ENERGY EFFICIENCY
ESG QUICK WINS
A TENANT GUIDE

CONTENTS

INTRODUCTION

Purpose

This document has been designed to **inform tenants** across all sectors on easy-to-implement energy reduction measures which can be used to not only **bring down energy consumption**, but also **reduce operational costs**.

Is this document for me? – Yes if;

- ☑ You are a tenant of a commercial property.
- ☑ Your operations contribute to the energy consumed in the building you occupy.

Format

Recommendations for energy reductions will be grouped and addressed in five main sections throughout this document;

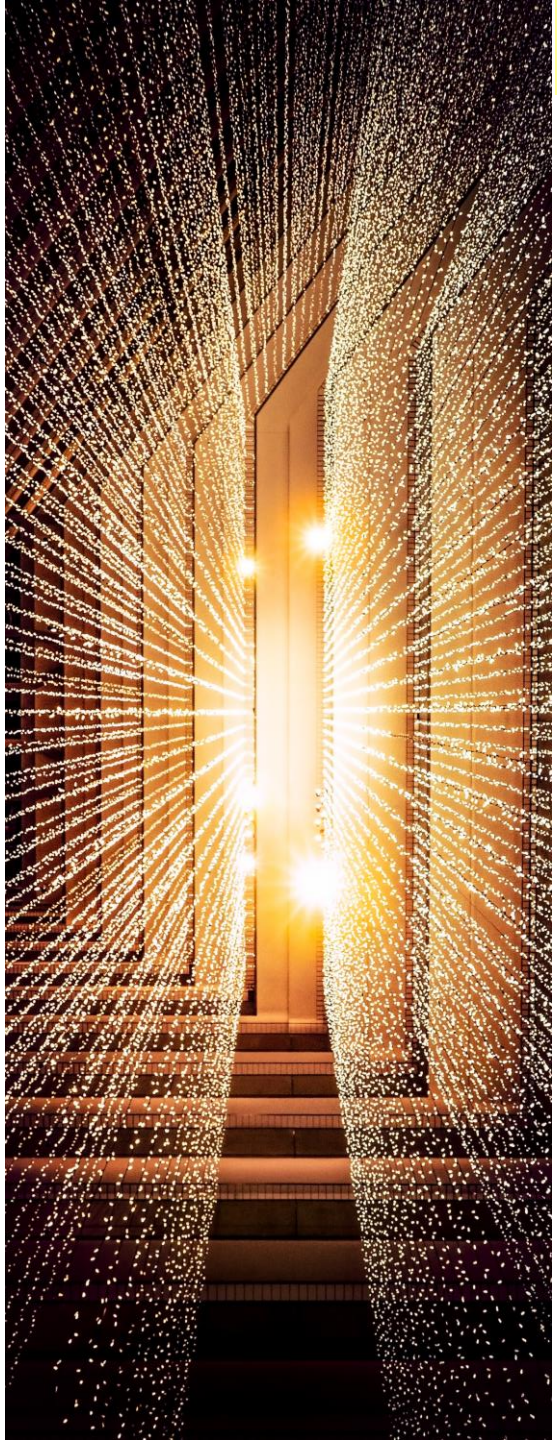
1. **Lighting**
2. **Heating**
3. **Ventilation**
4. **Refrigerants**
5. **Operations**

LIGHTING

“Turn off” policy – lights can often be left on unnecessarily in work environments. Engage with your employees to be conscious of lighting usage and make energy reduction one of your business objectives.

Upgrading lighting equipment – turning to more efficient and longer-lasting lighting technologies will reduce the amount of energy consumed by lighting. Compact fluorescent lamps (CFLs) on average use 80% less energy and last 10x longer than a standard incandescent bulb. LEDs can use up to 90% less energy and last 50x longer than a standard incandescent bulb.

Maintaining natural light pathways – keeping all windows clean and well maintained will allow interior spaces to benefit from maximum light without the need for artificial lighting for longer. Without regular cleaning light levels from windows can fall by up to 30% in 2-3 years (The Carbon Trust, 2018).



