



## The needs of Local Authorities

**John Watterson**

With thanks to Justin Goodwin, Beth Conlan, Hazel Peace and Clare Downing

# Introduction

## What is included in this presentation?

---

### Overview

- Presumptive title! But I will present our ideas based on feedback from LA training and selection of work we have done – and then Q&A session to receive your views
- How long is the presentation – about 20 minutes

### Key items we will cover

- Some suggestions about needs – concentrating on climate change
- Recent government work and thinking
- What data is available to help local authorities?
- Recent examples of local authorities who have used national inventory data
- The future
- Question and answers

# Some suggestions about needs of LAs

## Air quality



- Detailed data available to support LAQM
- Emissions data warehouse and emission factors
- Complemented by monitoring data from the national networks
- What additional needs do you have?



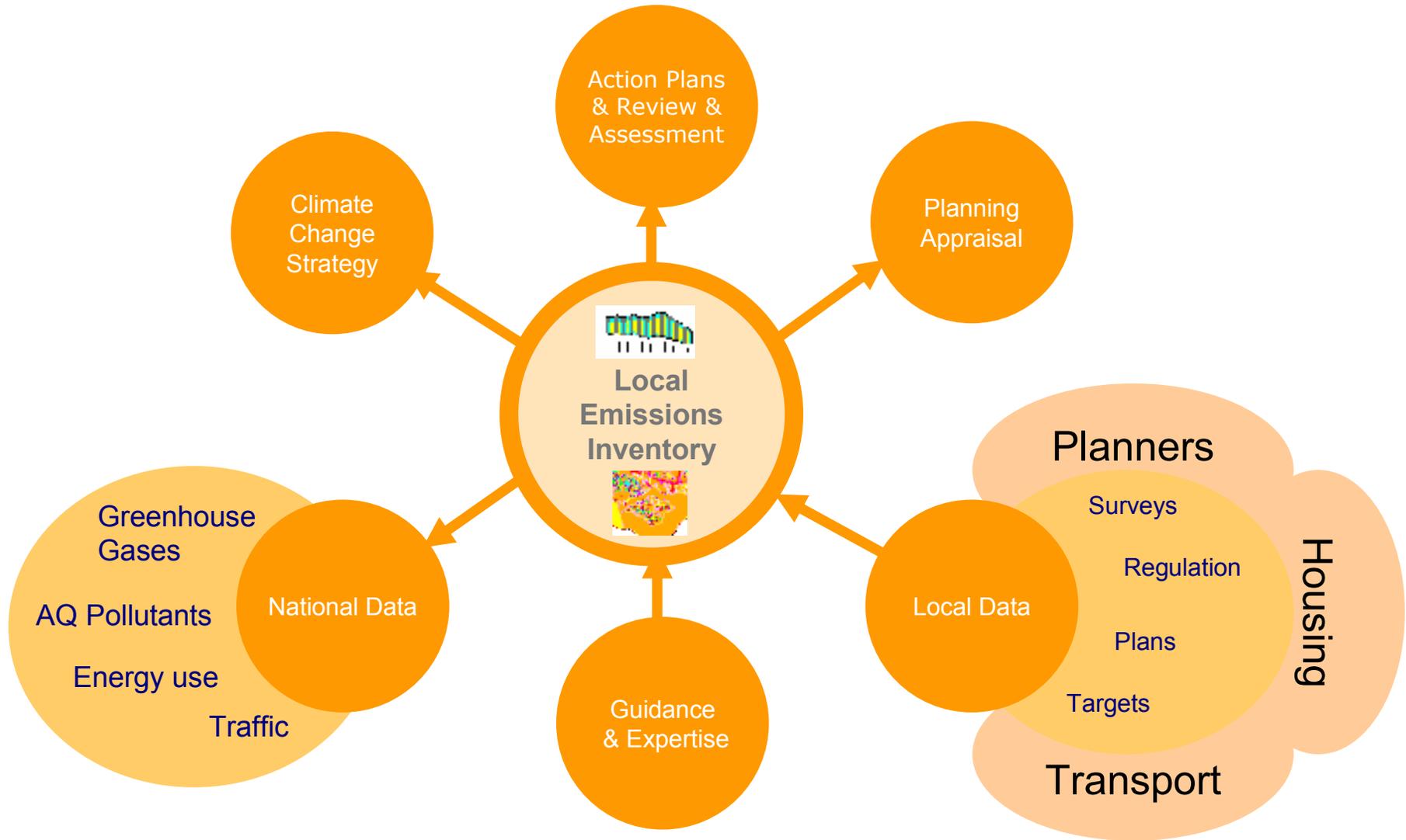
# Air quality

## Additional thoughts

---

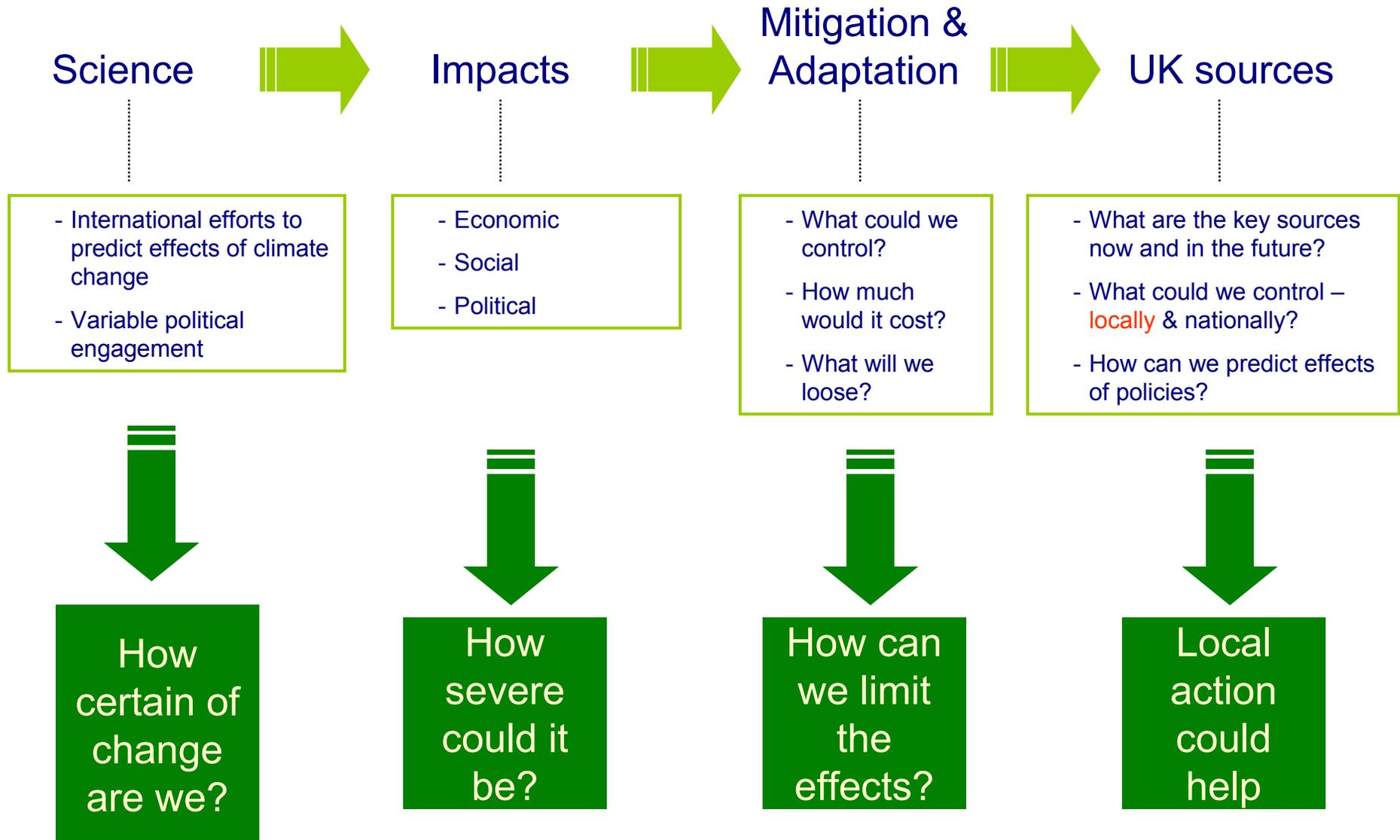
- Action plans – linkages with CO<sub>2</sub> assessment
- Technical guidance LAQM.TG(03) update – no budget as yet
  - Need to update the emissions annex of the technical guidance and the emissions toolkit and emission factor database all for LAs - important as existing data is very old
- Also exposure reduction as a policy is in the new air quality strategy - so emissions of PM2.5 will be important - this won't be under LA control to do anything about it but inevitably the local actions will have an influence. Needs a reliable inventory....
- Indicators on mitigation and adaptation – part of the CPA

# Linkages between air quality and climate change Inventories



# Climate change

## What do we need to understand?



# Some suggestions about needs of LAs

## Climate change

### A simple framework for LA climate change work

- What must you do?
  - Assessment and reporting
  - Deadlines

Stay legal!
- What do you aspire to do?
  - Go beyond the minimum?
  - Maximise monetary savings

Promote best practice locally
- How can you achieve all this?
  - What resources are available to support you?

