbon.

"The countries that are farthest from their targets are those who were allowed to increase their emissions, such as Ireland, Spain and Portugal," said Katrina Polaski. "Since economic growth was greater than expected, these countries have outpaced the emissions growth that they were allowed."

A lot of Ireland's new industry has a low environmental impact, particularly in the computer and bio-technology industries, which have already implemented best practice in terms of energy usage. This means that Ireland can't get an easy win, simply by shutting down dirty industries.

An Irish carbon tax at €20 per tonne CO₂ could result in increased costs of €28 million per annum and would result in an estimated CO₂ abatement of 152,000 tonnes. By comparison, SEI estimates that negotiated energy agreements have the potential to yield up to 640,000 tonnes per annum of abatement within the context of carbon tax. The UK has already implemented a negotiated energy agreements programme, which allows industry groups to create a recipe of various measures that can be taken to reduce carbon emissions. Companies that meet their obligations under these agreements get an 80 percent rebate on their carbon taxes and Ireland may implement a similar programme in an attempt to reach our CO₂ emissions targets. ❶

SME Energy Concerns



SEI spoke to **Pat Delaney** of the Small Firms Association about energy cost and efficiency concerns.

SEI: Proper management of energy resources is an increasingly important issue for businesses. What are your thoughts on this issue?

PD: Energy costs have increased by over 28 percent over the past two years, which has serious cost implications for businesses. So businesses will do anything that they can to manage energy costs. The cost of energy and its environmental impact are important issues that aren't going to go away.

SEI: Are SMEs becoming more aware of energy efficiency as an issue?

PD: A recent IBEC business cost survey found that the real challenges for businesses today are non-pay related - particularly insurance cost and energy costs. The issue presented is that energy costs pose a significant challenge to businesses that may lack the knowledge and resources to address it systematically.

On the positive side, you can also see from figures that Ireland is one of the most energy efficient countries in Europe, because

“Ireland is one of the most energy efficient countries in Europe, because people have recognised that energy costs are rising and that people can do something about it.”

people have recognised that energy costs are rising and that people can do something about it.

SEI: What advice would you offer to SMEs who are looking to control their energy costs?

PD: It's important to have measures, figure out how much you're spending and where you're spending it. Then it's important to put a programme into place. Create a plan, put measures into place and make changes. Recognise that it might require a certain amount of capital investment.

There is advice out there, on how to make changes in a structured way, to plan, take action, to assess how successful you've been and what you could do in addition.

SEI: What involvement would you see for the SFA as a sectoral body?

PD: We would see that the SFA would have a role in the area of negotiated agreements, whereby small businesses, on a sectoral, horizontal or vertical basis, would be able to negotiate energy agreements with SEI, to achieve CO₂ abatement. We have identified 640 SFA members who could benefit from negotiated agreements. The SFA are very supportive of negotiated agreements being as widely implemented as possible. **!**

Top Tips for → Energy Efficiency



This section aims to provide a simple guide to making energy savings in the various systems commonly found in a firm. Further information is available from SEI.

Firms often look to upgrade the most visible energy consumers, such as lighting fixtures, rather than considering the most expensive energy consumers, such as old inefficient motors and drives, or leaking compressed air systems.

Compressed Air Save 10%–40%

Fix the leaks in the compressed air system:

Leaks account for 40 percent of all losses, but are simple to control. Losses through a 5 millimetre diameter hole are worth about 80 cent per hour, or as much as €2,000 per annum, so a routine system of checking and repairing leaks should be established.

Set the equipment at the right pressure level:

More energy is needed to generate air at high pressure, so the generating pressure should be reduced to the minimum level acceptable. Reducing operating pressure by 1 bar can reduce operating costs by up to five percent.

Take cold air from outside:

The intake air for a compressor should be cold and dry and taken ideally from outside the building through an inlet that prevents rain ingress. Every 5°C fall in air intake temperature reduces operating costs by about two percent.

