



# **SAVING CARBON IN PUBLIC BUILDINGS**

Bill Johnson

Energy Manager

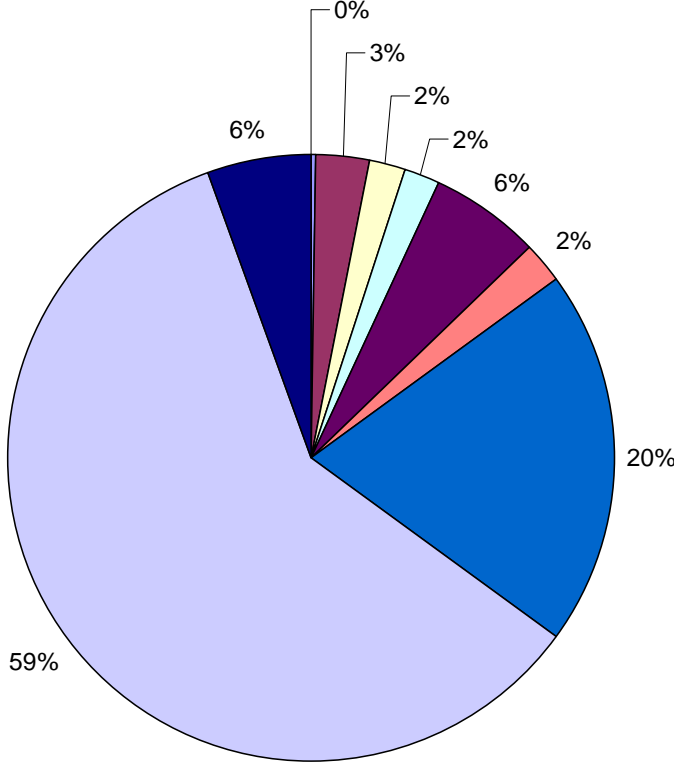
Warwickshire County Council

# SAVING CARBON IN PUBLIC BUILDINGS

- Gather Data
- Analyse tariffs and eliminate estimated bills
- Capital Schemes
- Motivation Campaigns