Help define the resources you need



# Vision for local authorities on the environment

## Defra – Local Government Joint Environmental Prospectus

---

- Environment Secretary Mr Hilary Benn sets out vision for local authorities on the environment (5<sup>th</sup> July 2007)
- *“This practical checklist sets out how local authorities can:*
  - *Tackle climate change;*
  - *Protect the natural environment and resources, and break the link between waste and the economy; and*
  - *Improve the local environment.”*
- *“This is the new politics. Personal responsibility. Not leaving it to others. I am my planet’s keeper.”*
- The core concept of all of this is **sustainability**

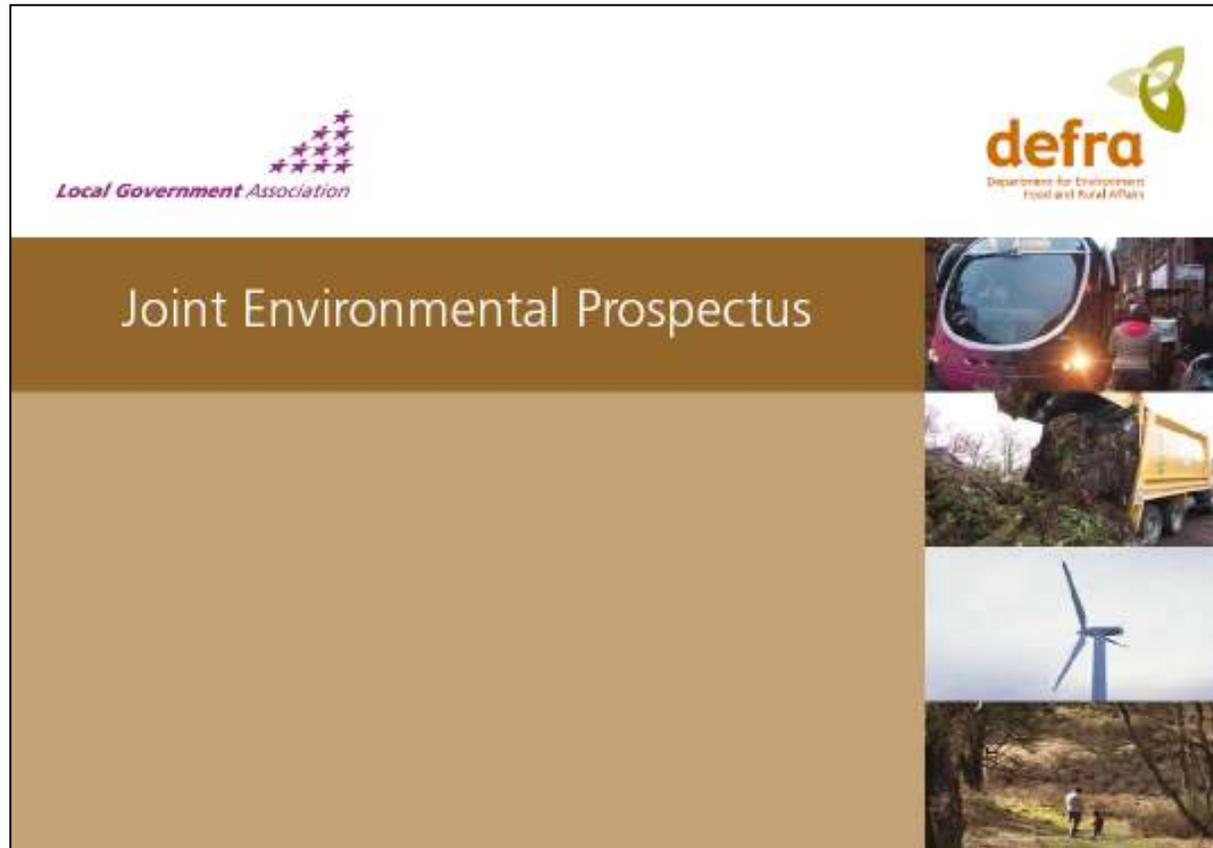
<http://www.defra.gov.uk/news/2007/070705c.htm>

