

ENERGY SAVING

**A guide to...
improving profitability**



brought to you by:



**Nationwide Energy
Consultants UTILITIES LTD**

Tel: 0845 0660705

Introduction

In today's constantly changing gas & electricity markets, keeping control of costs is becoming more and more important to business. One of the main ways of reducing these costs is by introducing a training programme for all staff in the need to control and conserve energy.

"small changes can make a big difference to profitability."

Nationwide Energy Consultants have put together a few facts and helpful tips to help you reduce your energy costs

Just because you have always done things that way isn't a reason not to change. The combined effect of a number of small changes can make a big difference to profitability.

Somebody has to take responsibility for these changes....

They will be your "Energy Champion"

think...

Do we need it?

Why is this on?

Why are we using this?

What about the cost?

...minimise wastage

Nationwide Energy Consultants Services

We can provide the following services:

We offer a bespoke lighting package, which includes a survey of existing lighting, calculating the savings, consultation regarding your requirements and fitting the bulbs which are best suited to your establishment.

We supply and fit water management systems, percussion taps and water displacement units.

We are independent Energy Brokers who can arrange electricity and gas contracts at competitive rates.

We have a highly trained and experienced team of billing analysts who can provide expert advice and guidance.

We arrange electricity and gas meter upgrades, downgrades as well as installation and re-energisation of meters.

We offer a range of energy assessments to identify where energy efficiency can be improved.

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Billing & Contracts

Utility companies are notorious for over estimating your bills so:

Always ensure that your bills are correct. If the readings are incorrect and over estimated by a large amount contact your supplier and inform them of the actual readings and ask them to send a revised bill.

Always record your meter reads (gas and electricity) at least once a week. Try to use the same time and day, this will allow you to check your bill more accurately.

Always check your bank account to ensure that the correct direct debit has been taken from your account and if there are any discrepancies contact your bank.

Avoid falling into the trap of "roll over" contracts. Most utility companies give a 90-120 day window to renew your contracts. In a lot of cases when you are running a business you may fail to renew at competitive prices and end up paying too much for your power. This could cost you, in some cases many thousands of pounds, always seek advice from a professional independent utility consultant.

Of course one of the best methods of energy savings is to make sure that all your staff are fully trained and are aware of the importance to your business and the environment of conserving energy.

Independent Energy Survey

Why not take advantage of our no obligation Energy Survey and get a personalised report of your establishment.

With the recommendations from your energy survey report and tax incentive information, you can make the right decisions as to which measures will pay the biggest return on your investment - and have the government help you do it.

What's involved?

Bill analysis - Expert advice on current rates and contracts with regards to electricity, gas and water (bills will be required).

Meters - Meter identification and readings demonstration.

We will identify where your establishment can improve its energy efficiency and lower consumption.

Lighting - Survey of existing lighting, discussion of low energy alternatives, calculation of potential savings.

Water survey - Calculation of potential water savings and advice on options.

How much will it cost? Our survey is free and without obligation.

How long will it take? Approximately 1 hour (depending on the size of the establishment)

Who needs to be present? We will need the person responsible for utilities on site to discuss benefits, however the consultant can carry out the survey unaided.



Electricity - Lighting

Lighting will account for around 40% of your electricity bill and 20% of your total energy cost. If you want a quick and easy way to substantially reduce your energy usage, replace your electricity guzzling tungsten bulbs with energy efficient equivalents.

Initially it may not appear to make sense to pay more for an energy efficient bulb when you can pay less for a tungsten bulb. But remember these bulbs last 10 times longer and use less energy than their guzzling cousins.

Let's look more closely:

One 50 watt Halogen bulb costs 1.50p and lasts 4000 hours (approx 1 year), consuming £22 of electricity in a year. £23.50 a year per bulb!

One 4 watt LED energy efficient bulb cost £9.50 and lasts 30000 hours+(approx 8 years+), consuming £4 worth of electricity in a year. £5 a year per bulb!

So, if you compare the purchase cost and energy use of an energy efficient bulb to the cost and energy use of electricity guzzling halogen you could be saving yourself an extra £18.50 per bulb per year. How's that for a bright idea?

A bespoke lighting package is available, which includes a survey of existing lighting, calculating the savings, consultation regarding your requirements and fitting the bulbs which are best suited to your establishment

Tips

We recommend checking time switches, especially outside lights on a regular basis. This important fact is often overlooked, remember to alter the timings Summer & Winter.

Fit timers and dusk to dawn sensors on outside lights.

more tips overleaf ►

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LED Lighting

Undoubtedly, LED light bulbs are the future of household as well as industrial lighting due to the many advantages they have over the infamous incandescent light bulbs.

The lifespan of LED light bulbs is estimated to be about 50,000 hours+, which is around 10 years of continuous operation! Now, compare this with an incandescent light bulb that has no more than 5000 hours of life. Really, no match!

A single LED light bulb may be costlier than a single incandescent light bulb but the true cost is in the number of replacements required in case of an incandescent light bulb.

Savings in terms of power consumption is a major highlight of LED light bulbs. An incandescent light bulb operates at a mere 20% efficiency while an LED light bulb operates at around 80% efficiency. This, in turn, leads to handsome savings in your electricity bills if you completely transform your lighting needs from incandescent or halogens to LED.

