

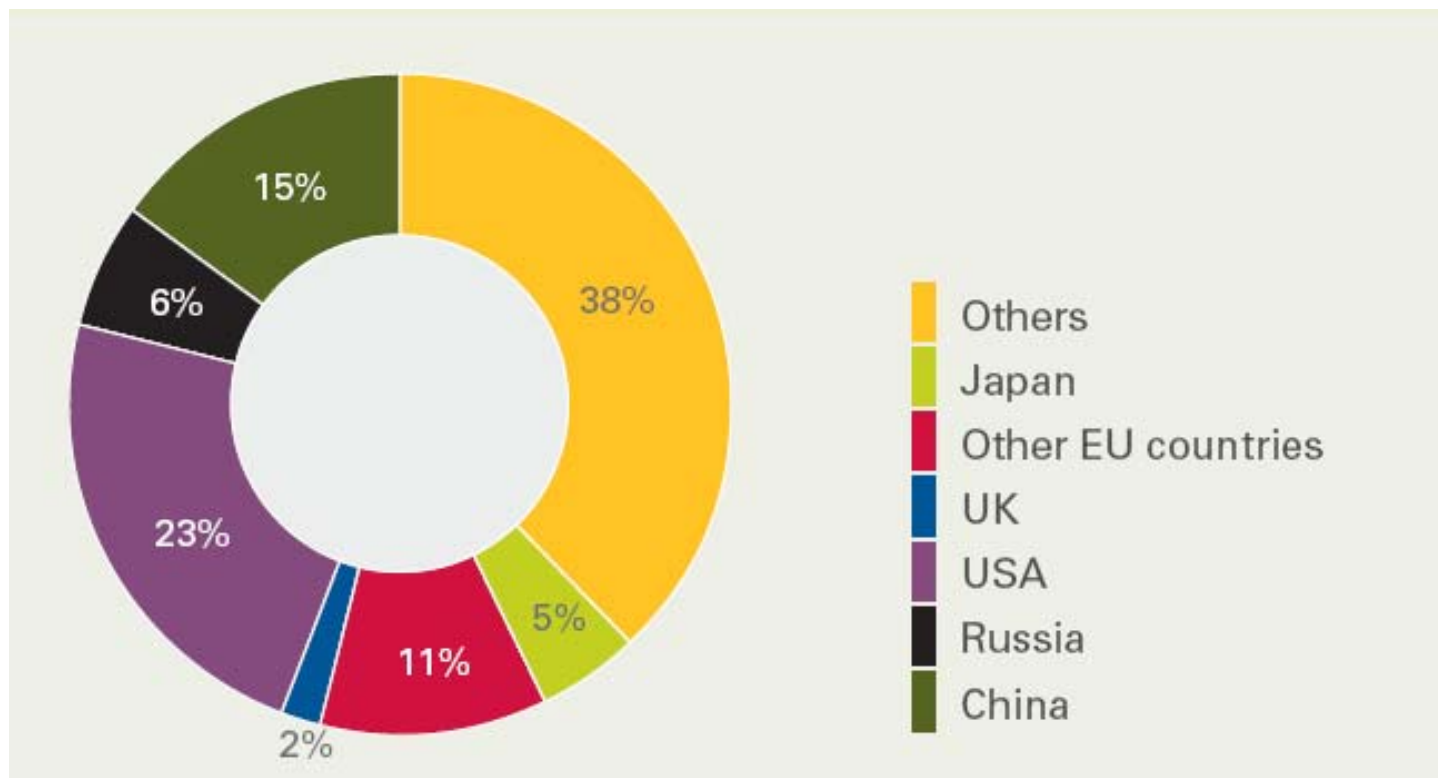
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**WApower**  
2007

