



More Bright Ideas

A Smarter Business Guide to Energy Efficiency



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Foreword

No matter what type of business you are in, reducing your electricity consumption means becoming energy efficient and saving money. As more and more businesses look for ways to improve performance both environmentally and financially, Chambers Ireland and ESB have teamed up to show businesses how this can be done simply, by introducing practices that use less electricity in all parts of your business.

Given the significance of energy usage by business, the role of individual companies and their staff in improving energy efficiency is vital. Moreover, increased productivity, a reduction in pollution, lower consumption of natural resources, and improved financial performance can all be delivered.

More Bright Ideas: A Smarter Business Guide to Energy Efficiency explores the key steps to energy efficiency, how you can understand your energy usage, identifies key areas for change and provides useful information for how you the customer can better understand tariffs and bills in order to maximise savings.

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Key Steps to Energy Efficiency

Save energy, save money, save the environment.

Whatever your business, using energy efficiently will have a number of benefits. Not only will you be reducing your environmental impact by becoming energy efficient, you will also be saving your business money, adding to your profits and improving your bottom line.

No matter what type of business you have, there are always opportunities to reduce energy consumption. Your company can start saving money by following these six easy steps.

- **Appoint an Energy Champion**
- **Understand Your ESB Bill**
- **Monitor Usage**
- **Review Your Operations**
- **Plan and Implement Improvements**
- **Monitor and Review Progress**

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1. Appoint an Energy Champion

Nominate somebody in your business to be responsible for energy management. Make sure that it is part of their job and not a tagged on extra.

Whoever your Energy Champion is, it is important to remember that they do not necessarily need to be an expert in energy management. They will need the support of senior management.

Once in place, your Energy Champion should devise and implement an energy management plan. It should include how and where energy is used, how current practices can be improved, identify areas for improvement, offer solutions and put these solutions into practice, brief staff on their role in reducing usage, and review and report on performance to senior management.

The Energy Champion will be the point of contact for ESB on energy efficiency. Remember the ESB Business Centre will be there to help your Energy Champion with advice and information as required - business@esb.ie or telephone 1850 372 787.



2. Understand Your ESB Bill

All ESB business customers have a tariff or pricing structure that applies to their supply agreement. In all cases, business customers are either on the Maximum Demand or on one of the General Purpose tariffs.

Each tariff has a different make-up, and understanding your tariff and the basis for your energy charges is a key step on the way to reducing your costs.

Understanding your tariff may present savings opportunities that you were not previously aware of. For instance, if you are on the General Purpose tariff, and you move as little as 12 per cent of your current or potential electricity usage to night-time, you may benefit from ESB's Nightsaver tariff, where usage charges are almost 50 per cent cheaper than daytime.

For more information visit www.esb.ie/business/bill

3. Monitor Usage

Your Energy Champion should begin taking and recording meter readings on a daily basis, which will give you an indication of how much electricity is being used during the day and at night.

Once daily consumption has been identified, record readings to establish weekly and seasonal patterns.

Your Energy Champion should prepare a summary spreadsheet charting electricity usage patterns, which will identify the equipment that is using electricity and thus, giving you the starting point from where you can make savings.

A full explanation on how to read all ESB meter types is available at www.esb.ie/business/meter

4. Review Your Operations

Once you have established a usage pattern, look for the ways your business operation uses electricity and identify the equipment that is using large amounts of electricity. For every piece of equipment using electricity, consider whether or not running hours can be reduced, whether controls can be fitted to switch off when not in use, and if the equipment has a full service and maintenance history. All equipment has a specification plate from which you can see what its usage per hour is (see Table 1).



Get your staff involved here. After all, it is likely that they use the equipment most regularly and therefore they can help to implement improvements.

TABLE 1

Duty	2.6 kW 9,000btu
Air Flow	300 m3/hr
Power Supply	230v 1ph 50hz Run 7A
Noise Level	55dba @ 1mtr
Weight	35kg
Dimensions WxLxH	380 x 480 x 830mm
Control	Remote + Automatic Thermostat
Power Consumption	1.6kW per hour

5. Plan and Implement Improvements

Objectives to reduce consumption should be carefully planned and targets should be set against everything that you hope to achieve.

