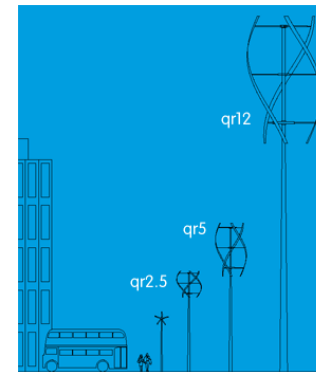


# Implications of the Climate Change Bill for the non-domestic sector: **Achieving Building Market Transformation**

Mark Hinnells

Downloadable from [www.greenleases-uk.com](http://www.greenleases-uk.com)

**CARBON**VISION PARTNERSHIP

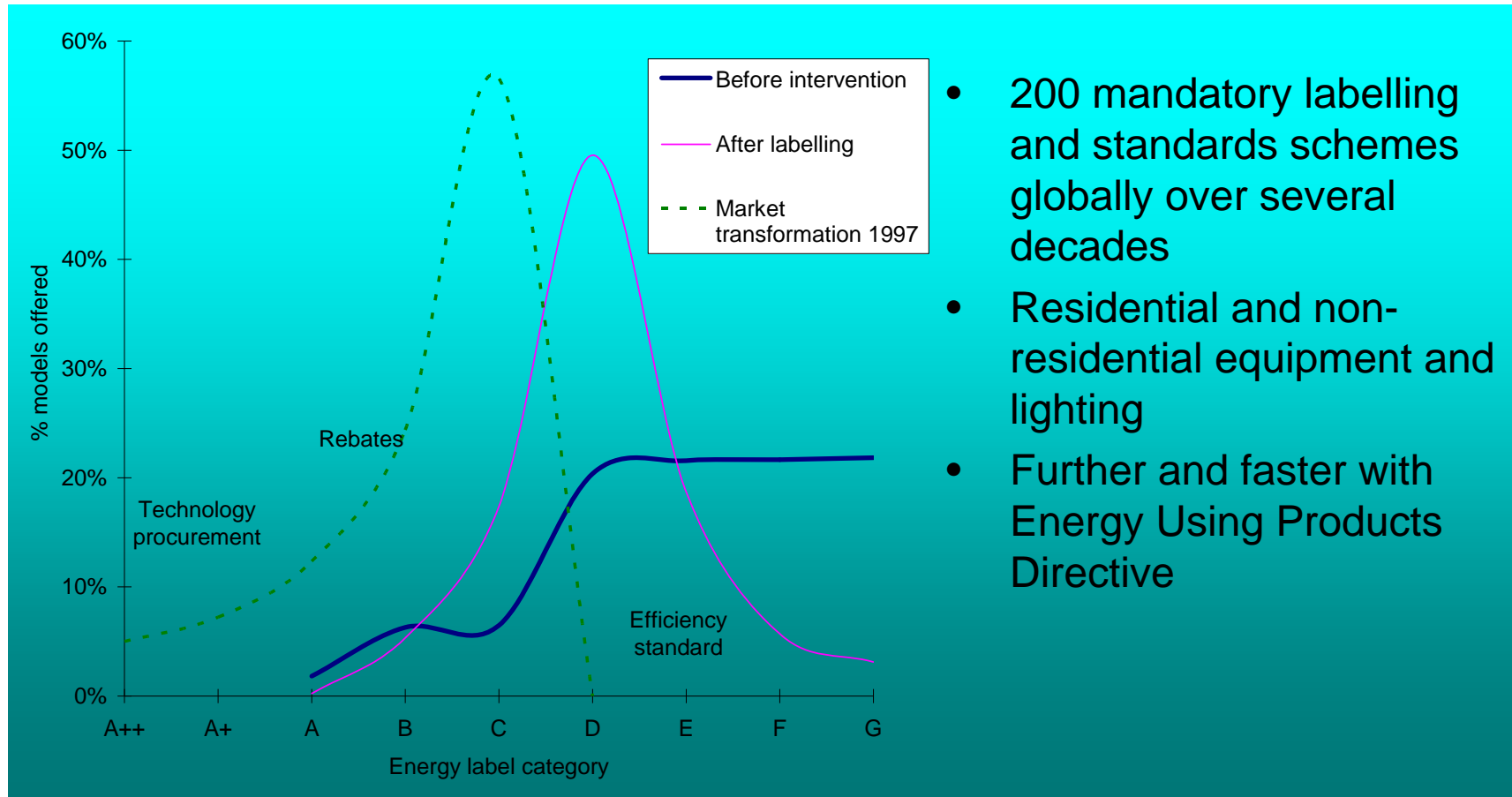


# The Climate Change Bill

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- Will make a 60% reduction by 2050 and a 26 - 32% reduction by 2020 legally binding
- five year “carbon budgets”, set at least 15 years ahead, to provide clarity on the UK’s pathway
- New enabling powers for further measures
- The Committee on Climate Change to provide an annual independent progress report to Parliament
- Expected to become law by Easter 2008
- **May need to be more rapid short term cuts, or an overall an 80% cut, because of failure to act in 1990’s**
- <http://www.defra.gov.uk/news/latest/2007/climate-0313.htm>

# Market Transformation



- 200 mandatory labelling and standards schemes globally over several decades
- Residential and non-residential equipment and lighting
- Further and faster with Energy Using Products Directive

# Developing market transformation for buildings

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## Combining Information, incentives, regulation

- **Information:**
  - Energy Performance Certificates
  - supplemented by Display energy Certificates