**Business and government leadership on  
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**Allan Asher, *Chief Executive Officer,*  
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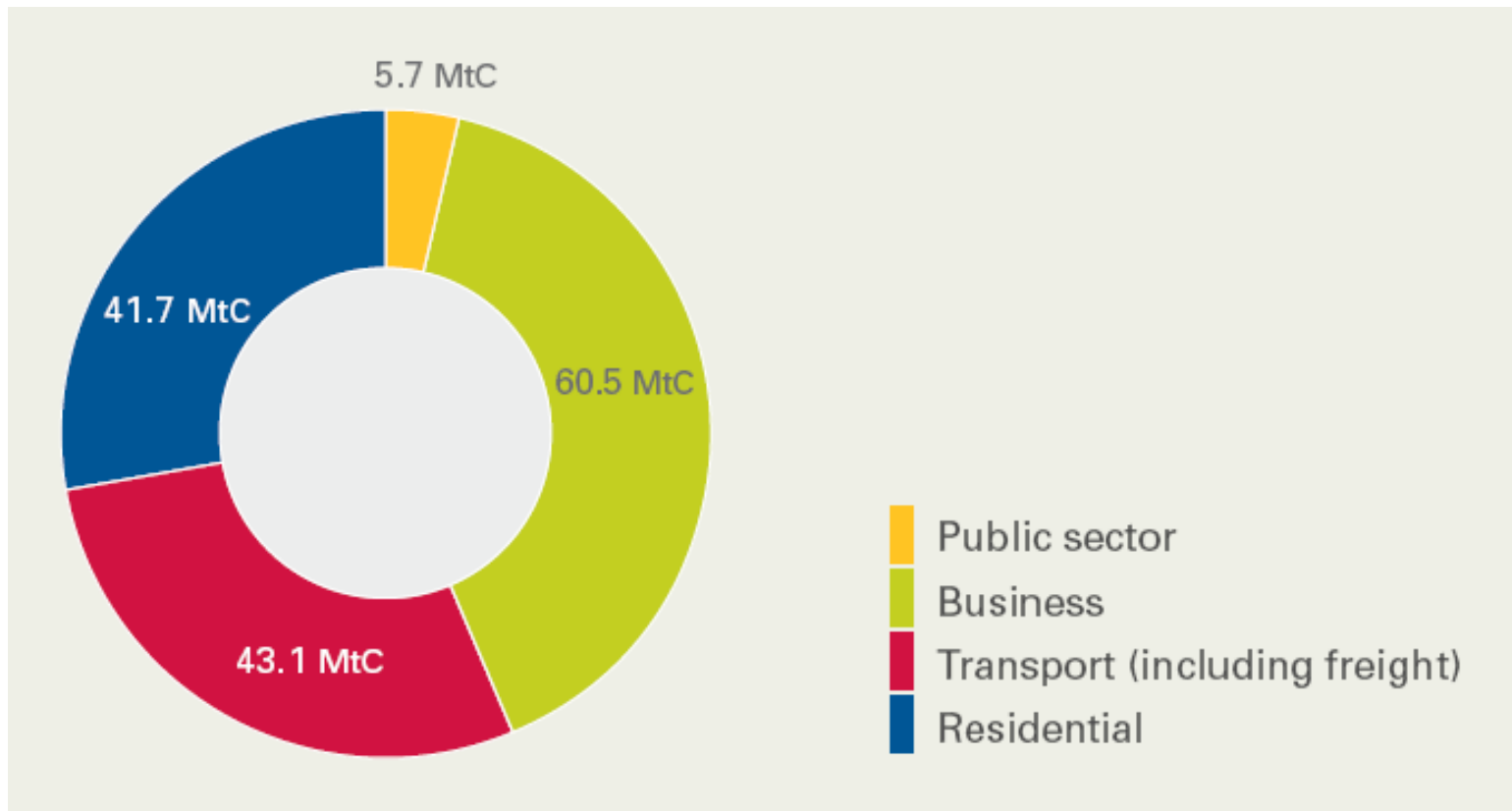
**1-3 May 2007,  
Duxton Hotel, Perth, Australia**