National  
Atmospheric  
Emissions  
Inventory



# Vision for local authorities on the environment

## Joint Environmental Prospectus



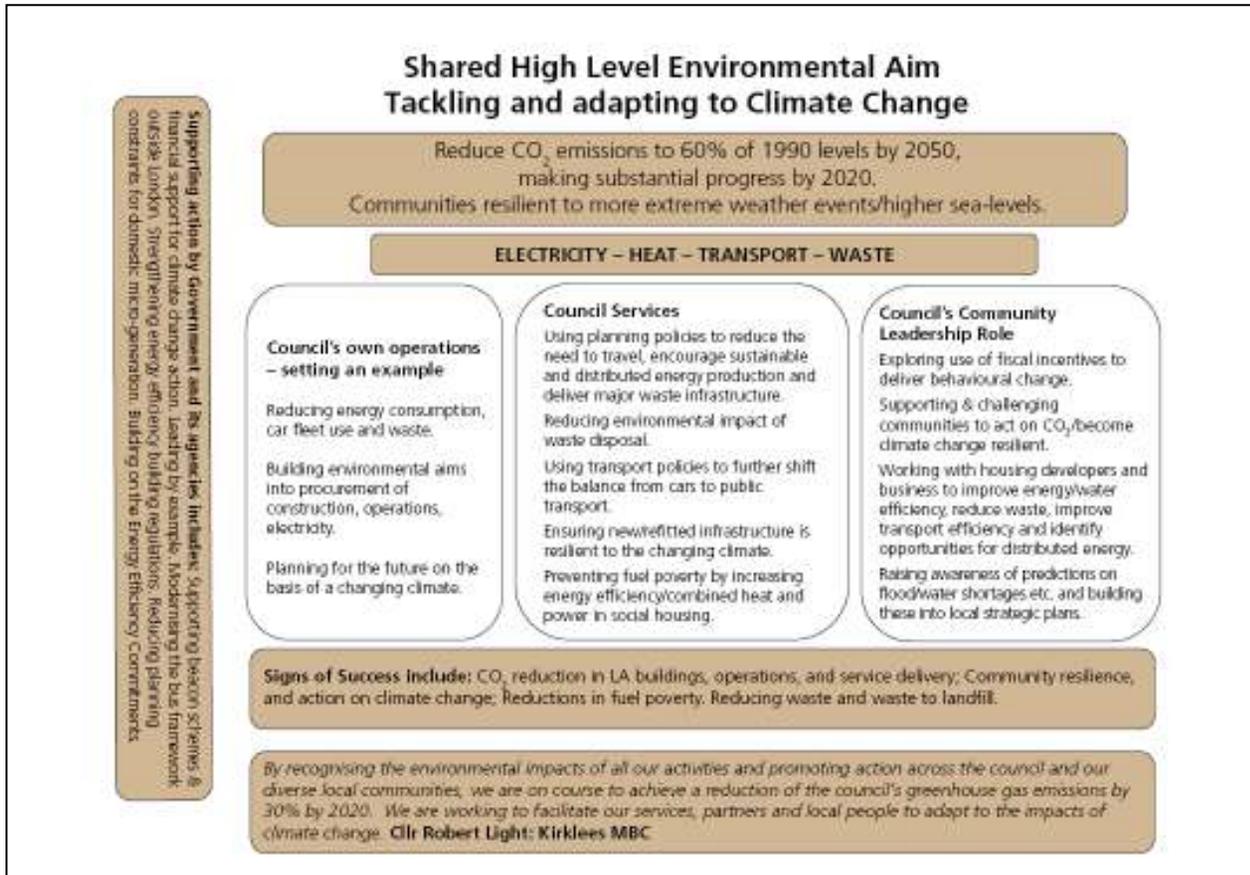
- Collaboration between Defra and LGA
- Issued in July 2007

<http://www.defra.gov.uk/corporate/delivery/landscape/pdf/joint-environment-prospectus040707.pdf>

National  
Atmospheric  
Emissions  
Inventory

# Joint Environmental Prospectus

## Tackling and adapting to climate change

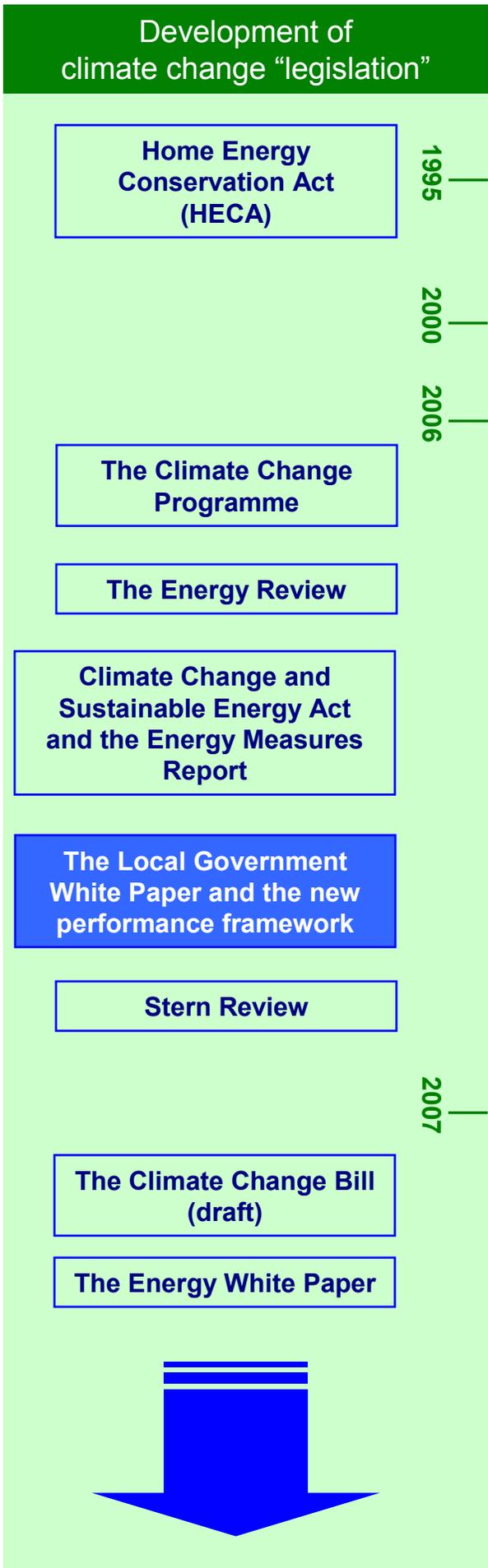


“Signs of success include”

- CO<sub>2</sub> reduction in LA buildings, operations, and service delivery; Community resilience, and action on climate change; Reductions in fuel poverty. Reducing waste and waste to landfill.