Example Savings

Replacement of modular T5 light fittings with LEDs and modifications to the existing BMS at the office’s of the former Dept. of Energy and Climate Change **resulted in a c.30% reduction in energy consumption** in the weeks following installation (BEIS, 2014).

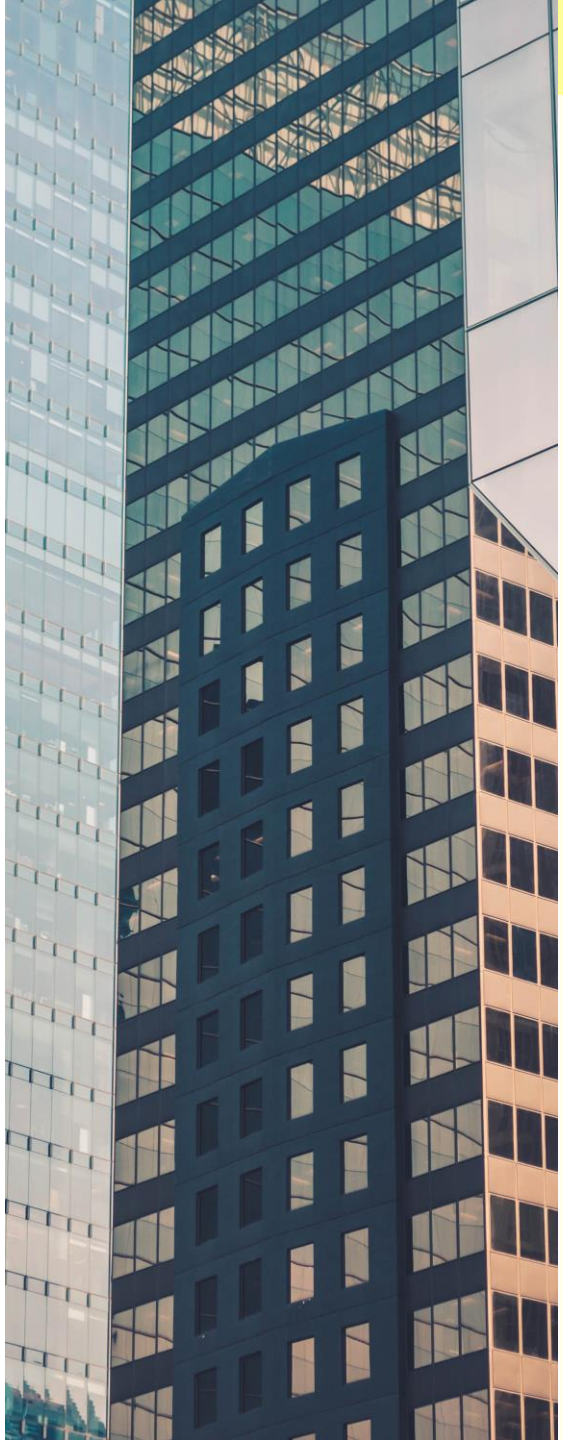
Installing LEDs can result in a **£4/yr saving per bulb** (replacing a 50W halogen bulb with a 6W LED).

LIGHTING

Adding daylight sensors – this will allow artificial light sources to be switched off automatically if the natural light levels are high.

Occupancy monitors – installing occupancy sensors in areas which are infrequently filled will save energy consumed for lighting automatically and removes human error in forgetting to turn out the lights at the end of the working day.

Using reflection – adding reflecting materials behind light fittings can increase the light emitted by increasing efficiency. In addition, during refurbishments painting internal walls in light colours will help to reflect light into the space. Adding daylight blinds by windows will re-direct sunlight towards the ceiling and better distribute it across the space.



Example Savings

Daylight sensors reduce energy consumption by 20% on average and have a payback period of 1-4 years.