Find alternatives to compressed air:

Replace compressed air powered tools with equivalent electrically powered tools, as these are around 90 percent cheaper to

operate than compressed air tools. Compressed air is actually the most expensive utility used on site (costing up to €1.10 per unit of energy - kWh) due to its inherent inefficiency, with up to 95 percent of the input energy being released as heat.

Lighting Save 10%–50%

Switch lights off:

Light switches should be clearly marked indicating which areas they control. Security staff may be able to assist in ensuring that lights are turned off when areas are unoccupied, especially in the evening and at weekends.

Maintain and clean light fixtures:

Reflectors, roof-lighting and windows should be cleaned regularly to ensure optimum efficiency. Maintenance requirements should be considered when installations are designed, as luminaires that are easily accessible are more likely to be cleaned regularly.

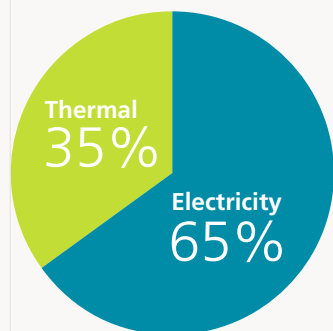
Use Efficient Lamps:

T8 (26mm) fluorescents have similar light output compared to the older T12 (38mm) but use eight percent less electricity. Fluorescent tubes should be fitted with appropriate reflectors to maximise light output. High frequency electronic ballasts should be used, as these are 20 percent more efficient than conventional electromagnetic ballasts.

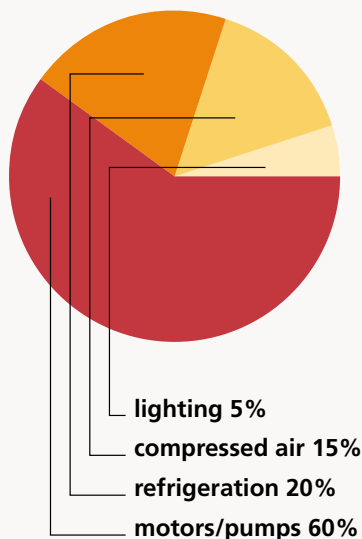
Install lighting controls:

Using energy-efficient control systems, which include manual switches, occu-→

Typical SME Energy Profile



Typical Electrical Energy Profile



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.

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.

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.

Electricity accounts for 65 percent of the typical Irish industrial energy bill

Motors Save 5%–50%

Turn them off:

Encourage staff to turn off conveyors, presses, production machinery, air conditioning and ventilation motors equipment when they are not in use.

Buy energy efficient motors:

Motors can consume their purchase price in electricity in the first two months of use. Check the feasibility of upgrading old, inefficient motors to new “Efficiency Class One” motors.

Use Variable Speed Drives (VSD):

When efficient motors use VSD and are matched well with their loads, huge savings are possible. Where the load on a motor is variable, such as in the case of pumps and fans, using a VSD to reduce the speed of a fan or pump by 20 percent, can cut energy consumption in half.

Use the right lubricant:

Review the type and grade of lubrication used on motors and machinery. Using the wrong lubricant can add 5 percent to energy costs. Additionally, some high performance lubricants can reduce energy costs by 5 percent.

pancy control, time scheduling and daylight responsive control can yield energy savings of between 30 and 50 percent. Simple payback on any investment can often be achieved in 2-3 years.

Replace old lamps:

The light output of fluorescent lamps decreases over time while still consuming the same power. Lamps should be replaced on a planned basis at the end of their useful life, before light output depreciation goes beyond acceptable limits.

Heating Save 10%–25%

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 percent 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 inspection.

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.

Install automatic controls:

Automatic controls can detect when the motor is idling and reduce the speed of the motor, or can even switch it off. Automatic controls also increase the life span of motors if they have “soft start”, which reduces wear from stopping and starting motors.