# Global CO2 emissions



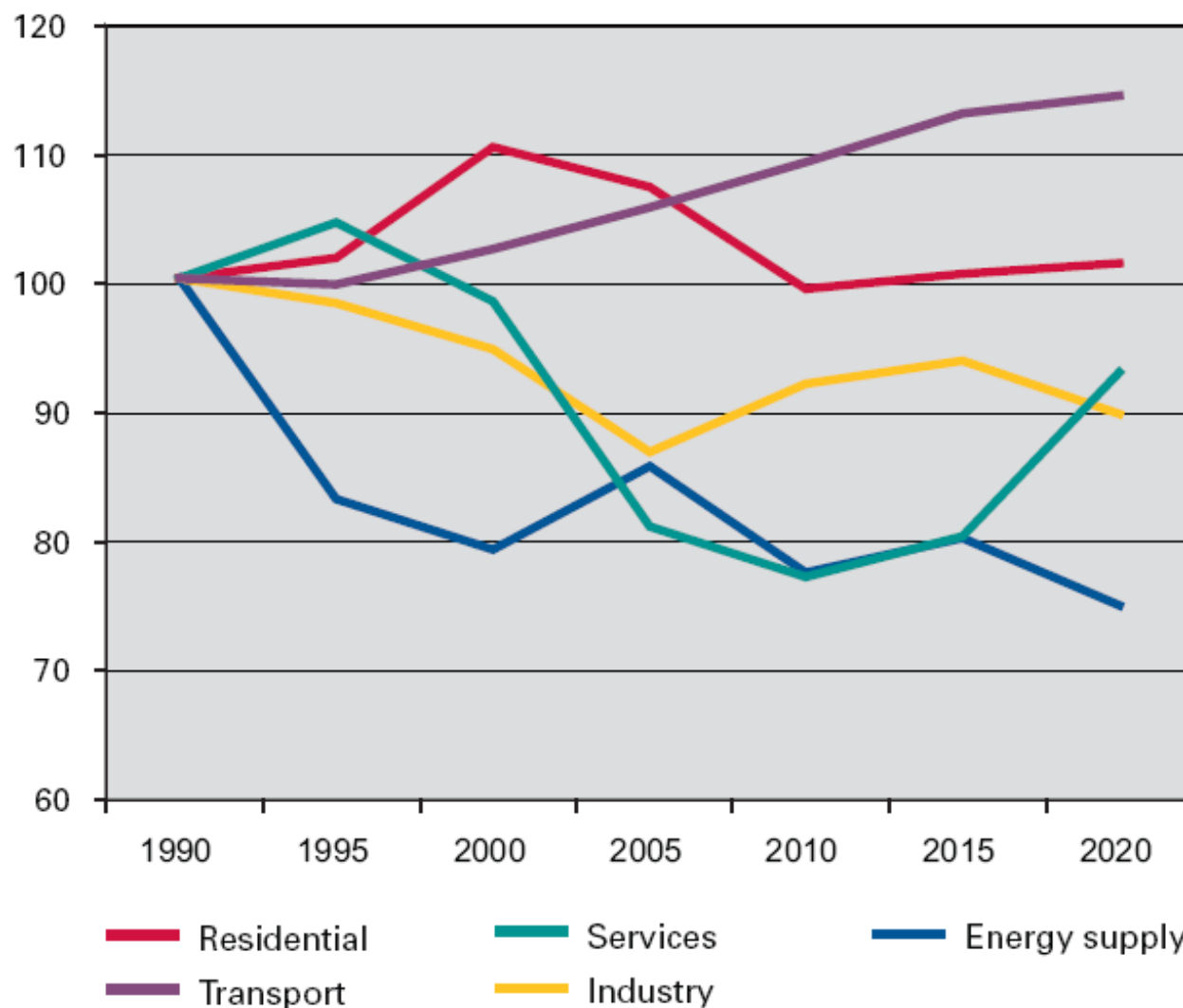
2003 data, source IEA 2005