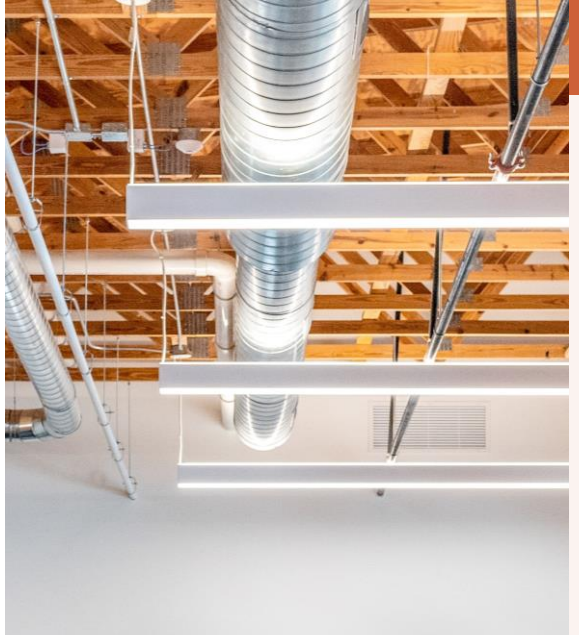
Movement sensors (Passive Infra-Red detectors) **reduce energy consumption by up to 30%** and have a typical payback period of 2 years.

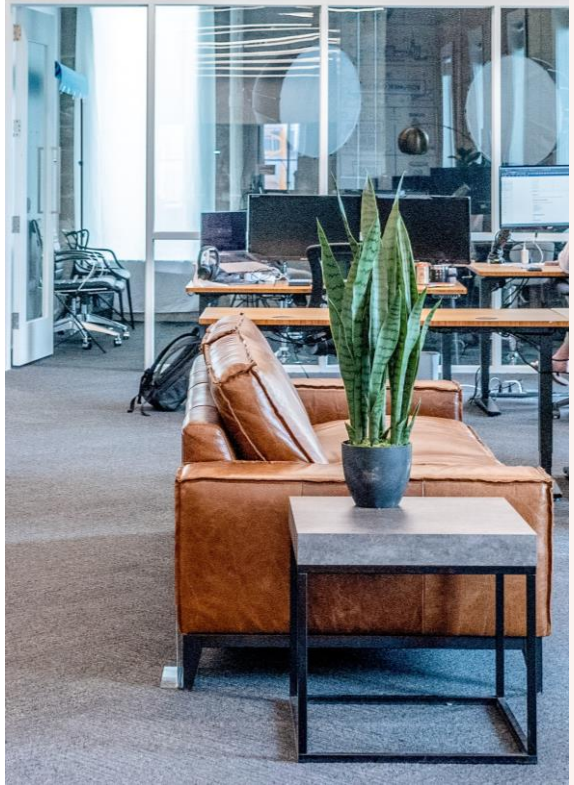
HEATING

Reducing internal heating during the winter months – people will typically wear warmer clothes during the colder months meaning that internal commercial/retail spaces do not need to be heated as much as residential spaces.

Using time to control heating and cooling – turning on your heating an hour before opening and shutting it down an hour before closing could save a significant amount of energy. Similar savings can be made using automatic timer in larger units. If the property you occupy has a Building management System (BMS) then ensuring that either you or the Building Manager has adequate training on how to use it will allow all amenities to operate at maximum efficiency. For example linking the HVAC schedule with the building occupancy schedule.

Keeping accessways and doors shut and sealed – people will need to access your space throughout the working day for various reasons, however ensuring that external accessways are kept closed for the maximum time will limit the loss of internal heat. Installing door-closing mechanisms (spring loaded hinges) will mean that doorways will as standard be closed and sealed. In larger warehouses use PVC curtains to cover doorways to still allow quick and easy access but reduce the loss of warm internal air.





Example Savings

An arts centre in Manchester is **saving £4,363.00 and emitting 17.6 fewer tonnes of CO_2e** each year (BEIS, 2015) by linking heating to building occupancy.