**Refrigeration
Save 10%–25%**

Increase set points:

Do not set temperatures lower than necessary. Increasing the set point by one degree can save five percent on running costs.

Install electronic expansion valves:

Installing electronic expansion valves on refrigeration plant can save up to 20 percent, by varying the refrigeration cycle to match that of the load on the refrigeration plant.

Organise your fridges:

Ensure material is not stacked in front of vents and fans.

Keep condensers clean:

Keeping condensers clean ensures an adequate supply of clean cold air, which makes the chilling process more efficient.

Maintain refrigerant:

Check the system routinely to ensure that there is sufficient refrigerant charge and that there is no refrigerant leakage. An under-charged system will cost more to run and may not maintain consistent temperature.

Upgrade your equipment:

Energy efficient ice machines can save 6 percent on energy costs; vending machines and beverage merchandisers can save 9 percent; reach-in refrigerators can save 12 percent and reach-in freezers can save 16 percent.

**Cooling and
Air Conditioning
Save 10%–30%**

**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. If using cooling towers or evaporative condensers, these should be maintained free from contamination that reduces heat transfer. Fans on these units should be thermostatically controlled.

**Purchasing
Save 5%–15%**

Shop around:

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

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.

Use energy assessment software:

Electricity suppliers may be able to provide value added services such as online facilities or software packages to assist a firm review electricity usage patterns and identify saving opportunities. 

“Motors can consume their purchase price in electricity in the first two months of use”

With rising fuel costs, the opening of electricity and gas markets and the introduction of new climate change policies, the requirement to monitor and reduce energy consumption is now greater than ever for Irish business.

Strategic Energy Management

by:
ANDREW PARISH
Sustainable Energy Ireland.



The process of managing energy is not new or complicated. Energy should be regarded as a business cost similar to other business costs including raw material and labour. The effort required to manage energy effectively will vary between companies and depends on the company size, and energy intensity (energy costs expressed as a percentage of total company costs) and the current level of efficiency. It is not unreasonable for a company starting out in energy management to achieve a 20% reduction in their energy bills by good housekeeping measures alone. This cost saving has a straight positive impact on the bottom line, yet is very often overlooked by firms who perceive energy management as not central to the business or not 'strategic enough' to warrant management attention. However, as costs are rising and margins are being squeezed, introducing strategic energy management into a firm makes clear business sense and clearly should be a priority for management.

However managing energy does not necessarily require a formal system and any firm can improve their energy performance by following a few simple techniques. As with any business strategy, strategic energy management incorporates a few fundamentals;

1. *get senior management commitment*
2. *assess current situation*
3. *set goals and targets*
4. *establish an action plan*
5. *allocate resources*
6. *implement plan*
7. *review and evaluate*

Companies that are already utilising quality and/or environmental management systems such as ISO 9000 / 14001 or EMAS will undoubtedly find the implementation of a formal energy system familiar, as the method and management of the system should follow the structured 'plan-do-check-act' approach. Ideally, to provide an integrated approach to business sustainability, it is strongly

recommended that energy management be incorporated into any existing systems.

Energy strategy spans a number of the key functions within a firm and therefore requires cooperation and commitment from all. Senior management provide the leadership and set direction; finance are involved to ensure the most appropriate purchasing decisions are made; production, as the key user, ensures that energy is used appropriately; engineering ensure that plant is operated and maintained efficiently and HR are involved to facilitate training and help generate a culture of energy awareness.

The most successful energy management strategies typically involve the setting up of an energy management team with participants from each of the functions mentioned above. This team would support a dedicated energy manager with responsibility for the coordination of energy management activities. Depending on the size of the business, this may or may not be a full-time, dedicated post. The team, in association with senior management, would establish an energy management policy, which should include general aims and specific energy cost reduction targets, timetables and budgetary limits, the methods to be employed and the organisation of management resources. The energy manager should set up a system to collect, analyse and report on energy consumption and costs. This can consist of reading meters on a regular basis and the analysis of utility bills i.e. gas, fuel oil and electricity.