# Recent UK government legislation

## Evolution of legislation affecting LAs – An overview



# Tools for estimating GHG emissions

Table 4.1 Tools, programmes and methodologies – an initial list

Tools, programmes and methodologies			
Classification	Name	Producer	Comment
Tools, models and toolkits	Resource and Energy Analysis Program (REAP) Software	Stockholm Environment Institute (SEI) / Scotland's Global Footprint Project	An integrated resource environment modelling tool based on policy scenarios
	Harmonized Emissions Analysis Tool (HEAT)	International Committee for Local Environmental Initiatives (ICLEI)	Emissions inventory tool based on local energy use, transportation demand, and waste practices. Scenario setting capability.
	EMIT	Cambridge Environmental Research Consultants (CERC)	Tool to compile emissions inventories. Companion to atmospheric dispersion model ADMS.
	Baseline & Targeting tool for LAs	Carbon Trust	Spreadsheet tool to help establish emissions of CO <sub>2</sub> from LA's own activities
	Community Level GHG reporting tool	South East Climate Change Partnership (SECCP)	Calculates GHG emissions from LA's own activities
	GHG emission calculator	South East Climate Change Partnership (SECCP) Emissions Monitoring Group	Partner to the Community Level GHG reporting tool
	Adaptation tool	UK Climate Impacts Programme (UKCIP)	Four step tool: scoping the impacts, quantifying the impacts, decision making and action plans, and adaptation strategy review
	Nottingham Declaration: Action Packs	Carbon Trust, EST, IDEA, LGSA	Guidance on mitigation and adaptation strategies for LAs
	South West Climate Change Impacts Partnership	South West Climate Change Impacts Partnership	Resource base of information and guidance towards a sustainable future for south west England
	Company Reporting Guidelines	Department for Environment, Food and Rural Affairs (Defra)	Initially designed to provide a tool to allow companies to estimate their GHG emissions, but components often used in to the calculators
	Regional Economy-Environment Input-Output (REEIO) model	Cambridge Econometrics	An econometric model using a variety of drivers such as economic (i.e. GVA data) to establish changes in a regions environmental impact.
	Greenhouse Regional Inventory Project (GRIP)	Tyndall Centre	Has been applied in Scotland – rapid technical developments in this area may mean the approach has been superseded by more recent models.
	Carbon emissions calculator	Defra	Forthcoming carbon calculator designed to be the definitive calculator
	Carbon emissions calculator	Various	Varying qualities; will be briefly review
Programmes	The Local Authority Carbon Management Programme	Carbon Trust	Provides councils with technical and change management support and guidance to help them realise carbon emissions savings. The primary focus of the work is to reduce emissions under the control of the local authority.
	The National Atmospheric Emission Inventory (NAEI) including the GHG inventory	AEA Technology	We hold the contract to compile this inventory
	The NAEI LA CO <sub>2</sub> inventory	AEA Technology	We hold the contract to compile this inventory
Methodologies	Ecological Footprinting	Stockholm Environment Institute/Scotland's Global Footprint Project	Complex and evolving methodology

## The good

- Wide range of tools
- Some tools specifically designed for LAs
- Some use data from the UK GHG inventory