# CO2 emissions by sector



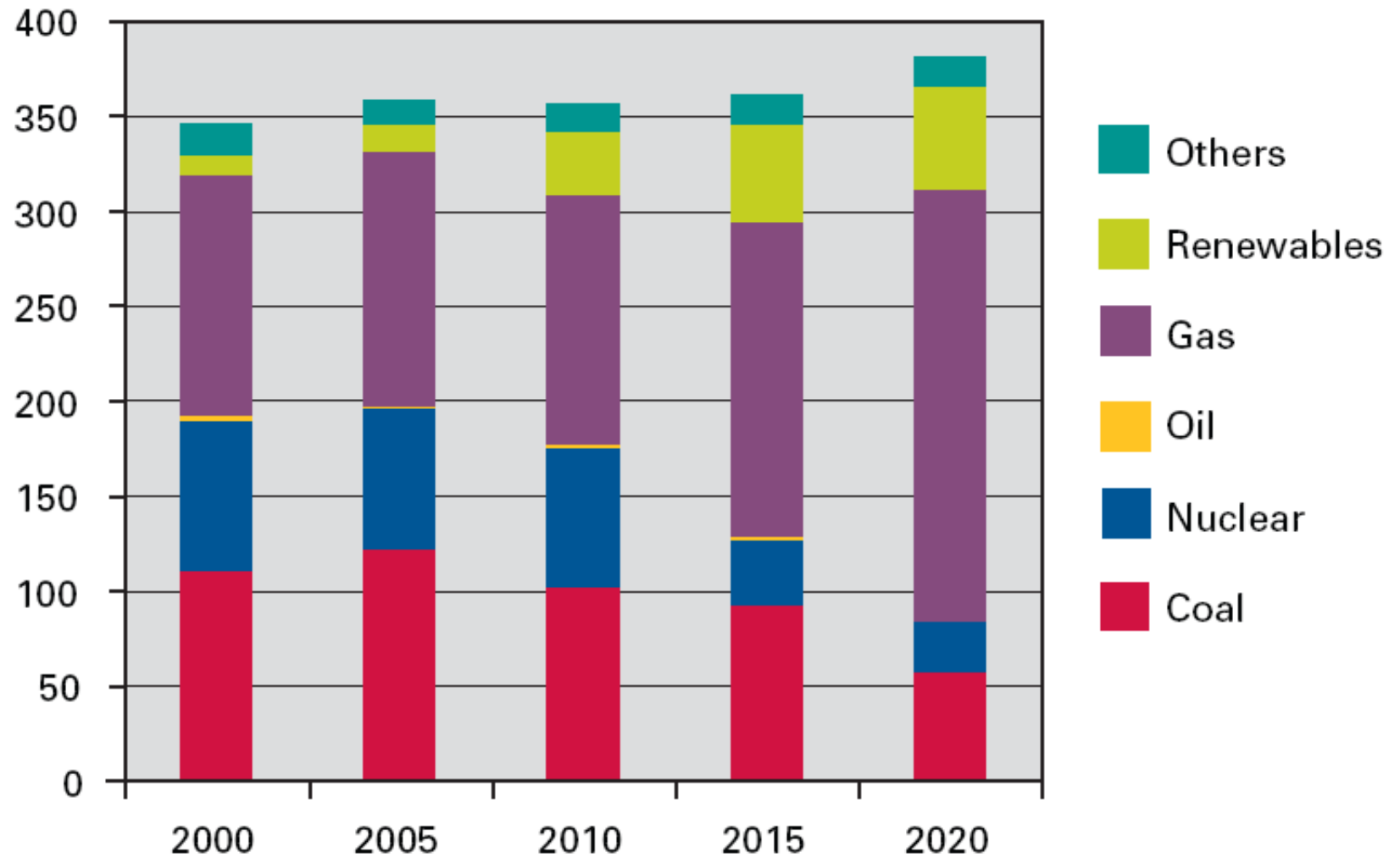
2005 data, source Defra 2006

# UK emissions by sector