A full action plan for improvements in all identified areas should be made clear to all members of staff and should include

improvements for each of the areas that use electricity. For example:

- Lighting – Fit energy efficient lamps and introduce a 'switch off' programme for staff; and
- Office equipment – Fully switch off all equipment when not in use.

Introducing these simple steps can set a precedent among staff and allow you to introduce more focused measures later on.

When buying new electrical equipment ensure that the decision to purchase is based on the projected life time energy and maintenance costs.

6. Monitor and Review Progress

Start your energy efficiency programme with a celebratory event and make sure to include the entire team. Once it's up and running, keep staff engaged by placing energy awareness messages at strategic locations throughout the office / building and by beginning the cost cutting measures in your chosen area immediately.

And remember, involving as many people as possible in the plan will generate good suggestions and feedback.



Key Areas for Change

In many businesses, there is a common thread in areas of energy consumption.

These areas include lighting, heating, air conditioning and office equipment. Here's how you can start making savings in each of these areas.

Lighting

- Installing occupancy sensors to avoid lights being left on unnecessarily can provide savings of up to 10-80%.
- Replace ordinary incandescent bulbs with low energy equivalents. These give out the same light but consume 80% less electricity and last 10 times longer.
- When refurbishing fit T5 fluorescent fittings. These use 20% less electricity than conventional T8 fittings.
- Use individual task lighting in preference to increasing illumination over a large area.
- Reflectors and louvers that are not cleaned regularly will reduce light output by up to 20%.
- Plan a complete lamp replacement programme. Standard fluorescent lamps should be replaced after 8,000 hours of use. Old lamps give about 50% of full output.

- Always switch off interior and exterior lights when not needed.
- Fit time switches and photocells to automatically switch on and off exterior lights.

Heating

- Ensure frost protection thermostats are not set too high.
- Use electronic thermostats instead of mechanical ones as they provide a faster response to changing temperatures.
- Ensure only occupied areas are heated and that heating is reduced during non-working hours.
- If pre-heating large areas, switch off any unnecessary ventilation first to avoid unnecessary heat loss.
- Insulation can reduce the heat loss through an uninsulated ceiling by up to 20%. Insulating floors is just as important.
- Consider installing a set-back sensor to control heating in areas such as conference rooms. Set-back sensors cost as little as €30 but could save you a packet!
- If a sensor is located over a heating source, then the air conditioning will operate for longer and use more energy than necessary.



Air-Conditioning

- If overheating occurs, turn down the heating. Do not open windows.
- Check air-flow rates – fans can consume a large amount of energy so you need to look for ways to reduce air-flow.
- Mechanical ventilation and extraction can add significantly to your energy costs, not only in running costs but also in air-conditioning and heating costs.
- Set air-conditioning and heating controls so that they do not conflict with each other and waste energy. Ideally, set heating at 19°C and air-conditioning at 24°C.
- Locate heat-generating equipment (photocopiers, vending machines, factory machinery, display lighting, etc.) away from air-conditioned spaces.
- Ensure air-conditioning units are serviced regularly.

DID YOU KNOW?

Electronic thermostats provide a faster response to changes in temperature than mechanical thermostats.

Office Equipment

- Computers – A typical computer will use approximately €216 a year in energy if left on all the time. Using a 'sleep' mode can reduce this by 65%, while turning a computer off completely after work hours cuts energy usage by 75%.
- Photocopiers – Leaving your photocopier on standby overnight costs 18c per night, or €73 per year. What's more, a photocopier left on standby overnight uses enough energy to print over 1,500 A4 copies!
- Printers and fax machines – Investigate whether your printers have a double-sided mode and activate it if it is available, preferably setting double-sided printing as the default. If it is not available, encourage staff to select double-sided printing each time they print a document. The energy saving mode should also be activated, allowing the machine to automatically power down after a set amount of time.
- Vending machines and water coolers – Vending machines often run 24/7 so it is wise to install 7-day time controls to ensure that the machines are powered off when not in use. Also, ensure that the water cooler is placed in a suitable location – away from a sunny window – for maximum efficiency.



Business Electricity Prices – Tariffs for Businesses

Two types of electricity tariffs (pricing) apply to business customers (SMEs) with ESB.

General Purpose Tariffs

Suits small businesses that are open 9am to 5pm, with a maximum import capacity contract with ESB Networks for less than 50kVA. It contains a fixed standing charge and block 1 and block 2 unit charge.