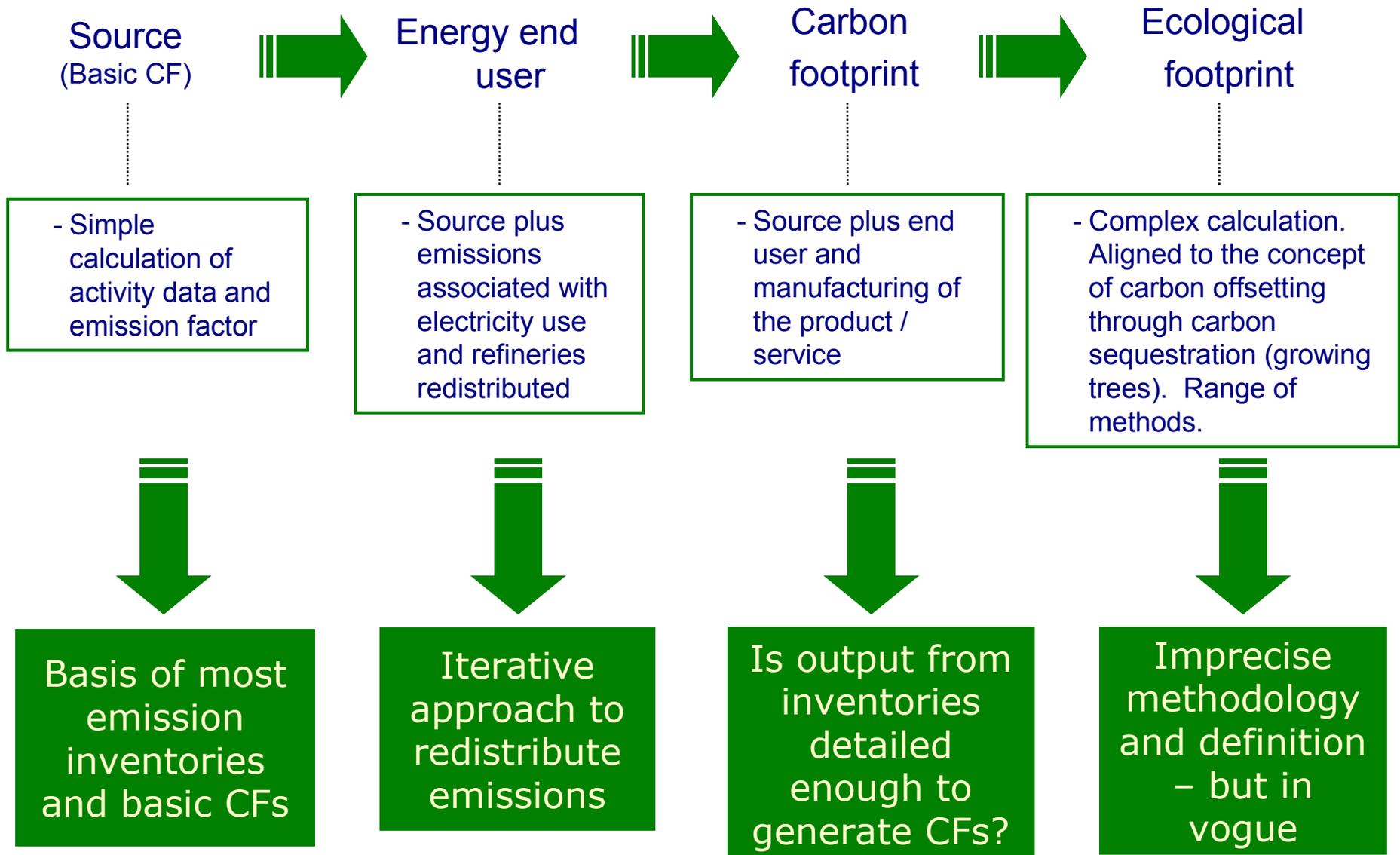
## The problems

- Emission factors used not always traceable
- No tool covers all the sources that LAs would be interested in
- Different tools give different answers from the same inputs



# Carbon Footprinting

Can we define it? Can LAs calculate them?



# Local GHG inventories – Case study

---

Two recent inventories completed. Here we are concentrating on ...



## **Yorkshire and the Humber**

- Detailed 1 km spatial inventory – presented at ward level
- Web based interface



# Y&H - Yorkshire and the Humber GHG inventory

---

One of the first local GHG inventories in the UK, and now further developed to be ready to accept and integrate local activity data

Steps to creating the inventory ...

- **Task 1:** Review of current emissions inventory data and experience in the Yorkshire and Humber Region
- **Task 2:** Workshop run to obtain feedback on proposals for procedures, data flows and formats for future inventory development and updates
- **Task 3:** Web based interface developed
- **Task 4:** Report summarising findings, methods and progress and recommend future inventory development

# Y&H - Authorities included ...



- Project had limited funds – so only a limited number of authorities could be included in this initial pilot stage
  - Leeds City Council
  - Harrogate Borough Council
  - Kingston upon Hull City Council
  - Kirklees Metropolitan Council
  - Wakefield Metropolitan District Council



# Y&H - Underlying inventory data

---

- Based on NAEI and the LA CO<sub>2</sub> scoping study carried out Defra/DTI (for electricity – end user)
- A prototype web based emissions inventory has been constructed, which is consistent with the NAEI and accessible and updateable by each Local Authority
- Additional data sets identified (roads, HECA) - hard to integrate – but methods developed

# Y&H - Web based interface

## Yorkshire and Humberside Regional Emissions Inventory



**YORKSHIRE FORWARD**

- [Home](#)
- [Maps of emissions](#)
- [Emissions by ward](#)
- [Upload data](#)
- [About this site](#)

**Welcome to the Yorkshire and Humberside Regional Emissions Inventory Website**

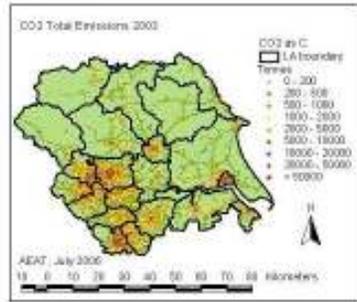
This website allows you to see the spatial distributions of emissions of carbon dioxide (CO<sub>2</sub>), as carbon, from different source sectors (e.g. [road transport](#) and [heating](#)). You can compare your own neighbourhood with other parts of the Yorkshire and Humber region.