The next step is to assess how, when and why energy is used in the organisation through an energy review or audit. An energy audit establishes energy use patterns, the potential for energy and cost savings, and can include recommendations for actions for improving energy efficiency. The typical energy audit examines the use of the main utilities including electricity, gas, oil and water. This audit may be carried out internally if sufficient expertise is available in-house, but very often is carried out by independent, expert energy consultants, of which there are many in

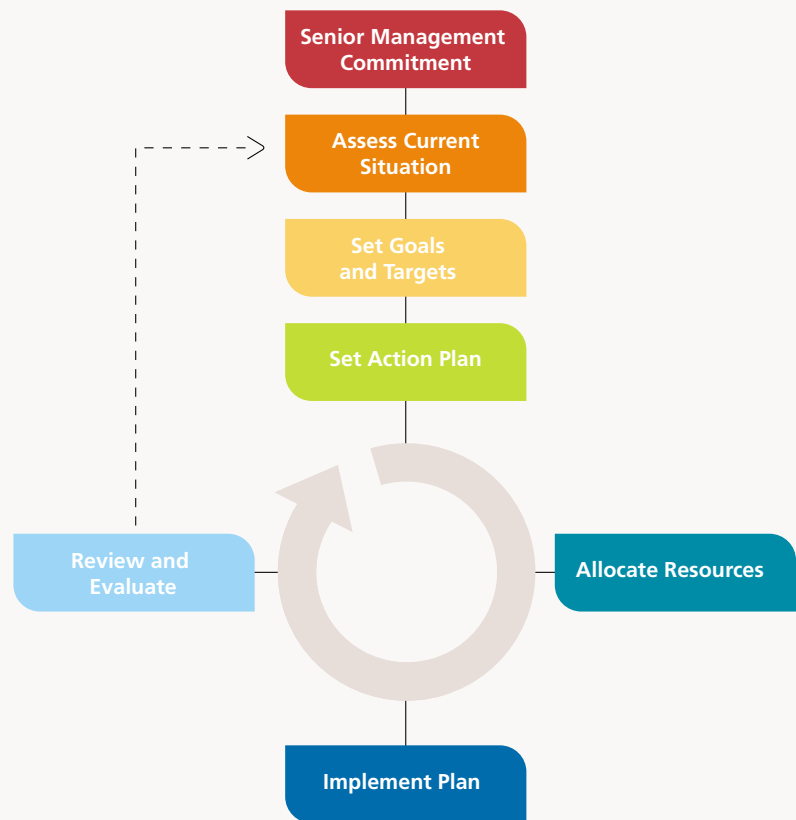
Ireland. A typical, comprehensive energy audit may cost in the region of 1% of the total site energy bill but would, in many cases, identify costs saving opportunities up to 20 times in excess of that.

Based on the findings and recommendations of the energy audit, a prioritised action plan should be drawn up. Energy and cost savings and the required investment will be listed for all items in the action plan. The projects should be implemented in order of priority as set out in the action plan.

The energy team should report results and progress to management and staff on a regular basis. An energy management plan or strategy will be more effective if its results are reviewed annually and the action plan revised. The review should at least detail

actions undertaken during the year and projects and implementation plans for the next 12 months. Adjustments can be made to targets in light of business requirements e.g. a company may decide to make additional products that require a higher energy input.

So, the business of managing energy is just that – good business management. The same business practices employed by firms to gain and sustain competitive advantage are similar to the techniques employed by firms to maximise their energy efficiency. In the current climate of price uncertainty and increasing environmental obligations, the management of resources to provide increased profit margins and additional efficiency can only be of positive benefit to businesses. !



Q&A

with Irish Biscuits, Limited.



SEI spoke to Tony O'Rourke, engineering manager at Irish Biscuits Limited, about measures that the energy-intensive food company is taking to reduce its exposure to carbon tax and rising fuel costs.