  - better metering under Energy Services Directive
- **Incentives:**
  - Carbon Reduction Commitment
  - Enhanced Capital Allowances
  - Support for Energy Services approach (off balance sheet finance)
  - Stamp Duty?
- **Regulation**
  - Building regulations move towards Zero Carbon by 2020
  - Building regulations apply at point of change of occupant (Sustainable and Secure Buildings Act)

# BMT Modelling of Market Transformation Scenarios

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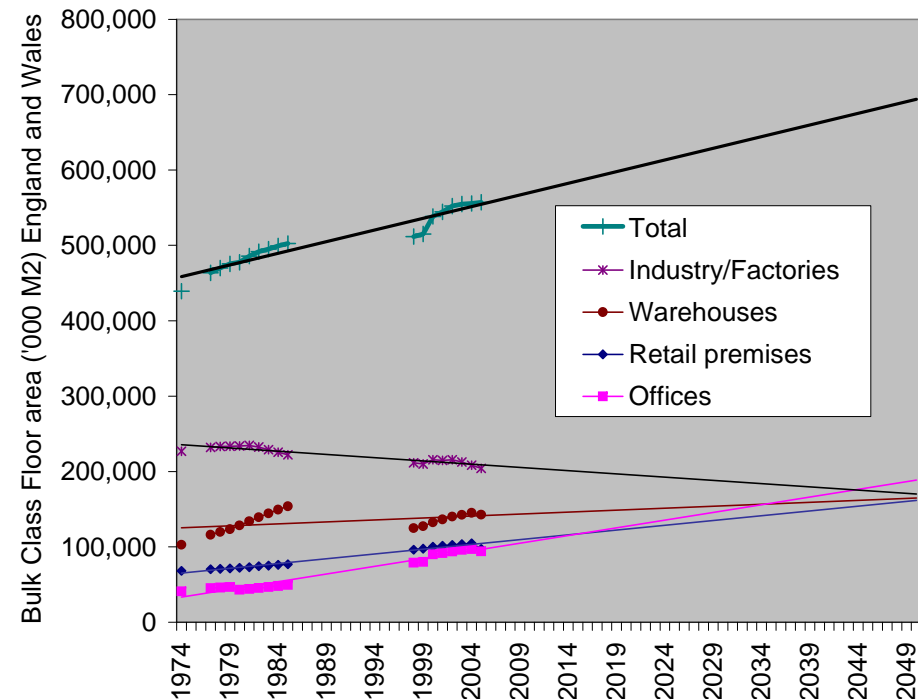
Exploring scenarios to 2050 (with emphasis on next 3x5 yr carbon budgets) through:

- **Floor area.** Trends include
  - A steady move from an industrial economy to a service economy
  - A move to larger out of town, shed based structures for retail and warehousing
- **An understanding of the real estate market**
  - The development of real estate investment sector
  - Trend towards sale and leaseback
- **Analysis of points of intervention**
  - build and demolition, major refurbishment, change in use, and change in occupant
  - Equipment change
- **Energy use per m2.** Original SHU data updated to reflect conditions in 2004
- **Estimates of saving potential**
  - from fabric, low and zero carbon technologies and equipment
- **Model validation**
  - In retail and offices using SBEM and ESP-r (with Heriot Watt)
  - comparing modelled to actual energy over time, using DUKES.