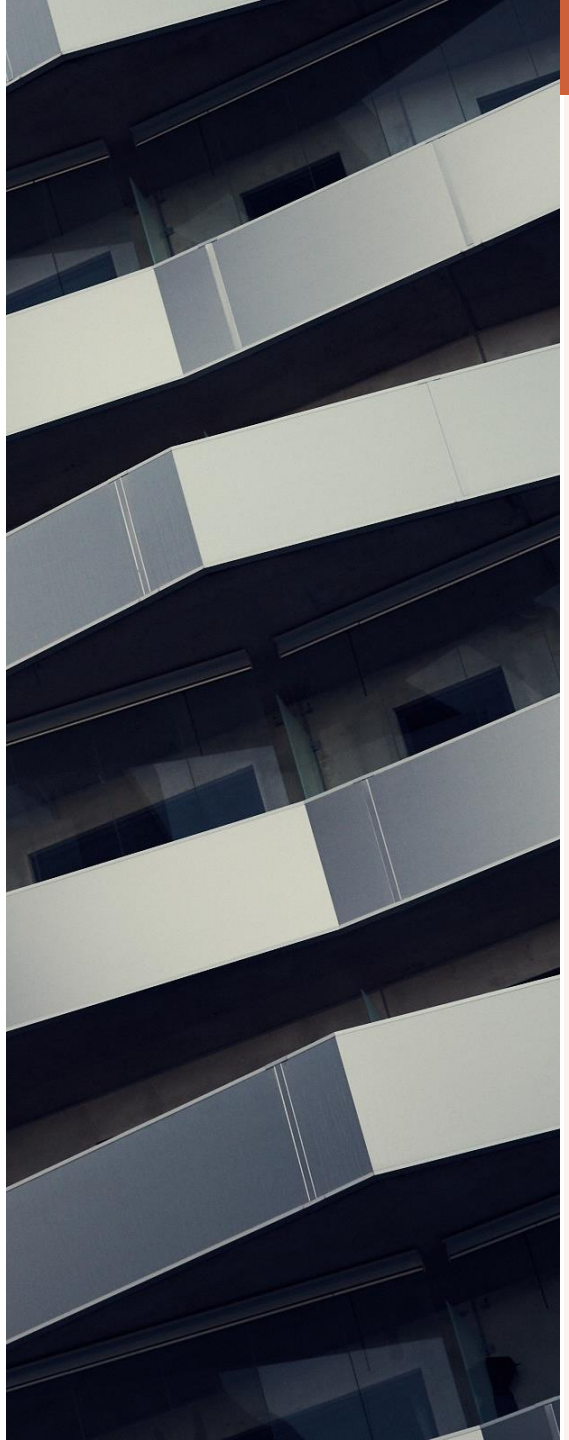
Turning the heating down by 1°C can cut fuel consumption by 8%. Turning it down **by 2°C** would **save £140.00** on a £1,000 bill (The Carbon Trust, 2015).

HEATING

Ensure that your thermostat is well positioned – the placement of an internal thermostat is important and should be in place that represents the average internal temperature and is unlikely to be impacted by slight variations caused by draughts or people close by. This will mean that less manual adjustment is needed, and energy will be saved as a stable heating temperature is promoted.

Check your insulation – having an insulated unit is a simple way to ensure that energy consumed for heating is used in the most efficient way. The recommended thickness of roof insulation in the UK is between 250-270mm. Check with your landlords if you feel that your unit requires additional insulation. Insulation is not just for the roof, walls and floor but also pipes.

Use waste heat – if you work in a building where there is a lot of machinery or energy intensive appliances, such as compressor ovens or refrigerators, which produce a significant amount of heat as a waste product try to divert or duct this to areas where employees or customers are to reduce the need for additional heating.



Example Savings

At a **restaurant in Cambridgeshire** the head chef **diverted waste heat from the kitchen into the dining rooms** to reduce high energy bills this winter (Cambridgeshirelive, 2022).