The General Purpose Nightsaver tariffs are a variation of the General Purpose tariffs and are best suited to businesses that can use more than 12% of their daily electricity load at night e.g. hotels and pubs.

Compared with the General Purpose tariffs businesses with the Nightsaver tariffs have an increased standing charge, slightly increased day unit charge and to compensate night units are charged at roughly half the price of day units.

Maximum Demand Tariff

Suits medium sized businesses with a maximum import capacity contract with ESB Networks for greater than 50kVA.

This tariff is more complicated than the General Purpose tariff as it contains elements such as capacity and demand charges. It also contains penalty charges such as excess capacity and wattless unit charges.

On the positive side, a business owner using the maximum demand tariff has more control over their electricity spend.

Some important Points

Maximum Import Capacity (MIC)

It is the level of electrical capacity contracted between your business and ESB Networks. The unit of measurement for MIC is the kilovolt ampere (kVA). All customers have an MIC contract with ESB Networks but right now customers below 50kVA on the General Purpose tariff do not pay capacity charges.

This threshold of 50kVA is very important. If your MIC is too low it may cause technical/safety problems for your business.

It is suggested that you consult your electrical contractor if your electrical demand increases or decreases significantly. It may then be prudent to seek a change in your MIC.



Wattless Charges

In large commercial or industrial premises, there are likely to be items of electrical equipment that require wattless energy to operate.

Wattless energy is measured separately from your general units, and if you exceed a certain limit, it will give rise to a separate charge.

Wattless energy can be removed. You should contact your electrical contractor to fit power factor correction equipment. This will reduce the amount of reactive power you consume and help to avoid wattless charges on your bills.

Winter Demand Reduction Incentive (WDRI)

This incentive is offered only to customers on the Low Voltage Maximum Demand tariff.

Maximum electricity demand between November and February is usually measured between 8am-9pm, Monday to Friday.

With WDRI, your demand is only measured for two hours each day, 5pm-7pm, Monday to Friday. So if you reduce your maximum demand during those two hours, you'll save on your overall energy costs.

ESB writes to all its maximum demand customers each year in October to advise them of the scheme. Customers cannot lose by availing of the incentive.

Estimated Bills

If you receive an estimated bill that is substantially more than what you expected – you can have it adjusted by submitting a meter reading on line at www.esb.ie/business/meter

DID YOU KNOW?

Since October 1st 2010, ESB have a range of competitive tariffs to suit most business needs.

Why not contact us at 1850 30 50 70
or email bussales@esb.ie

Additional Services

Manage Your Account Online

Did you know that you can submit meter readings, sign up for payment options and view past bills online?

Energy Extra

Find out how Energy Extra, a free online energy management service for business can help you manage your electricity needs.

Visit www.esb.ie/business/energyextra

Group Energy Manager

Do you have five or more ESB business accounts? Group Energy Manager (GEM) is a unique web-based application to help you monitor energy costs across your business and identify areas for potential savings could be right for you.

Virtual Lighting Guides

Animated 3D virtual guides that take you through exteriors, reception areas, offices, corridors and high-bay facilities to show you the best lighting equipment to use for safety, security, and energy efficiency.

For further details, visit www.esb.ie/business or contact ESB on 1850 372 787

DID YOU KNOW?

By simply lowering your heat setting by 1°C, you can save up to 8% on your next energy bill.





Ireland a 'Hot Bed' for Global Energy Efficiency

Ireland is well ahead of the rest of Europe in developing an industry around energy management, according to the National Standards Authority of Ireland (NSAI).

To further strengthen Ireland's leadership role in the energy management industry, NSAI and Sustainable Energy Authority of Ireland have collaborated in the establishment of a joint Energy Standards Consultative Committee, which will develop world-class standards in the field of energy management.

One of the primary aims of the committee, which was launched in July 2009, is to use Ireland's vast experience in energy management to position Ireland as a 'hot bed' for the development of energy standards and innovative approaches to energy management.

The creation of the committee coincided with the recent publication of the European energy management standard, which provides a framework for all types and sizes of companies to help them establish systems to improve their energy efficiency and significantly reduce energy costs.

Irish-based companies using these standards and other energy management techniques saved more than €40 million on energy costs in 2007 and even bigger savings are expected in 2010.

DID YOU KNOW?

Companies based in Ireland saved more than €40 million on energy costs in 2007.



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