# WARWICKSHIRE COUNTY COUNCIL

## Fuel and Electricity Costs 2006/07

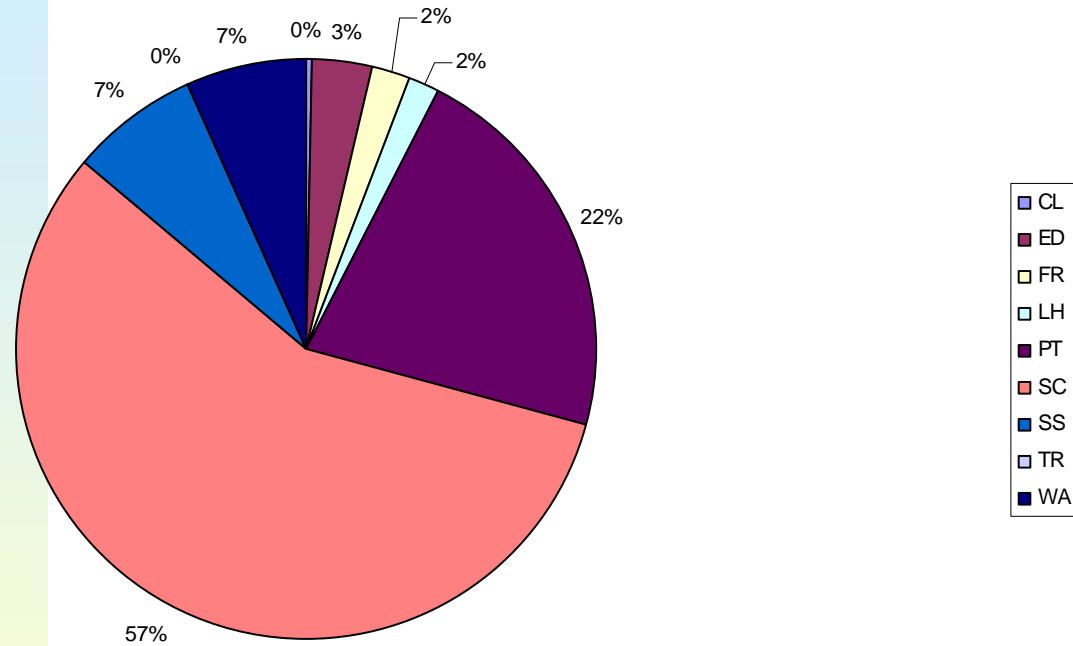


- CL
- ED
- FR
- LH
- NV
- PS
- PT
- SC
- SS

TOTAL COST £7.7 MILLION

# WARWICKSHIRE COUNTY COUNCIL

## Fuel and Electricity Costs 2008/09



TOTAL COST £13.8 MILLION

# CAVITY WALL INSULATION



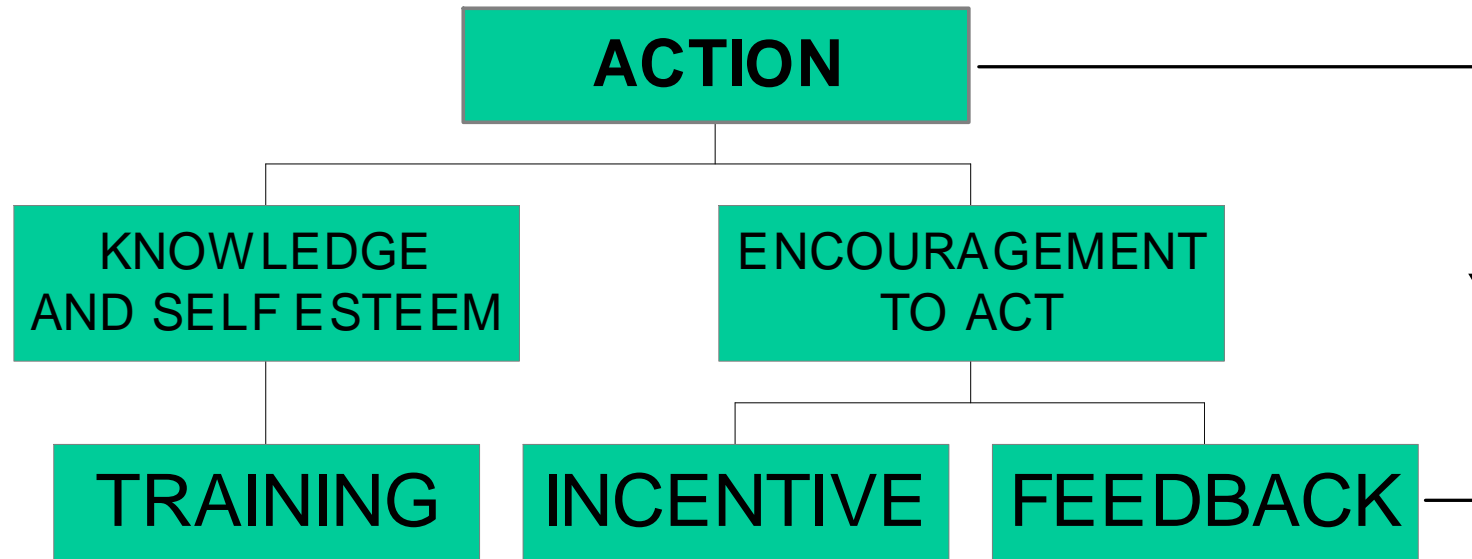