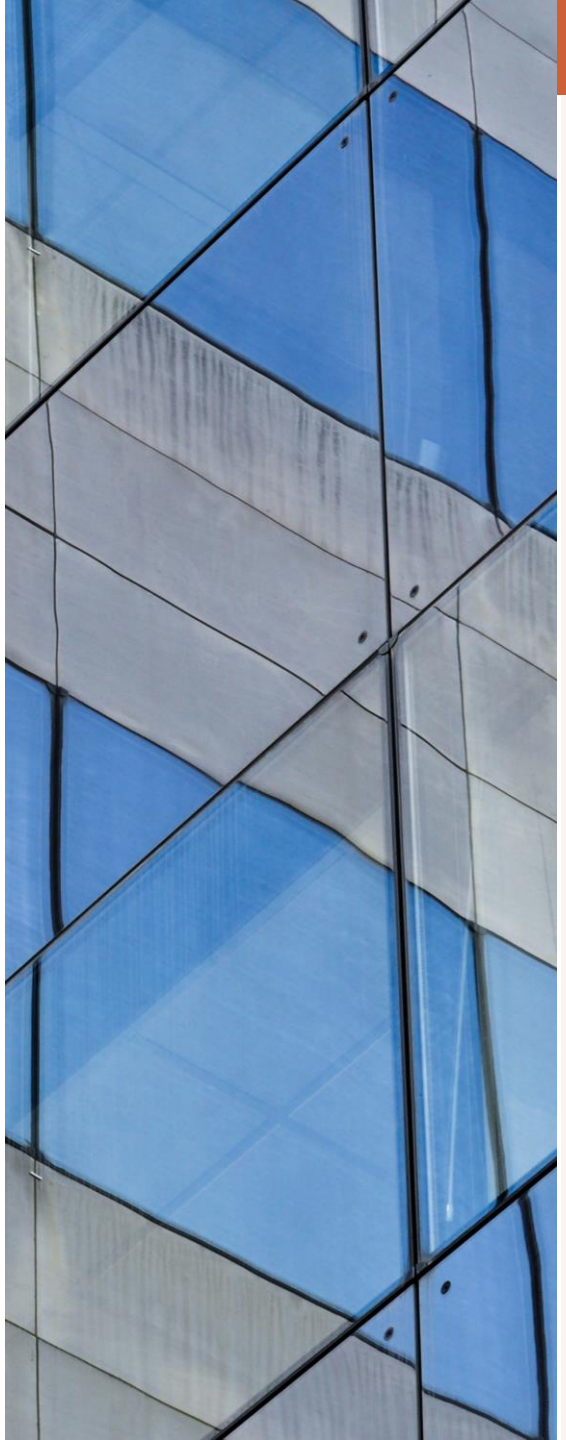
Insulating pipework can **reduce heat losses by 70%** (BEIS, 2015). Typically, insulation costs £10 **with cost savings of £15 per year**.

HEATING

Use smart heating controls – setting your heating controls to only allow the heating to be on when all doors are closed and sealed will reduce wasted heat in specific commercial set ups, such as warehouses and distribution centres.

Check boiler vitals – gas-fired boilers will only be running at maximum efficiency (and therefore making the best use of the energy consumed) if all elements are working well. Checking the water levels, fluid chemistry and possible leaks from the system can help to detect if a boiler requires significant maintenance or possible replacement.

Double glazing – removing old windows and replacing them with double-glazed window units will reduce the amount of heat energy lost through the window. Even adding secondary glazing behind older panels will significantly improve the internal heat retained.



Example Savings

Retrofitting **double glazing** or adding **secondary glazing** can **reduce the heat loss from a window by up to 50%** (Carbon Trust, 2011).

Installing **double glazing** in a unit will typically result in a **6% reduction in the heating bill,** with **secondary glazing** resulting in a **4% reduction.**

