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How to green your business: Manufacturing

Want to Go Green but not sure where to start? Here are some tips to reduce the environmental impacts of your manufacturing business.

Energy

Record your energy consumption on a regular basis and set targets for reduction. Meter readings for all utilities should be recorded on a monthly basis to establish energy consumption patterns and provide early warnings. Compare with the same month of the previous year to highlight significant variances, plant failure or any waste.

Building fabric

- Keep windows and doors closed while the heating is in operation.
- Reduce heat loss via external/delivery doors and docking bays. Apply air-locks, PVC curtains, warm air curtains, and high speed motorised doors to reduce air leakage.

Lighting

- Using task lighting at individual workstations allows the whole area to be lit to a lower level.
- Replace tungsten bulbs with compact fluorescent lamps and reduce consumption by 50%.

Compressed air

- Alternatives to compressed air guns can be more cost effective and need not compromise performance: electric tools; electric pumps; stirrer drives; low pressure blowers. Work done by compressed air at point of use can be up to ten times more costly per kWh than an electric tool.
- Turn off idling compressors when not needed. Maintaining a pressurised compressed air system when compressed air supplies are not required wastes energy.
- If you can hear a compressed air leak it is probably costing you about £100 year for a 120 hour working week. Repairing leaks to pipes, glands, seals and gaskets can significantly reduce energy costs. Regular leak surveys should be undertaken during silent hours.
- Compressors operate more efficiently using cool air. Mount your compressor in a location where it has an unobstructed supply of cool air from outside the building. A 5°C drop in air intake temperature equates to a 2% drop in running costs.

Motors and drivers

- Does your motor output match your system requirements? Check motor controls on motor driven plant, ensuring that motors are neither running for longer periods nor to higher standards than required.
- Maintain systems to ensure efficiency. Replace bearings and seals regularly, ensure lubricants are properly applied and dust fan blades and shutters regularly. This can save around 5% of the running costs over the life of the motor.

Waste

- Work with suppliers and distributors to find ways to eliminate or reduce the amount of packaging.
- Replace disposable items with reusable materials.
- Substitute materials for less hazardous ones, e.g. biodegradable lubricants and solvent free paints.
- Have waste taken off site frequently, do not allow large quantities to accumulate.
- Disposal of certain hazardous waste e.g. oily water, acids, solvents and solvent based products, have legal requirements and their movement must be accompanied by a consignment note.
- Segregate and label both wastes for recycling and hazardous waste from general waste. Do not mix or dilute hazardous waste.

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Water

Site drainage

- Colour code all manhole covers, drainage grills and gullies. Red: Foul water drains. Blue: surface water drains. Only clean uncontaminated water e.g. roof water, can be discharged to surface water system.
- Seal all ducted cable ways so there are no uncontrolled drainage routes.
- Set up permanent drainage isolation facilities on high risk areas or as part of emergency procedures to prevent spillage or run-off e.g. penstocks, valves or emergency containment systems.
- Install oil separators on any surface water drain at risk e.g. fuelling and vehicle parking areas.
- Supervise deliveries and materials handling to prevent risk of spillage and accidents, save valuable raw materials and avoid legal action.
- Clearly mark loading and unloading areas isolated from surface water drainage system by using separators or sumps with isolating valves.
- Fit drip trays to all delivery pipe inlets and remove any spilt material immediately.
- Fit an automatic cut-off valve or alarm to prevent spillage through overfilling.
- Reduce the need to move materials around site.
- Establish a contingency plan in the event of spillage or accident. Stock emergency equipment for drain covers, absorbent materials and PPE.

Hazardous materials

- Locate storage facilities away from watercourses, open drains or porous surfaces.
- Fit a secondary containment system to hold at least 110% of tank's max capacity.
- Avoid underground storage of oils and chemicals unless absolutely necessary as they can be a significant pollution risk to ground water

Trade effluent

- Discharge trade effluent to the public foul sewerage system with the prior permission of Thames Water and obey conditions set on quality and quantity of a discharge and pre-treatment if necessary.
- Trade effluent drainage systems should be checked regularly for leaks.
- Disposal of all trade effluents must be considered including small volumes or "clean", e.g. compressor blowdown, cooling water, steam condensates, boiler blowdown, AC, compactor run-off, pressure testing liquids.
- Cleaning vehicles, components, plant and equipment, floors, surfaces and containers generate dirty water. All cleaning agents are potential pollutants, including detergents (as well as biodegradable ones), disinfectants, degreasers, dirt and oil.
- Carry all washing/cleaning in designated area isolated from surface water system and porous surfaces by using drainage grids, gullies or kerbs. Dispose of to the foul sewer.

Travel

- Improve facilities for cyclists and walkers, including secure bike racks, showers and lockers.
- Offer interest-free loans for public transport season tickets.
- Give priority parking for car sharers, or charge for non-essential user parking. Use the money raised to fund transport projects.

Purchasing

- Suppliers of products and services should be local where possible to reduce transportation costs
- Use renewable resources rather than materials that are scarce.