SEI: How important is the ongoing management of energy in Irish Biscuits?

TO'R: Energy efficiency is very important to us, since energy accounts for a large part of our cost base, both in terms of production and services costs. Energy is so important to us that we appointed an engineer to have responsibility for energy efficiency.

SEI: What would the likely impact of increasing energy costs be for Irish Biscuits?

TO'R: The impact on us would be an increase in operating costs. But we hope to minimise our carbon tax exposure and to minimise the effect that rising costs would have on our business by implementing energy efficiency measures on an on-going basis.

SEI: Do you have an energy management strategy in place?

TO'R: We've had an active energy management strategy since 2001, when we invested in energy management software. Once we were able to monitor energy use we were able to focus in on specific issues, tackling the biggest issues first.

SEI: Has this required a significant financial commitment on your part?

TO'R: In the first phase, which took place in 2001, we invested €30,000 in energy software and in metering equipment. In 2003 we invested €54,000 in energy efficiency measures and expect to invest around €20,000 in 2004. It's a gradual process of investment.

SEI: How does the management system allow you to control your energy consumption?

TO'R: We're able to put energy items up on the energy management system and then control them from one computer. We get updates every fifteen minutes on our energy consumption and can shed load where appropriate. If we're shedding load then we shed it from the air handling, water distribution or compressed air services, rather than from the production process.

SEI: Are services a significant part of the load?

TO'R: The service areas take a significant chunk of the energy, in terms of heating costs and water control. But we've taken a

number of steps to reduce this cost, in terms of installing variable speed mechanisms into our water and air handling systems.

We also made a significant saving when we replaced one inefficient door with a rapid action door. We did a study of the effectiveness of this door and found that it only needed to be open for a total of 2 and a quarter hours over an eight day period, so having a good door saved a lot of energy.

SEI: Where do you get your information for energy efficiency measures?

TO'R: We have regular energy meetings to come up with ideas. We also get ideas from Bord Gais and the ESB, or from SEI. If there are any seminars or meetings on energy then we make sure that that we have a representative there.

SEI: Is there an energy efficiency mentality among staff in general?

TO'R: It's important to get information out to the staff, in terms of getting them to switch off lights or machines when they aren't needed. We also speak to cleaning contractors about making sure that lights are switched off before they leave at the end of the day. We can see by our system whether or not people are taking notice and although it's a gradual process, we do find that it does make a difference. !

Sustained Competitiveness of Irish Companies is Paramount.

Enterprise Ireland is fully aware of the obligations of the Irish enterprise sector specified in the National Climate Change Strategy and we recognise that action must be taken to achieve green house gas reduction targets.

Keeping Competitive...

by:
FRANK RYAN
Chief Executive Officer,
Enterprise Ireland.



The sustained competitiveness of Irish companies operating globally is paramount. It is the key to winning and maintaining sales in a hugely competitive international marketplace. A comprehensive strategy aimed at achieving optimal energy efficiencies must be a key objective. The imposition of a carbon tax across the board and without flexibility could erode market positions that have been hard won over the last number of years.

It may be much more effective and sustainable in the long term to consider the introduction of a mix of policy measures, including negotiated agreements, that would allow companies choice and flexibility in making their contribution to Ireland's goal of reducing CO₂ emissions. This is borne out by the findings of a pilot study programme undertaken by Sustainable Energy Ireland on negotiated agreements. It found that significant energy efficiency gains of between 5.4% and 17.1% were achieved by participating

companies equating to annual industrial reductions in CO₂ emissions of 640,000 tonnes. It also found that the energy cost savings more than compensated for the project investment cost.

The work carried out by SEI shows that many firms are operating at a lower than optimum level of energy efficiency. This affects margins in just the same way as any other input cost. Companies should be aware of the strategies they can employ to manage their energy costs and most businesses can make significant improvements without having to invest large sums of money. Identifying and eliminating inefficiencies must be a priority for businesses in maintaining competitiveness. EU and national Environmental legislation together with the work of organisations such as the Environmental Protection Agency and Sustainable Energy Ireland is ensuring that companies continue to include energy efficiency as a key component in developing winning strategies. **!**

An interview with...