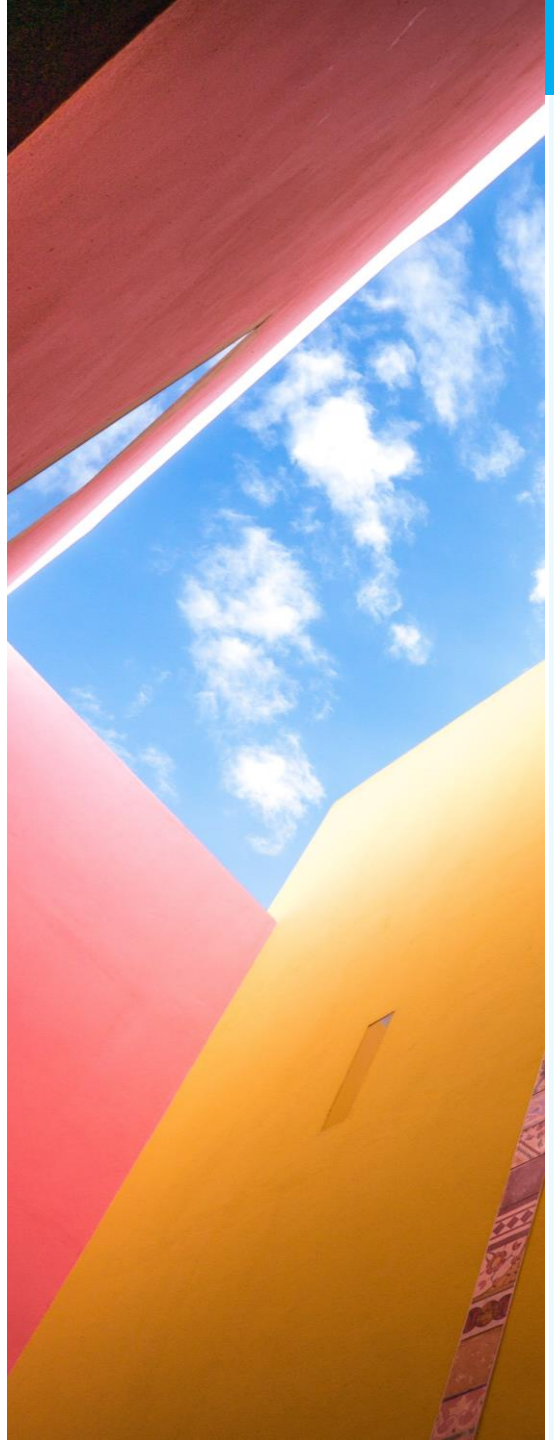
A regularly **serviced boiler** can **save 5**% on annual **energy bills** (Yuenergy, 2022).

VENTILATION

Use natural ventilation – during warmer months prioritise natural ventilation options before turning on artificial air conditioning.

In summer block out direct light – use blinds to prevent direct sunlight from warming up your internal space in the summer months and therefore reduce the need for air conditioning. Shutting the blinds early in the day will allow the air inside to stay cooler for longer.

Keep equipment well maintained – ventilation systems operate at their most efficient when they are well maintained and absent of blockages and leaks.



Example Savings

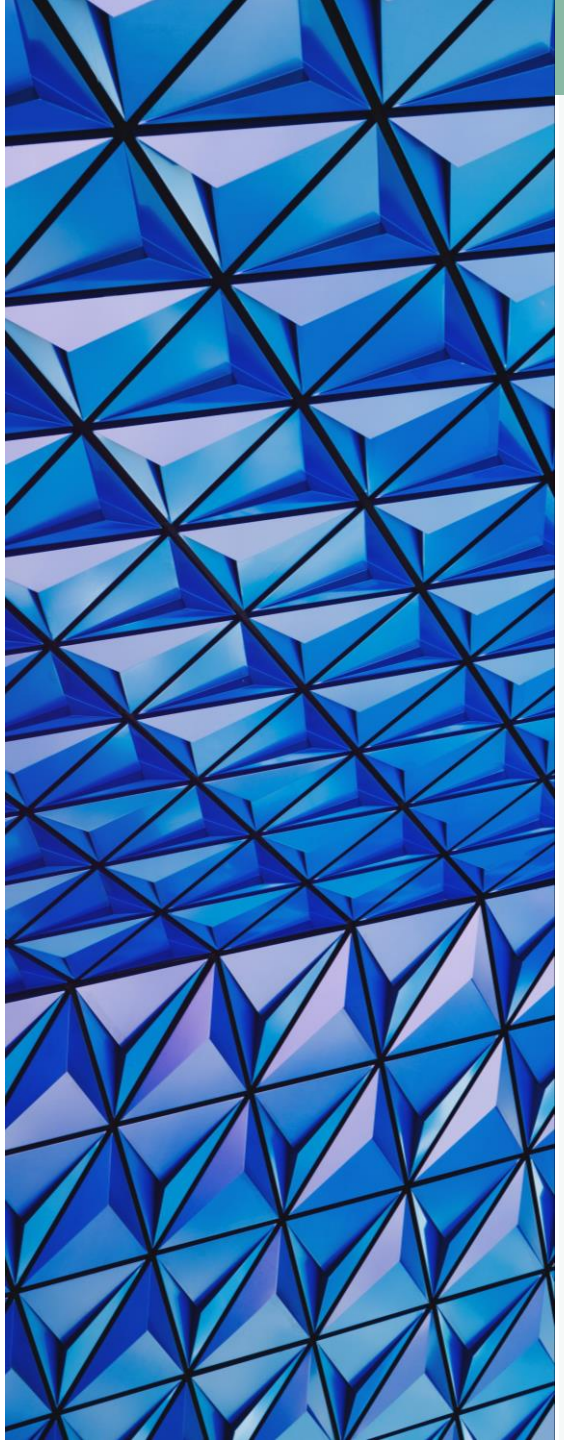
Regular cleaning of a ventilation system can **increase its efficiency by 25%** (Yuenergy, 2022).

