

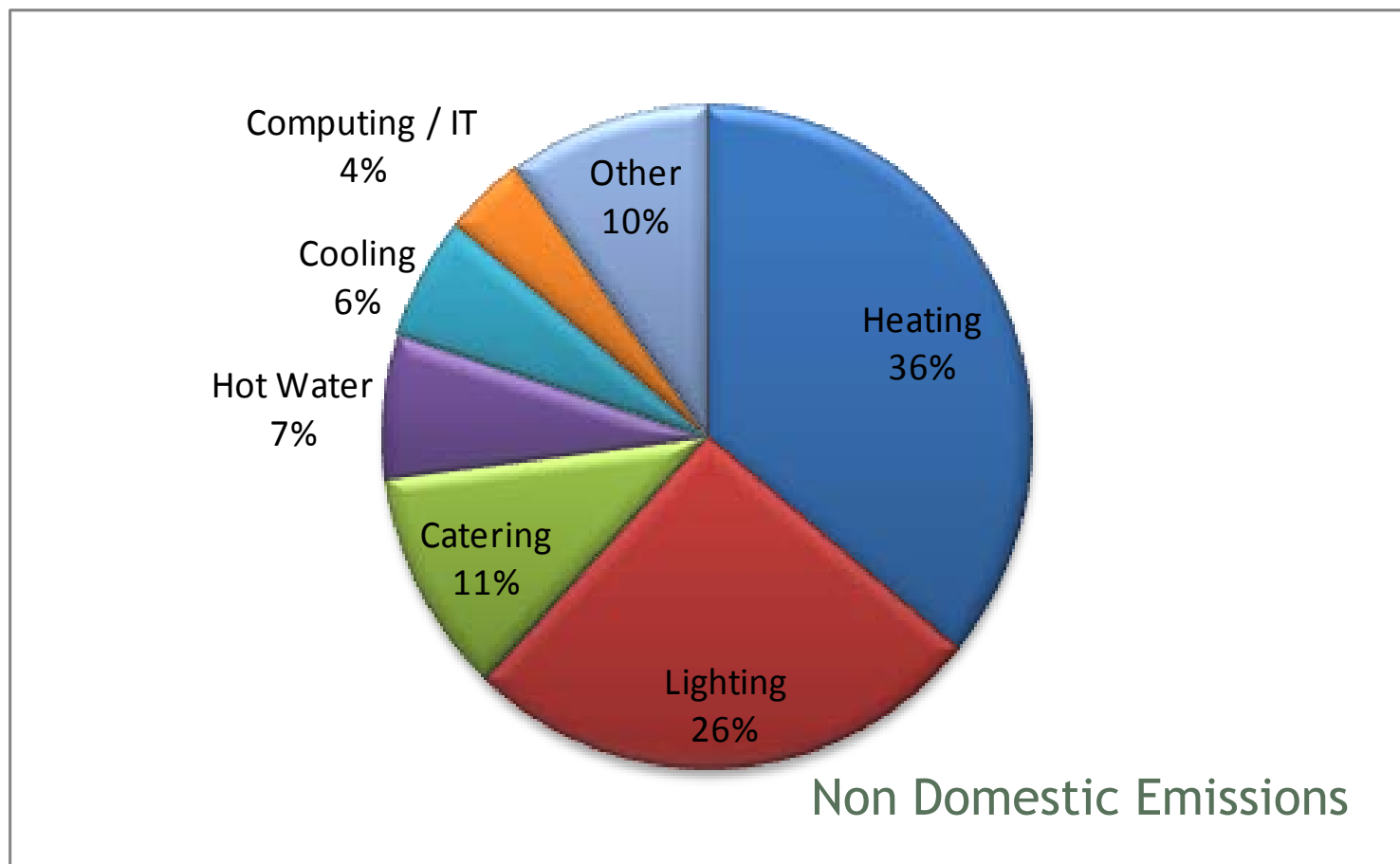
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food*  
healthier, wealthier  
**BUSINESS**

Clive Streatfield

Carbon Descent is a not for profit organisation working with businesses, local authorities and the wider community to deliver practical and affordable solutions to London's environmental challenges.

- Energy audits
- Travel Plans
- EEAC
- EU Projects
- Climate Change Strategies

Buildings in the UK account for almost 50% of all CO<sub>2</sub> emissions



# Heating and hot water:

Accounts for more than  
**40%** of energy use.

<p><b>1. Check thermostats:</b></p> <p>Correctly positioned? away from draughts, sunlight or other heat sources.</p> <p>Set to appropriate temperature for specific area.</p>	<p><b>2. Thermostatic valves:</b></p> <p>Fit TRV's to provide local temperature control.</p> <p>Set low (1.5 - 2) in unoccupied areas.</p> <p>Install tamperproof valves.</p>	<p><b>3. Stay in Control:</b></p> <p>Set timer control to latest start time and earliest end time to match occupancy.</p> <p>Seven day timer for businesses with set working hours.</p>
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Simple energy saving measures can save up to 30% on heating costs

# Ventilation and air con:

## 1. Reduce the need:

Find ways to ventilate the building naturally.