# ECO COOLER INSTALLATION



# MOTIVATION CAMPAIGNS

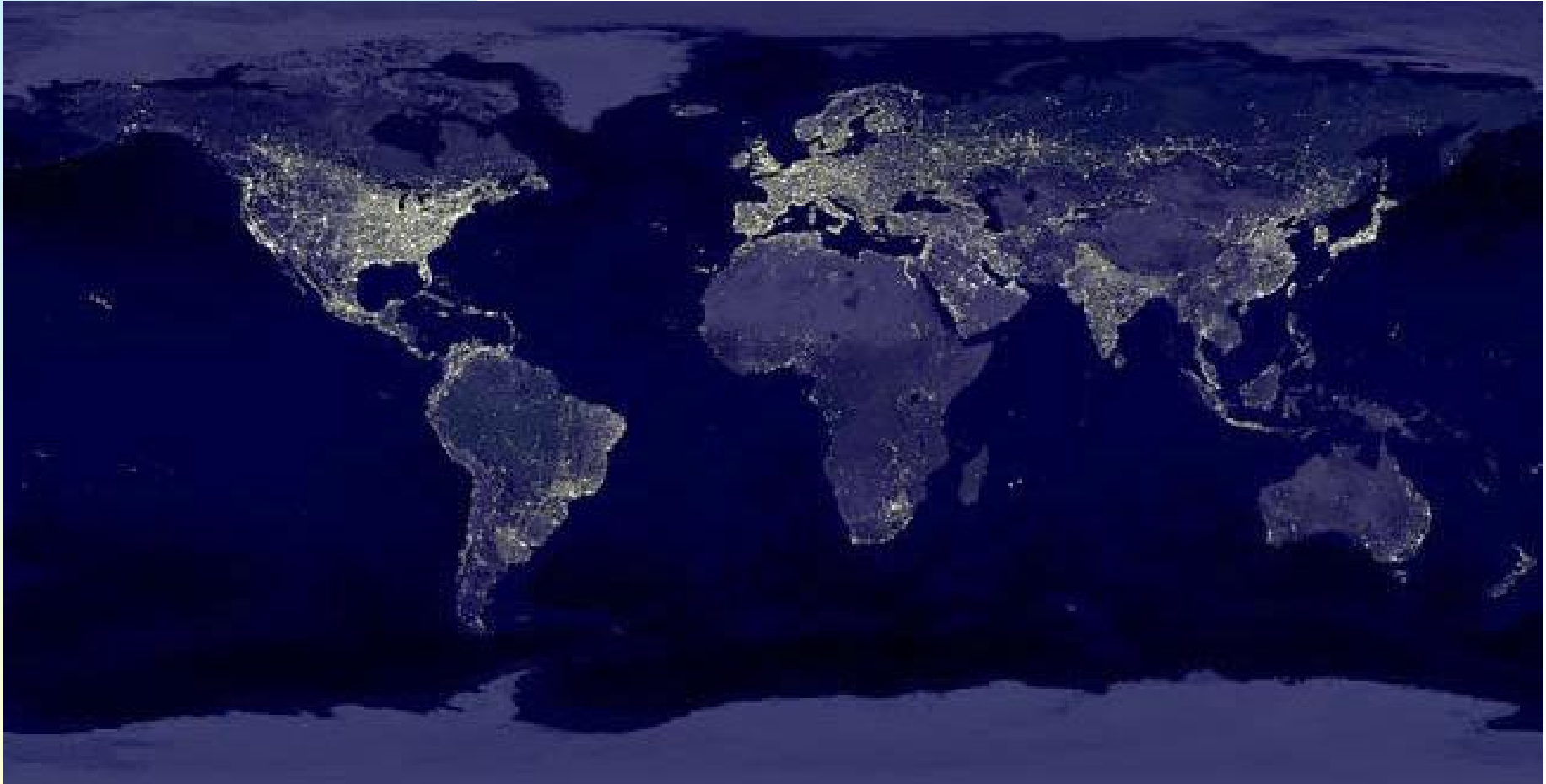
## THE KEY ELEMENTS



# TRAINING

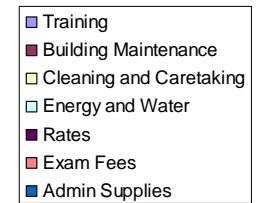
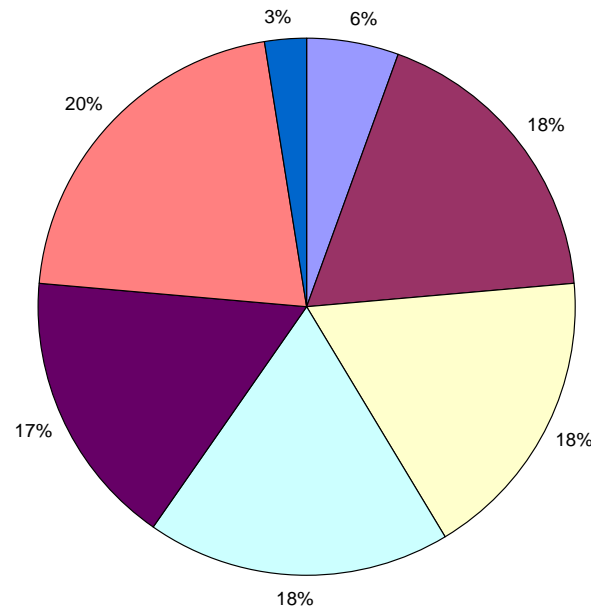
- Present the facts in a straightforward manner
- Show that individuals can make a difference
- Put fuel and water costs into perspective