Good maintenance of all operational equipment will help to **increase the lifespan** of equipment, in turn helping **reduce large replacement costs** in the future.

REFRIGERATION

Don’t overfill fridges and freezers – the more items which are added to a fridge or freezer the more energy that the appliance will use to maintain the set temperature as fridges cycle air around the internal space in order to cool. Too many items inside the appliance will cause the air flow pathway to be interrupted and cooling will occur slower.

Keep equipment well maintained – all appliances operate best when they are well maintained. Rubber seals around the doors of fridges are likely to perish if not cleaned regularly, leading to cracking and a poor connection to the fridge wall. This allows warm exterior air to enter the fridge and keep the system working harder than it did new. Freezers which are regularly defrosted operate more efficiently as air can move more freely and therefore consume less energy, reducing the operational cost.



Example Savings

Defrosting freezers regularly can save around £200/yr per freezer based on Ultra Low Temperature freezers at a life science building (The University of Edinburgh, 2021).

REFRIGERATION

Keep chiller doors shut – the more time with fridge or freezer doors open is more time that the internal temperature of the appliance is rising and therefore the more energy which it will consume to lower the temperature again. Keeping this in mind and as a result being economical with how these appliances are used can lead to notable savings.

Regularly check internal temperatures – keep a log of fridge and freezer temperatures as this will quickly highlight appliances which are faulty and could be consuming significantly more energy than others.

OPERATIONS

Unplug appliances when not in use – many electrical appliances will continue to consume energy whilst plugged in, even if the appliance is not switched on. These items include but are not limited to, phone and laptop chargers, fans, printers and radios.

Install meters to track energy use – the best way to reduce energy consumption it to monitor it accurately. If you are a single-let tenant, then taking accurate readings of the main building meters to track your performance is an essential step to reducing energy consumption and expenses. If you are a tenant in a multi-let unit then speak to your landlord regarding submetering your specific consumption from the whole building as this will allow you to identify times and areas which are poorly performing and open to improvement.

Example Savings

A computer and monitor will typically cost £45 annually if left on for 24 hours a day. Reducing this to office hours results in a 77% reduction in annual cost.

OPERATIONS

Compressed air – compressed air systems can be extremely costly. Regularly checking for maintenance issues such as leaks can save hundreds of pounds. Compressor systems work most efficiently when there is sufficient airflow around the unit, so make sure it is placed in a well-ventilated area.

Consider going paperless – encourage your employees to not print unnecessary documents such as internal memos and reports. This will not only reduce paper waste but also reduce the energy consumed by printers.

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This guide has been prepared by EVORA Global Limited on behalf of the Charities Property Fund c/o Savills Investment Management for the purpose of providing tenants of Charities Property Fund assets with guidance on energy efficiency considerations to improve the sustainability performance of the tenant spaces. The guidance offered is voluntary and does not affect any legal and / or contractual / lease obligations that may be in place.

The guide presents citations to potential services providers and research articles which could support the implementation of the suggest initiatives. EVORA Global Limited and the Charities Property Fund do not endorse the services of these organisations and do not provide any guarantees concerning the performance of the services provided by these organisations. We advise tenant organisations to independently verify whether a services provider is able to meeting their requirements.

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