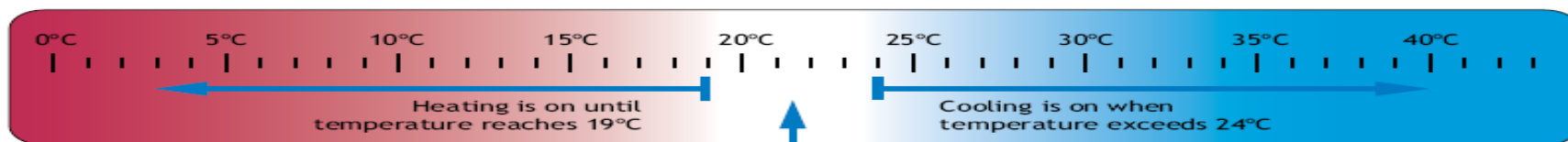
Reduce the potential for overheating.

## 2. Know the system:

Understand how to control the system and set it to provide the conditions actually needed.

## 3. Stay in Control:

Don't allow heating and cooling to operate at the same time.



Heating and cooling both off between 19°C and 24°C — a 'dead band' of 5 degrees

# Lighting:

Can account for around  
**25%** of energy use.

<p><b>1. Reduce the need</b></p> <p>Make good use of natural daylight.</p> <p>Reduce the number of lamps in over lit areas, such as corridors etc.</p>	<p><b>2. Replace lamps:</b></p> <p>Install low energy lamps in place of standards bulbs which use 75% less energy and last 8-10 times longer.</p>	<p><b>3. Stay in Control:</b></p> <p>Involve staff in a “switch off” policy.</p> <p>Add additional switches for better lighting control.</p> <p>Install occupancy sensors.</p>
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## Catering:

### 1. Switch off to save:

Switch off or at least turn down equipment when not being used.

Switch off grills, hobs and fryers immediately after use.

### 2. Equipment:

Consider replacing equipment over 15years old with more efficient models.

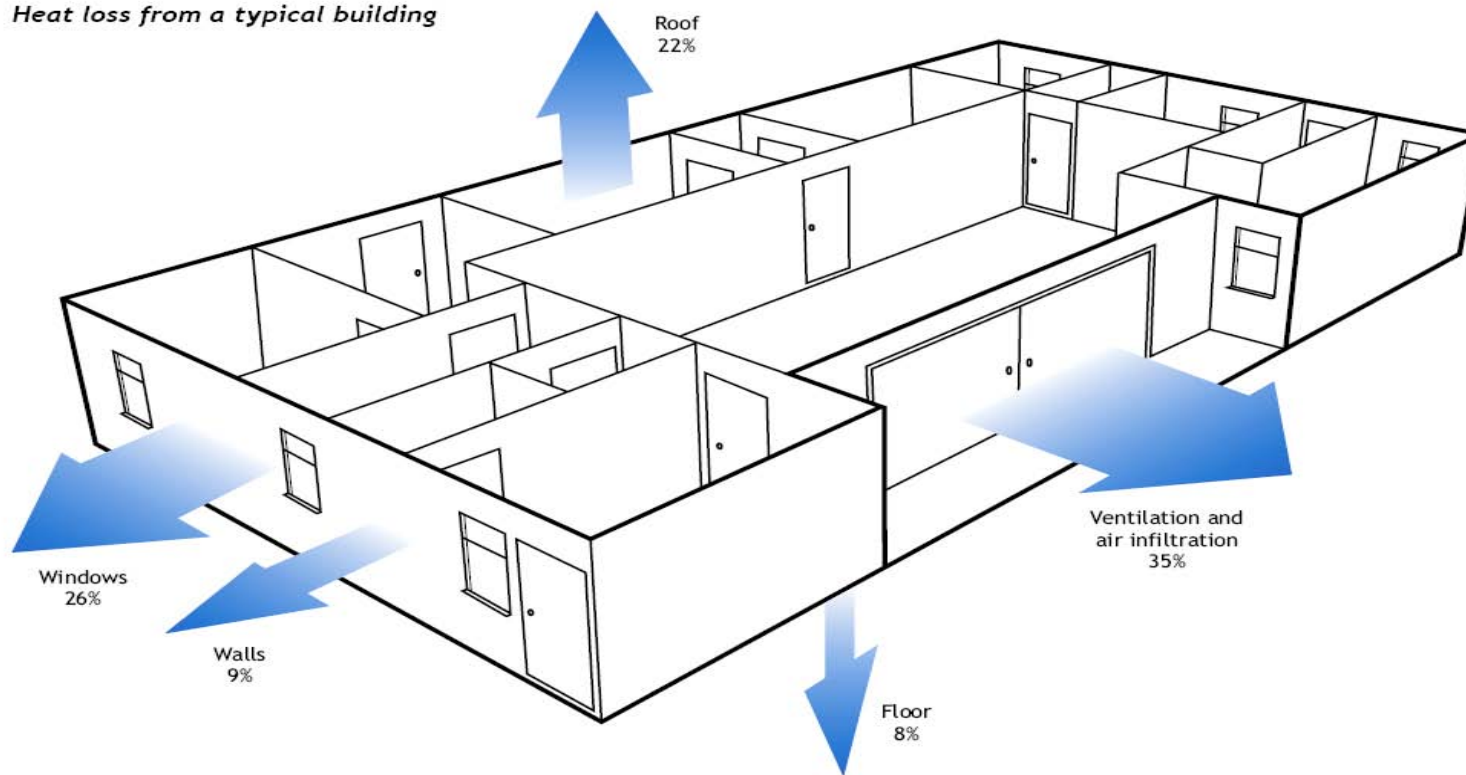
Ensure regular maintenance schedule of equipment. Check door seals on ovens and fridges.