# The evolution of the market

## Current market

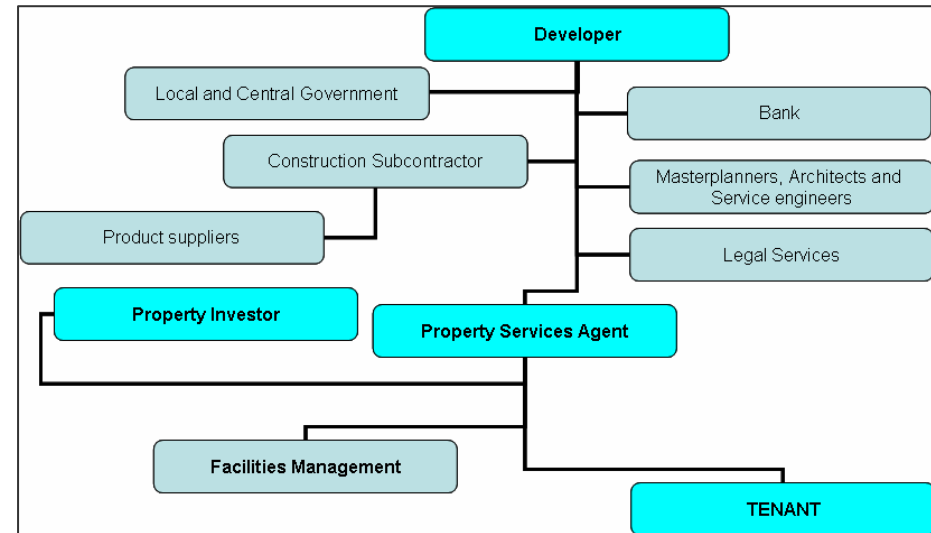
- Non-domestic buildings 19% of UK CO2
- Stock is very diverse in ownership, usage, form, age condition
- De-industrialisation means less industry and more retail and offices
- Total commercial floorspace per person around 22 M<sup>2</sup> per person, but floorspace rising in line with population. Projected 25% increase in floorspace by 2050
- Rapid changes in energy end use, consumption going up
- Long term trend to sell space to investors. Now approx 50% owned by investors (depending on how counted)
- Landlord tenant split means energy decisions dysfunctional



# Rapid transformation possible

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- Many markets to transform
- points of intervention frequent so potential for faster transformation (lease length down to 7 years and landlords sell every 7-10 years)
- Is focus landlord or tenant? (role of Green Leases in reconnecting the two)
- Understanding value compared to costs in different market sectors is critical
- Need to get the market conditions right



# Changed Business models

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## **2 degrees ([www.g-business.com](http://www.g-business.com))**

- Uses facebook style networking for business to enable development of low carbon solutions
- 2 degrees: a call to action over climate change and implies network
- Network grown by providing consultancy services to market makers
- First networks are commercial buildings

The logo for The Zero Carbon Company, consisting of a yellow rectangular box on top and a blue rectangular box on the bottom. The text "the zero carbon company" is written in white, lowercase, sans-serif font across the yellow box.

**the zero  
carbon  
company**

## **Zero Carbon**

- Design, build, finance, operate, and maintain low carbon energy infrastructure on new build development
- Partnership with Mitie Engineering (large Facilities Management Company) and Good Energy (Green supplier)

# Summary:

## from evolutionary to transformational change

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- On the edge of rapid policy and market change
- Climate Change Bill expected to lead to significant market transformation through a combination of information incentives and regulation
- Change will vary across sectors, locations and organisations
- BMT exploring Market Transformation scenarios to 2050
- Will lead to a change in a range of business models
  - a changed and less dysfunctional relationship between landlord and tenant
  - a change in the way buildings are commissioned and managed
  - Changed building technologies
  - Changed values and liabilities
  - Changed business models eg enhanced market for Facilities management (Energy Services provision) and new ways of learning (networks)

<http://www.eci.ox.ac.uk/research/energy/bmt.php> from september 2008