# THE WORLD AT NIGHT



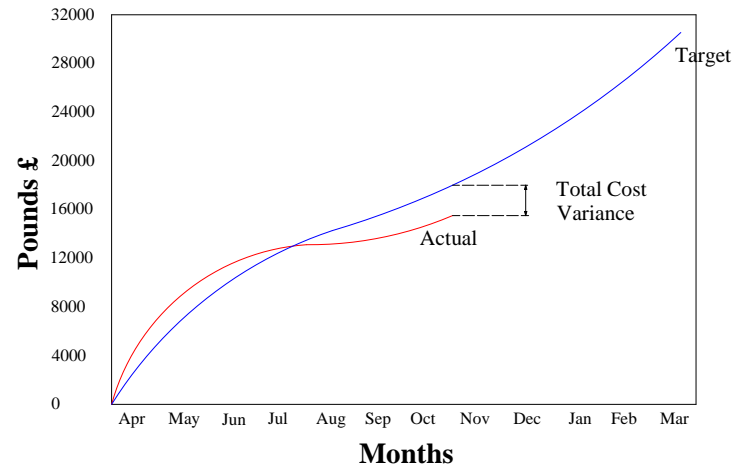
# INCENTIVE

## Typical Secondary School 2007/08 Budget Exc. Staffing Costs



# FEEDBACK

**ENERGY COST TARGET GRAPH**



# FEEDBACK

## Display Energy Certificate

How efficiently is this building being used?



A Government Dept  
12<sup>th</sup> & 13<sup>th</sup> Floor  
Jubilee House  
High Street  
Anytown  
A1 2CD

Certificate Reference Number:  
1234-1234-1234-1234

This certificate indicates how much energy is being used to operate this building. The operational rating is based on meter readings of all the energy actually used in the building. It is compared to a benchmark that represents performance indicative of all buildings of this type. There is more advice on how to interpret this information on the Government's website [www.communities.gov.uk/epbd](http://www.communities.gov.uk/epbd).

### Energy Performance Operational Rating

This tells you how efficiently energy has been used in the building. The numbers do not represent actual units of energy consumed; they represent comparative energy efficiency. 100 would be typical for this kind of building.

More energy efficient

**A** 0-25

**B** 26-50

**C** 51-75

**D** 76-100

100 would be typical

**E** 101-125

108

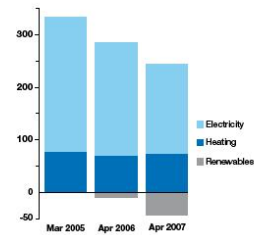
**F** 126-150

**G** Over 150

Less energy efficient

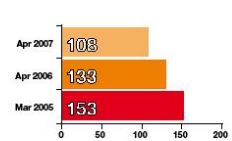
### Total CO<sub>2</sub> Emissions

This tells you how much carbon dioxide the building emits. It shows tonnes per year of CO<sub>2</sub>.



### Previous Operational Ratings

This tells you how efficiently energy has been used in this building over the last three accounting periods



### Technical information

This tells you technical information about how energy is used in this building. Consumption data based on actual readings.

Main heating fuel: Gas  
Building Environment: Air Conditioned  
Total useful floor area (m<sup>2</sup>): 2027  
Asset Rating: G2

	Heating	Electrical
Annual Energy Use (kWh/m <sup>2</sup> /year)	126	129
Typical Energy Use (kWh/m <sup>2</sup> /year)	120	95
Energy from renewables	0%	20%

### Administrative information

This is a Display Energy Certificate as defined in SI2007:001 as amended.

Assessment Software: OR v1  
Property Reference: 891123776612  
Assessor Name: John Smith  
Assessor Number: ABC12345  
Accreditation Scheme: ABC Accreditation Ltd  
Employer/Trading Name: EnergyWatch Ltd  
Employer/Trading Address: Alpha House, New Way, Birmingham, B2 1AA  
Issue Date: 12 May 2007  
Nominated Date: 01 Apr 2007  
Valid Until: 31 Mar 2008  
Related Party Disclosure: EnergyWatch are contracted as energy managers  
Recommendations for improving the energy efficiency of the building are contained in Report Reference Number 1234-1234-1234-1234

# C.R.C. Energy Efficiency Scheme Warwickshire C. C.

- Registration between April and September 2010      Fee £2,390  
Annual participation      Fee £1,300
- 1<sup>st</sup> Sale of allowances April 2011 will cost W.C.C.      £600,000
- 1<sup>st</sup> Recycling Payment October 2011  
Between £540,000 and £660,000 depending on performance
- Recycling payment based on report due July 2011  
Non compliance fine £5,000 plus £500/day overdue
- Fixed price of £12/tonne and unlimited allowances until  
April 2013 when allowances will be capped and auctioned