



BUSINESS & ENTERPRISE

6



Would you like your business to become more profitable?

It is estimated that nationally, businesses could save 20% on their energy costs with no capital outlay, and that savings of 30% or more are possible with very limited capital outlay. This fact sheet gives you a very brief introduction to some of the possibilities.

Thermal insulation and draught proofing

This is still the most cost effective way of saving energy. Ensure your building is well insulated and draught-proofed. Close all doors and windows not in use. Weather-seal doors and windows not regularly used. Consider secondary or double-glazing. Insulate all pipes, valves, flanges, and strainers and pump casings of heating, hot water and chilled water systems (an un-insulated valve body is equivalent to 1 metre of bare pipe).

Heating and hot water

If you have improved the thermal efficiency of your building, could you now use a smaller boiler? This will run much more efficiently than a larger boiler regularly cycling ON/OFF.

Does your heating system use sequence-controlled, modular condensing boilers feeding a directly-compensated modulating temperature heating system via variable speed pumps, and with full optimisation controls? That's a lot to take in, but if you are missing any of these, there is probably scope for saving lots of energy on your heating system.



Don't overheat your building. The maximum recommended temperature for most buildings is 19°C, and you can save about 10% on your heating bills for every 1°C you reduce the temperature by. Modern electronic controls will allow much more accurate control of temperature - they also allow for variations in temperatures to suit different areas and different patterns of occupation. Independent gas-fired water heaters allow the main heating boilers to be turned completely OFF during the summer. Consider gas-fired radiant heating in high areas, and ceiling fans to re-circulate warm air downwards from high level.

Ventilation and air conditioning

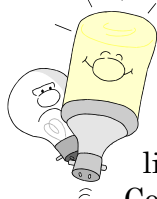
Control local extract fans in toilets etc. via infrared detectors to ensure they cannot be left on. Consider using heat-recovery fans in rooms, which need some ventilation but don't necessarily need positive extraction.

For larger systems, incorporate a mixing system to maximise air re-circulation. Also, an exhaust-to-fresh air heat transfers system. Maximise mid-season "free cooling" when available.

Consider solar control film on windows - to reduce glare, heat gain and air conditioning load, as well as improving comfort. Many modern kitchen canopies now incorporate venturi systems, which can reduce the amount of hot air discharged to around 20% of that of older canopies.

Lighting

When replacing lighting, choose modern, high-efficiency luminaries, CFL's or "2D" type light fittings etc. New slim-line fluorescent tubes (26mm or less) use around 8% less electricity than older tubes and cost no more to buy.



Fluorescent lighting with high frequency electronic control gear uses 25% less electricity than the old transformer/ballast types whatever the tube. Add to this the possibility of automatic dimming and brightening via photocells, and you have a much more efficient lighting system.

Consider ultra-efficient discharge lighting for high bay areas where colour rendition is not a high priority.

Where feasible, use task-specific lighting and reduce the general level of lighting elsewhere. Do not light areas that are not being used - fit time switches and infrared sensors etc. to operate lighting only when it is needed.

Equipment



Switch off computers, printers, photocopiers and desk fans etc. when not in use. When buying new, choose models, which automatically go to a low power “standby” mode when not actually operating. For larger electric motors, consider the possibility of variable speed control where suitable. If motors are old, replace them with modern, higher-efficiency motors.

Compressed air and steam

Compressed air costs, in energy, about 10x more than electricity for the same utilised output power, so use tools and equipment powered directly by electricity wherever feasible. Compress to the lowest usable pressure and no more. Ensure multiple compressors are load-sequenced, and that receivers are large enough to prevent undue compressor cycling. Steam is also expensive to produce, so ensure that the water treatment plant is operating properly and that blow-down is not too frequent.

Transport

Check tyre pressures regularly (under-inflating by just 2psi increases fuel consumption by 3%). Remove roof racks and excess weight when not needed. Plan routes to maximise carrying capacity and avoid short runs with a cold engine. Choose new vehicles with an eye to fuel economy.

Servicing and Maintenance

Develop a comprehensive programme for the regular servicing and maintenance of all heating and hot water equipment, ventilation and air conditioning equipment, lighting, general equipment and vehicles etc.

Cure all leaks (steam leaks cost about 315 euros a year for each foot height of visible plume). Check all controls, gauges, switches and sensors etc. for operation, accuracy and correct settings. Carry out periodic boiler efficiency checks. Check the correct operation of compressed air drain traps, and clean/replace filters regularly.

On ventilation systems, regularly replace all air filters. Ensure fresh air dampers on larger ventilation systems are accurately set. Periodically clean heat exchanger plates.

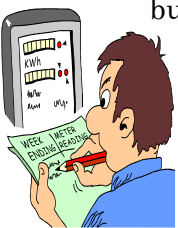
Regularly clean all light fittings and diffusers (at least annually).

Ensure vehicle engines are regularly tuned for maximum fuel economy and minimum emissions.



The management of energy

Underpinning all of the above is the need to make a real commitment to the management of energy and to reducing energy consumption. Formulate energy policy and include this as part of your companies' objectives and strategies - integrate energy efficiency into company culture. Set targets, but don't over-reach (go for year-on-year improvements). Monitor and publicise achievements.



Provide basic energy advice and awareness training for all staff.

Provide more advanced training for management and staff with direct responsibility for energy and consider a reward scheme for good ideas.

Carry out an energy audit. Initially, this need not be very detailed, but it will be a valuable framework on which detail can be added later.

Monitor fuel consumption by regular meter readings (until it's noted, it's not noticed), and check all fuel bills. Ensure you're on the best tariff for you. Monitor maximum demand (could you re-schedule any plant to reduce your maximum demand?).



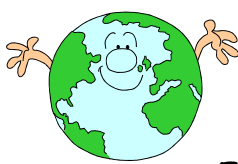
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Your energy supply company may also be able to provide a wealth of good quality energy information.



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