The picture on the right shows total estimated carbon dioxide emissions for the Yorkshire and Humber Region, with the highest emissions occurring in the more built up areas and along key arterial roads. This demonstrates two of largest sources of carbon dioxide: road transport and heating.

You can view [maps](#) of the Yorkshire and Humber region showing CO<sub>2</sub> emissions on 1 km grid squares. There are separate maps for [total emissions](#) in the grid square, and emissions from [road transport](#), [combustion](#), [point sources](#), [electricity consumption](#) and [all other sources](#).

You can also see emissions broken down on the level of council [wards](#). (A ward is an electoral district typically containing a few thousand residents. You can find out what ward you are in [here](#).)

This website is a prototype website and as such at present only contains data for carbon dioxide.



This website is maintained by AEA Technology



## Yorkshire and Humberside Regional Emissions Inventory



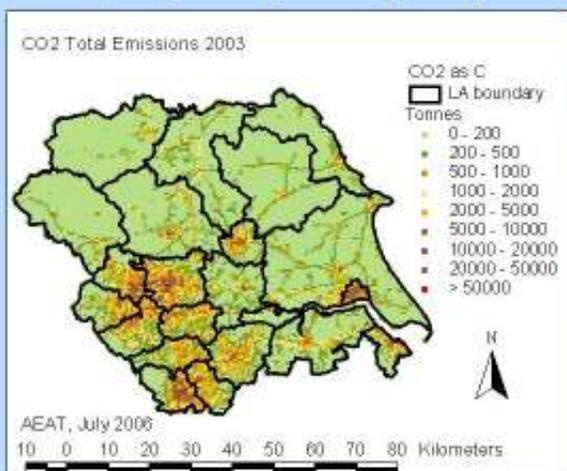
**YORKSHIRE FORWARD**

- [Home](#)
- [Maps of emissions](#)
- [Emissions by ward](#)
- [Upload data](#)
- [About this site](#)

**Yorkshire and Humberside CO<sub>2</sub> Emissions**

**All sources** | Roads | Combustion | Point sources | Electricity | Other sources

**CO<sub>2</sub> Total Emissions 2003**



This map shows the total estimated CO<sub>2</sub> emissions in tonnes of carbon per year from **all sources** in 2003. The highest emissions are in the more built-up areas and along key arterial roads. This demonstrates some of the largest sources of carbon dioxide in the region: [road transport](#), [heating](#) and [electricity consumption](#).

This map includes emissions from power stations, which have been spatially re-apportioned based on electricity consumption for the whole of the UK. That is, rather than showing emissions at the power station, emissions are attributed to the homes and businesses that consume the generated electricity.

# Y&H – Input of local data

**Yorkshire and Humberside Regional Emissions Inventory**

**Yorkshire and Humberside CO<sub>2</sub> Emissions**

Breakdown of CO<sub>2</sub> emissions (in tonnes, as carbon) in 2003 by source category for **Acomb ward (York)**:

Source	CO <sub>2</sub> (as C, tonnes)	Estimated Reduction (%)	Reduced CO <sub>2</sub>
Combustion in energy production and transformation	0	<input type="text" value="0"/>	0
Combustion in commercial, institutional and residential, and agriculture	4044	<input type="text" value="0"/>	4044
Combustion in industry	25	<input type="text" value="0"/>	25
Production processes	0	<input type="text" value="0"/>	0
Extraction and distribution of fossil fuels	0	<input type="text" value="0"/>	0
Road transport	1000	<input type="text" value="0"/>	1000
Other transport and mobile machinery	17	<input type="text" value="0"/>	17
Waste treatment and disposal	0	<input type="text" value="0"/>	0
Agriculture, forestry and land use change	2	<input type="text" value="0"/>	2
Nature	28	<input type="text" value="0"/>	28
Point sources (large industry, no power stations)	0	<input type="text" value="0"/>	0
Electricity consumption (from power stations)	5560	<input type="text" value="0"/>	5560
<b>Total for ward</b>	<b>10678</b>		<b>10678</b>
<b>Total for local authority (York)</b>	<b>352845</b>		
<b>Total for Yorks and Humber region</b>	<b>14670667</b>		

1.

Recalculate reduced CO<sub>2</sub>   Save these reductions   Reload saved reductions

To run a CO<sub>2</sub> reduction scenario, enter the percentage reductions (calculated as follows) in the box in the 'Estimated Reduction (%)' column next to the relevant source sections. Then click the 'Recalculated reduced CO<sub>2</sub>' button.

If you wish to save the scenario to the server click the 'Save these reductions' button. Please note that only one scenario can be saved per user.