We put the questions to Bank of Ireland's **John Riordan**

John Riordan,
associate director
of Bank of Ireland
Corporate Banking
spoke to SEI about
the changing
environmental
finance scene.



SEI: Why has Bank of Ireland decided to get involved in the energy and environmental sector? What were the drivers behind your decision to launch a new €500m environmental and renewable energy sector fund?

JR: Our motivation is derived from other people's needs. We saw a need for the fund and associated in-house expertise, due to the increasing need for renewable energy and the need to satisfy our obligations under the Kyoto Treaty.

SEI: Is it true that more and more financial institutions are seeing growth opportunities in the energy sector? Why is this?

JR: If you look at developments in the water or waste management sector, they're driven by EU directives. Additionally, there is also increasing expenditure on infrastructure in general, which is also partially EU directive-driven. When you combine the effect of Kyoto, carbon taxes and EU requirements, it's a must-do, rather than a want-to-do. The demand for this kind of financing will emerge over time. For example, we've been presented with 37 projects in recent months, some of which could take many years to develop and finance.

SEI: Is your fund for large businesses only? What options are available to the SME sector with regards to energy projects?

JR: We're looking to work both with large companies and SMEs. There is a tendency for banks like ourselves, the proverbial big fish in the small pond, to be seen to have a leaning towards multi-nationals, but we want to work with SMEs who can raise equity, who have a track record or who partner with somebody who has a

track record. In our experience some of the best projects are conceived at the SME level.

JR: We put together a structure that seeks to protect everybody, including the borrower. We regard our borrowers as stakeholders, we only enter a deal when we're satisfied that the key people are capable of delivering. If a specific project runs into problems then the sector gets a bad name, which can constrict the growth of that sector. Hence a long-term view needs to be taken.

SEI: In your opinion, do you think SMEs are now starting to recognise the opportunity to invest in energy or efficiency projects?

JR: SMEs are definitely examining what's going on in their companies in terms of energy efficiency. But the companies who want to improve their energy efficiency invariably already have a banking partner, who may be in a position to provide the finance so that they're in compliance with energy regulations.

SEI: What advice would you give to SMEs who are considering undertaking an energy project or who need financing to upgrade an existing project?

JR: The best piece of advice is to talk to Bank of Ireland or any reputable institution as soon as possible. We'll be able to identify many of the hurdles to protect our borrowers from unidentified obstacles. Banks will differ in terms of price and terms, but the know-how of the institution pays dividends in the long-run. You have to approach these institutions with a long-term perspective in mind. **!**

Where to go next...

April

Energy Management Course

Introduction to energy management.

July

Energy Auditing Course

Energy audits and surveys.

September

Energy Awareness Week

Series of nationwide events highlighting the benefits of energy efficiency

April

Lighting Course

Introduction to lighting including demonstration of equipment.

September

Energy Management Course

Introduction to energy management

October

Energy Auditing Course

Energy audits and surveys.

May

Energy Show

Energy exhibition including workshops on energy efficiency and renewable energy.

September

Boiler House Management Course

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

November

Motive Power Course

Energy efficiency in motors and drives.

For more information on any of the above upcoming events please email SEI at: business@sei.ie



towards a lower carbon economy

12th – 13th May 2004 RDS, Ballsbridge, Dublin 4

the energy show is a must for anyone with an interest in or responsibility for energy usage in business.

the two day exhibition presents a vast array of innovative products and services.

the eight workshops will cover renewable and efficient energy technologies, their benefits and best practice approach to their implementation.

attendance at the show is essential for suppliers and customers of sustainable energy technologies to meet, transact business and make a low carbon economy part of business as usual.

For more information log onto www.sei.ie/energyshow

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Our Mission

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

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