Unlike CFL or fluorescent lighting, LED lighting does not flicker, reducing eye strain and other problems for those with photo-reactive illnesses.

General Hints & Tips

Don't leave appliances on standby or charge unnecessarily, standby can use as much as 10%- 60% of the electricity used by the device if it was switched on

Ensure your refrigerators are stocked correctly, and ensure that there is free circulation of air around the back and that vents are clean and clear.

Ensure that all door seals are maintained and seal properly and ensure that all doors are kept closed.

If you have a multi-rate electricity tariff e.g. night & day tariff, use appliances during the lower rate period will save you up to 35% of the cost.

Controls such as timers and passive infra reds save electricity by turning lights off when not in use.

Dimmers save electricity when used to lower light levels. Be sure to select low energy lights that are compatible with dimmers.

Tips

Always replace or remove fluorescent tubes that are not working. The ballast uses around 25% of the energy of a lamp and fitting for mains frequency lighting, and around 10% for high frequency lighting. Significant amounts of energy will still be consumed even when the failed tube is not lit, so removing it is important.



GAS - Heating

Heating an establishment is a delicate balance between the customers comfort and your costs.

This can be managed by a few simple steps.....

Tips

Check your radiator thermostats and make sure that they are set correctly. Setting a thermostat too high can increase running costs significantly.

Check your boiler on a regular basis and make sure the temperature settings are correct (approx 60-65 degrees)

Fit reflective foil behind radiators that reflects heat back to the room rather than being absorbed by the wall.

If the establishment has areas that are not in use for periods of time, heating should be controlled by the installation of zoned valves so as not to heat areas when not in use.

Avoid excess cooling

Air conditioning is rarely needed below 24-26 degrees

Turning down your heating by 1 degree can make significant savings.

Use natural cooling if possible. In the summer keep the doors & windows open and air conditioning off.



Kitchens

Kitchens use a huge amount of energy, so there's the potential for considerable savings.

Typical energy use in a commercial Kitchen

Cooking 23%, Water 19%, Space heating 19%,

Lighting 11%, Cooling 8%, Refrigeration 6%

Ventilation 5%, Other 9%

Tips

Space - Ensure there is adequate space all around your equipment. Allowing good ventilation will increase its efficiency and the shelf life of the contents.

Full - A fuller fridge or freezer is more efficient than an empty one so keep it filled. The emptier your fridge or freezer is, the harder it has to work to keep everything inside cold.

Location - Avoid placing refrigeration next to prime cooking equipment. The cooler the ambient temperature the less it has to work and the more energy saved.

Temperature Settings - Fridges should be set to 5 degrees and freezers to -18 degrees in order to work at their most efficient.

Cooking temperatures - Cooking at lower temperatures for longer reduces energy consumption and improves food quality because you lose fewer nutrients.

Appliances - Only turn on gas / electric appliances as and when required.



Why is this on?

Water

Cutting water usage is another way to reduce costs. Adopting a systematic approach to reducing water use could cut your water use by up to 50%.

Water Management System - It is recommended that if you are on a water meter and you do not have a water management system controlling the gent's urinals, one should be fitted. The annual savings could be in the region of £800+.

How the water management system works:

Modern water management systems are controlled by a passive infra-red (PIR) sensor to detect when somebody has approached the bank of urinals. An electronic timer is then initiated, after a set period the urinals will then flush. If nobody approaches the urinals, for example at night a "hygiene flush" will be initiated generally after 12hrs of inactivity, this feature is important to prevent odours.

Tips

Water meter - Check the meter serial number. Make sure you are billed for your meter.

Meter readings - Get into the habit of comparing the meter reading on your bills with your own records. This is particularly important when your bills are based on estimated readings.

Staff - Make sure staff are fully aware of the importance of water minimisation.

Insulate - Ensure pipes are well insulated to protect against frost damage.

Percussion taps - Can be fitted in areas where taps may be left running. A dripping tap wastes an average 1500 litres of water a year. (Payback 1 year).

Water displacement units - Can be fitted into toilets to reduce the amount of water used per flush.

Tap restrictors - Valuable for providing equal flow at a number of taps in a washroom.



What about the cost?

“Energy Champion”

Having an energy champion is essential to ensure your continuing commitment to economise.

The role of the Energy Champion:

Someone has to take responsibility for implementing these cost saving measures.

You don't need a background in energy to be the Energy Champion, you can make a real difference.

Look for possible improvements in your energy use, using the tips in the other parts of this booklet.

Take a walk round once a month, making sure that things are being used in an energy efficient way and that changes that have been made are being maintained. Keep a record of improvements and things that still need to be done.

Keep staff motivated to conserve energy.

If there's a problem, talk to other people and find a solution.

An energy assessment can be carried out to get professional advice.

There's a great deal of information about saving energy, useful information can be found at -

www.thecarbontrust.co.uk

www.directgov.uk/actonco2

www.eca.gov.uk





Nationwide Energy Consultants UTILITIES LTD

19 Ptarmigan Place, Attleborough Fields,
Nuneaton CV11 6RX
Tel: 0845 066 0705
Fax: 02476 010311
Email: info@nationwide-energy.co.uk

www.nationwide-energy.co.uk



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