To estimate a percentage reduction, consider this example:

1. Suppose current emissions for road transport for the ward are 1000 tonnes of CO<sub>2</sub> as C.
2. It is projected that these emissions for the ward can be reduced to 783 tonnes of CO<sub>2</sub> as C.
3. Calculate  $783/1000 = 0.783$
4. To convert this to a percentage reduction, subtract 0.783 from 1 and then multiply by 100, thus:  $(1-0.783) * 100 = 21.7\%$
5. Enter 21.7 in the relevant box.

- Road traffic (nodes (location), AADT, speed, fleet mix, year);
- Authorised processes and fuel use surveys (Fuel use per annum, fuel type, other data, post code/grid reference, year);
- HECA data (postcode, fuel usage total (can be estimated), fuel type, year);
- Landfill (type of waste, location, age).

**Yorkshire and Humberside Regional Emissions Inventory**

**Download/upload emissions forms**

To update the data in the database, please follow these steps:

- Download the following forms, as appropriate:
  - Road traffic template
  - Local authority processes (A2 and B) template
  - HECA template
  - Other fuel use template
  - Land fill template
- Complete the forms.
- Upload the forms to the website using the form below.

File to upload:

2.

This website is powered by AEA Technology



# Where now for Y&H?

---

- This project is a prototype
- Issues arising
  - Integration with LAQM
  - Collation of more local data
  - Integration of local data
  - Action plan to target areas of GHG emissions that Y&H could reasonably control or influence
  - Climate change “champion”
  - Consider the data flows and architecture of the LAs in Y&H to optimise CC activities

# Feedback from recent conference

Wednesday 23rd May 2007  
Earls Court Exhibition Centre, London SW5

**LGC conferences**

Sponsored by:  
  
ogobuying solutions

Supported by:  


This brochure has been printed on environmentally friendly paper

## Tackling Climate Change in your Authority

Benefiting financially, politically and environmentally whilst meeting your statutory duties



**Featured speakers include:**

**Ray Morgan, Chief Executive Woking Borough Council**

**Tyrone Hornes, Lead – Local and Regional Government, Climate and Energy: Strategy and Public Sector Division Defra**

**Councillor Paul Bettison, Chair - Environment Board, LGA Leader, Bracknell Forest Borough Council**

**Gerry Metcalf, Head of Knowledge Transfer Team UKCIP**

**Benefits include:**

- Interactive workshops
- Insight from Beacon Councils for Sustainable Energy
- Guidance from Defra, CLG and Carbon Trust

To register – Tel: 0845 056 8341 Fax: 020 7505 6001  
Email: lgcconferences@emap.com Email: [www.lgc-climatechange.co.uk](http://www.lgc-climatechange.co.uk)



## Key LA needs identified from conference feedback

- How do LAs estimate emissions?
- How do LAs generate a baseline for 1990?
- LAs want an agreed, consistent methodology from Government such that LAs can compare against each other and can be benchmarked across the country

# Recent international developments

## EU climate change adaptation strategy

---

- Long-awaited green paper suggests how Europe should integrate adaptation to climate change into domestic and foreign policy
- The Green Paper sets out four lines of priority actions to be considered:
  - **Early action** to develop adaptation strategies in areas where current knowledge is sufficient;
  - **Integrating global adaptation** needs into the EU's external relations and building a new alliance with partners around the world;
  - **Filling knowledge gaps** on adaptation through EU-level research and exchange of information;
  - **Setting up a European advisory group** on adaptation to climate change to analyse coordinated strategies and actions.
- Some key questions:
  - How do policy priorities need to change for different sectors?
  - **Which policy approaches should be taken at national, regional or local level?**
  - Where is European action needed?

# Summary of needs ... for discussion

- **Climate change to become embedded in LA organisational structure**
  - The Energy Review showed that successful LAs actions can be attributed to willful individuals not the LA as a whole.
- **Mitigation indicators**
  - Part of the revised Comprehensive Performance Assessment (CPA)
  - Need guidance and tools to achieve reductions in
- **A Best Practice Programme for LAs**
  - Likely to be established to provide advice and support around the CPA Comprehensive Performance Assessment (CPA)
  - Likely to be funded by central government but through the delivery partners of CT/EST/IDeA/UKCIP and provide things like toolkits/benchmarks/energy measures and CO2 inventory (the plan is the have a consistent non-changing calculation e.g. from 2005)
- **Adaptation indicators**
  - Defra are considering
  - Indicators are being developed but are process-based and are likely to assess progress against the Nottingham Declaration action pack 5 stage process. It may also use CTCM derived info.

## Points to note

- **Launch of the LGA Climate Change Commission**
  - The climate change commission's interim report, Strengthening local action on climate change launched at the Local Government Association's annual conference 3 July 2007
  - Report states "climate change must be at the heart every local area's ambitions. The report urges authorities to take a leading role to help people adapt their lifestyles to cut their carbon footprint."
  - <http://campaigns.lga.gov.uk/climatechange/home/>

# Your questions and ideas of needs...

---

- Please contribute!