### 3. Involve staff:

Involve staff in energy saving measures and provide energy management training. This can reduce catering energy use by 25%

# Building Fabric

*Heat loss from a typical building*



## Water:

### 1. Saving devices:

Install water saving devices to toilet cisterns, urinals and taps.

### 2. Meter readings:

Take regular water meter readings. Take a reading at the close of business one day and start of business the next. This can help to identify leaks and unnecessary water use.

### 3. Involve staff:

Involve staff in water saving measures. Fill a sink to wash produce rather than run the tap.

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*“20% cut in energy costs has same impact on the bottom line as a 5% increase in sales” (Carbon Trust, CTV013)*

## Case Study 2: Energy & Water Restaurant

- Indian Restaurant also providing Take-away's
- Two floors of Edwardian solid brick building
- Single glazed casement windows
- Opening Hours: Mon to Thurs 3pm -12pm; Fri -Sun 11am till 12pm
- Employees: 2 full time and 2 part time
- Annual bills:
  - Gas = £3,200/yr
  - Electricity = £8,400/yr
  - Water = £1,200/yr

# Recommended measures: Heating and ventilation

- Review usage of air conditioning system
  - Change temperature setting from 18°C to 24°C
  - If used to provide heating then set controller to below 20°C
  - **Predicted annual energy saving = £957**
- Provide localised controls for heating system
  - Install thermostatic radiator valves (TRV's)
  - **Predicted annual energy saving = £13**
- Reduce flow of unwanted air into the building
  - Apply draft proofing to windows and doors
  - **Predicted annual energy saving = £66**



# Recommended measures: Lighting & Equipment

- Use energy efficient lighting
  - Can save up to 80% of lighting energy use
  - Replace 60W tungsten lamps with 11W CFLs
  - Replace 35W halogen lamps with 25W IRC lamps
  - Predicted annual energy saving = £66
- Buy "A" rated models when replacing equipment and appliances
  - New models save up to 50% of their energy use
  - ECA scheme provides tax incentives
  - Predicted annual energy saving = £53



# Recommended measures: Water consumption

- Reduce flush volume in toilets
  - Install water displacement devices in each WC - save 3 litres per flush
  - **Predicted annual energy saving = £52**
- Restrict flow in hand basins
  - Can save over 70% of water consumption
  - Install a hand basin tap spray insert
  - **Predicted annual energy saving = £21**



# Recommended measures: Maintenance

- Carry out periodic maintenance of building services
  - Potentially 10% saving in energy use
  - Catering equipment, heating, ventilation and air conditioning systems e.g. Seals on fridges, freezers, ovens
- Good housekeeping
  - Can save up to 5% of total energy and water use
  - Switch off policy on all lighting and equipment
  - Repair any dripping taps - can cost up to £20 a year

# Additional energy saving measures

Ensure the building is well insulated

- Can save up to 20% of heating bills
- Increase loft insulation and draught proofing
- Install reflective panels for radiators on external walls

Reduce electricity consumption

- Occupancy sensors can save up to 25% of the electricity bill

Install a Solar Water system

- Can save between 50-70% of water heating energy use

Avoid over cooling

- Keep refrigerated produce at the correct temperature

## Other additional measures

Install presence sensor controlled urinal flushing

- can save over 70% on water usage

Buying new equipment?

- specify energy and water efficient devices where possible
- look for the 'Eco labels' which grade efficiency

Switch to a Green energy tariff

- supports investment in alternative energy sources

Environmental policy can help to educate staff and show commitment

*Examples of free stickers and posters available from the Carbon Trust*





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Delivering a Sustainable Future

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## Energy Workshop 2

1. What do you consider to be the greatest consumer of energy in your business (e.g. lighting, heating, cooking etc)?
2. What do you consider to be the greatest consumer of water in your business (e.g. toilets, cooking etc)?
3. Think of 3 simple saving measures you could apply to your business now. Two must be energy saving measures and one water saving measure? Explain briefly how you would implement it.

## Workshop 2

4. How important do you think energy and water efficiency is to your staff and customers, and how might you engage them in your energy efficiency work?
5. How much responsibility do you think the following have for reducing energy use and tackling climate change, and why?
  - Public and customers
  - Businesses - staff
  - Businesses - management
  - Local government
  - National government