



Quick Wins in Resource Efficiency: Materials, Energy & Water

A Guide for SMEs



General Guidance

There are general management principles that are relevant to achieving efficiencies in materials, energy and water usage. The following are some pointers that can be applied in equal measure to each of these areas, leading to reduced carbon footprint and with significant potential for cost savings:

- Lead by example
- Have a look at your utilities bill - know the main sources of costs - e.g. usage charge and flat charges
- Measure it to manage it
- Address the main aspects first - follow the 80 /20 rule where 80% issues are solved through focus on the main 20%.
- Involve your staff - promote awareness and ask them for ideas
- Communicate your achievements
- Apply general good housekeeping practices
- Avail of the resources and guidance available e.g. www.greenbusiness.ie, www.seai.ie
- Implement continuous improvement

“ If it's your waste,
it's your money! ”

Useful Resource Efficiency Websites

- www.greenbusiness.ie - Green Business Programme
- www.smileexchange.ie - SMILE Resource Exchange
- www.ecomerit.ie - EcoMerit Programme
- www.origingreen.ie - Bord Bia's Origin Green Programme
- www.seai.ie - Sustainable Energy Authority of Ireland
- www.leanbusinessireland.ie - Lean Business Ireland
- www.greenhospitality.ie - Green Hospitality Programme

Materials Efficiency & Waste Prevention

- Measure it to manage it
- Study your waste bill – know how much it costs you and how much waste you generate
- A quick visual assessment of your bins will show the main types of waste
- Conduct a waste assessment
 - Identify each waste stream and its source
 - Quantify each waste stream
- Calculate total costs of the waste - purchasing, labour, handling, storage and disposal - all these costs on waste can be approximately 10 times the disposal cost
- Use clear indicators, e.g. kg waste per unit of output

Purchasing & Storage

- Can batches / size of units ordered be optimised for you - through less packaging waste, fewer offcuts and reduced cost
- Look at performance / durability rather than just initial cost
- Consider less hazardous options, e.g. water-based paints, less harmful cleaning agents
- Only store what you need and avoid damage during storage and handling
- First in first out basis - check expiry dates - avoid obsolete stock
- Avoid disposable one-off items
- Help close the loop by purchasing recycled products, e.g. printing paper

Processing / Product Preparation

- Avoid material losses from production process - reuse trimmings where practicable
- If feasible, substitute hazardous materials with non-hazardous or less hazardous materials
- Improve packaging and material efficiencies in outgoing product
- Can goods be delivered to clients in reusable containers?
- Use incoming used packaging for internal storage or on outgoing supplies
- Preventative maintenance means savings in the long run





Office

- Limit printing of your company brochures - avoid them becoming out-dated
- Use email instead of paper / avoid printing emails and their attachments
- Set printer to double-sided black and white setting
- Change to on-line subscriptions for journals etc
- Re-use envelopes and use one-side used paper for scrap paper
- Use re-chargeable batteries
- WEEE and waste batteries take-back - talk to your supplier
- Provide reusable mugs and glasses for staff and at meetings
- Use tap water instead of bottled water
- Cancel junk mail
- Pass on surplus furniture, goods etc. to a local organisation or to another business through SMILE Resource Exchange

Canteen - Food Service

- Optimise purchasing and storage of perishable goods to avoid obsolete items
- Plan food preparation to match the needs of the food service
- Avoid waste through better portion control - offer second helpings instead
- Involve staff

Segregate for Recycling & Recovery

- Segregate packaging, mixed dry recyclables, food waste, oil, hazardous wastes
- Good signage on bins is important
- Use central office bins rather than bins under each desk
- Ensure your waste is collected by a valid waste collector
- Talk to your collector re. recycling options and frequency of lifts - may reduce the cost
- Certain well-segregated waste materials may even generate income!

Brian Scully Services, Newcastle West, Co. Limerick supply, install and service air conditioning equipment. They have achieved €600 annual savings through improved prevention and segregation of waste for recycling. Changing to LED lighting has resulted in additional significant savings.

Brian Scully Services is EcoMerit certified (www.ecomerit.ie)



Energy

Energy efficiency guidance is available for businesses through Sustainable Authority Ireland (SEAI), Green Business, energy agencies and energy suppliers. Their websites are a useful source of guidance on specific areas such as lighting, heating, both of which form a substantial portion of the energy bill of any business. Remember also that transport fuel costs also can be a significant part of a company's energy costs. Businesses should study their energy bills and ask their supplier to explain any specific charges and tariffs. In this way, the company will know their baseline usage and can monitor ongoing improvements.

Lighting

- Use natural light where possible
- Install energy efficient lighting such as LED's
- Have different lighting zones , e.g. in open plan areas, to ensure better control
- Use lighting sensors where there is not a constant need for them to be on, e.g. toilets, store rooms, meeting rooms. These sensors provide savings of up to 30% on lighting.
- Ensure lighting controls are clearly labelled - use signs to encourage switching off

Manna Organic Store in Tralee

installed higher efficiency lighting - while costing €9,000 initially, this along with general efficiency awareness, leads to €15,000 annual energy savings.

Heating & Cooling

- Improve insulation and draught proofing
- Avoid overheating of working space. At 20°C, a 1°C increase can cost 10% more
- Set temperature controls so that heating and cooling are not competing with each other
- Never use heating or cooling while at the same time having windows and doors open
- Use timers and thermostats: hot water, heaters, water coolers etc
- Insulate electric hot water cylinder and hot water pipes
- Service your boiler annually - good maintenance could reduce this energy cost by 10%
- Place heat reflectors behind radiators to improve the heating efficiency at minimal cost

Let your staff and customers know what you're doing

General Equipment

- Opt for energy efficient appliances - they may cost more but save more on an ongoing basis
- Turn off any equipment not in use
- Set computers and office equipment to go into standby after a period of non-use, e.g. 10 minutes
- Regularly thaw fridges and freezers
- Check compressed air systems for leaks
- Look at options for greater efficiencies, such as use of Variable Speed Drives on motors

Water

Don't spend money like water, spend water like money

- Check your usage - during normal times
- Check usage when there is no activity - to identify leaks and other water losses
- Fix dripping taps and leaking pipes
- Avoid taps running unnecessarily - a running tap can use up to 6 litres of water per minute
- Install water saving devices, e.g. tap aerators, low flush toilets, urinal controls
- Remember, hot water costs a lot more than cold water. Hot water tank thermostat should be set between 55°C and 65°C.
- Optimise cleaning / rinsing of equipment - two short rinses are better than one longer rinse, as most of the contaminants get removed in the first rinse.
- Avoid using high power hoses for general cleaning
- Consider rainwater harvesting
- Protect waterways - avoid hazardous discharges to sewer or to storm drains, or fats / oils / grease in the catering sector.

Avoid Money Going Down the Drain!

Cabragh Wetlands Trust Centre near Thurles - the educational centre provides short environmental courses, including guided tours of the adjacent Cabragh Wetlands. The centre achieves savings of €1,000 per year, through the following:

- More effective electricity contract
- More efficient control of water boiler
- Use of 7 day timer for heating controls
- Improved plumbing / water efficiency in toilet facilities
- Improved waste segregation

Cabragh Wetlands is EcoMerit certified (www.ecomerit.ie)



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