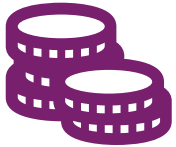


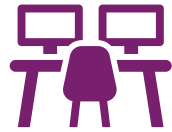
# **Hotspots in Energy Consumption of Commercial Buildings**

---

# Important of identifying energy hotspots



**Cost Reduction**



**Improved Operational Efficiency**



**Environmental Responsibility**



**Enhanced Workplace Comfort and Productivity**



**Informed Decision-Making**



**Long-Term Strategic Planning**

# Energy Hotspots in a Building



## HVAC systems

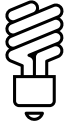
HVAC systems accounts for a significant portion of a commercial building's energy usage as maintaining indoor comfort for staff and visitors are crucial.



## Energy saving strategies

- Installing energy efficient systems like geothermal heat pumps, variable refrigerant flow (VRF)
- Properly sized your HVAC system
- Regular maintenance ensures system's operate at peak performance
- Installing programmable thermostats and smart controls to match with the building heat demand

# Energy Hotspots Cont.



## Lighting

Incandescent and fluorescent lighting consumes excessive energy compared to modern LED alternatives. Lighting left on unnecessarily also adds to wastage.

## Energy saving strategies

- Retrofitting with LEDs
- Install daylight sensors for outdoor lights
- Install occupancy sensors for lights
- Implement “Lights off” policy for areas not in use.



**More readings:**

[Energy Efficient LED Lighting - A guide for businesses](#)

# Energy Hotspots Cont.



## Water heating

Water heating system accounts for high energy consumption for businesses use more water in their business. (eg: Hotels, restaurants, leisure halls)

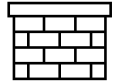
## Energy saving strategies

- Internal or external wall insulation
- Replace windows with double glazing
- Air seal for any cracks and gaps in building envelop
- Proper insulation to floors and roofs



*Less energy waste = More profit*

# Energy Hotspots Cont.



## Building envelop

Poor insulation in walls, roofs, windows, and doors leads to heat loss in winter and heat gain in summer, increasing HVAC demand

## Energy saving strategies

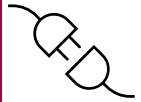
- Installing efficient boilers
- Proper insulation of the water pipes
- Use heat recovery systems
- Install temperature controls



### More readings:

Refer [Climate Toolkit 4 Business](#) to review your estimated carbon footprint and tailored action plans

# Energy Hotspots Cont.



## Plug load

Depend on your business type this can be changed. However, office equipment such as computers, servers, printers can consume significant energy even when not actively use. Refrigerators, freezers, other heating equipment that use in your business might account for high energy consumption.

## Energy saving strategies

- Use energy efficient equipment
- Install refrigerator with glass door or store in cold rooms
- Implement smart power management tools for better control over plug loads
- Turn off office equipment after hours using "vampire switches."



**Vampire** loads:

Devices drawing power while in idle

# Common Energy Saving Strategies

- Staff engagement

Train staff on energy saving practices

Keep staff up-to-date and part of the conversation on energy plan

- Creating energy action plan

- Establish a preventive maintenance checklist for equipment having high energy consumption

- Install renewable energy sources (PV)

Its essential to reduce the energy consumption and energy waste before considering renewable energy technologies



More tips:

Download [SEAI Energy management Guide](#) for download templates to create your own.



# Thank you



OLLSCOIL NA  
GAILLIMHE  
UNIVERSITY  
OF GALWAY



DUBLIN  
CHAMBER

SustainabilityWorks.



Chartered property,  
land and construction  
surveyors