Annex 4
Background paper - Carbon modelling to support the development of the CCFAP

Background

In July 2010 CYC commissioned Carbon Descent to carry out carbon modelling to identify how York will meet its various climate change related targets (including the targets as detailed in the CCFAP). More information on Carbon Descent is available at http://www.carbondescent.org.uk/pages/vantage-point.html

To carry out this work Carbon Descent used a modelling package called VantagePoint. This tool will model carbon reduction scenarios over time. It has been designed specifically for local authorities to develop scenarios to inform climate change or similar strategies.

The tool allows the user to:

* Set baseline emissions levels for the Local Authority against which targets can be measured, using a built in database if required
* Define carbon reduction targets for a given year
* Set interim reduction targets for any number of key years on a linear or non-linear basis
* Adjust the targets to allow alterations in population growth, rates of demolition, new build and changes in transport emissions
* Analyse a mix of technologies and measures applied to transport, domestic and non-domestic buildings to achieve the targets
* Group these mixes into reduction scenarios and compare against number of factors such as:

  - Heat and power produced by technology
  - CO2 reductions and projected per capita emissions (in line withNational Indicator 186)
  - Net present value
  - Capital costs
  - Total gas and biomass consumption

The Carbon Descent VantagePoint software provides a vision for possible energy mixes for the local authority which underpins the climate change strategy.

This work, due to be completed in October 2010, will establish a set of measures and their relative proportions that will achieve York's carbon reduction targets:

York's varying climate change commitments

Campaign	Target
Covenants of Mayors	20% reduction in CO2 emissions (2005 baseline) by 2020
Friends of Earth 'Get Serious' campaign	40% reduction in CO2 emissions (2005 baseline) by 2020
Climate Change Act 2008 and Climate Change Framework and Action Plan	80% reduction in CO2 emissions (based on a 1990 level) by 2050

The model also identifies the capital cost and other economic implications of any given strategy providing a thorough cost benefit analysis.

The model can continue to be adjusted as parameters change and actions are undertaken.

Next Steps?

Complete the carbon modeling work

- More modelling is being undertaken to determine how York will achieve its 40% and 80% target
- Modelling to calculate the impact of CCFAP is also being investigated
- Financial modelling is also to be completed to illustrate the cost of delivering the targets
- An Event to be held with senior officers in LDF, LTP3, LES, Economic Development, Waste, Housing and Councillors to help them to understand the modeling and the actions needed to begin looking at detailed plans for achieving the targets.