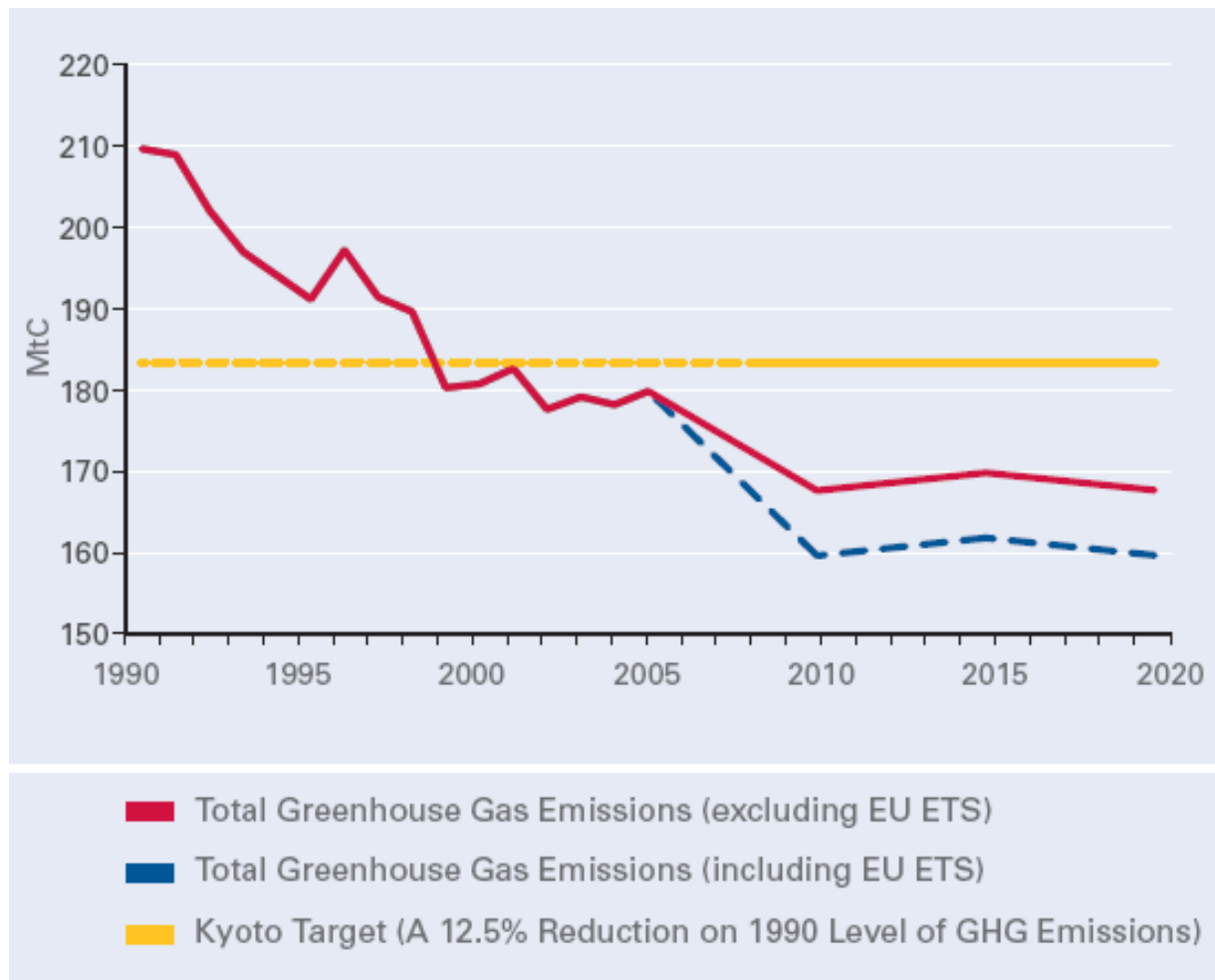
2005 data, source DTI 2006

# UK electricity generation mix (TWh)



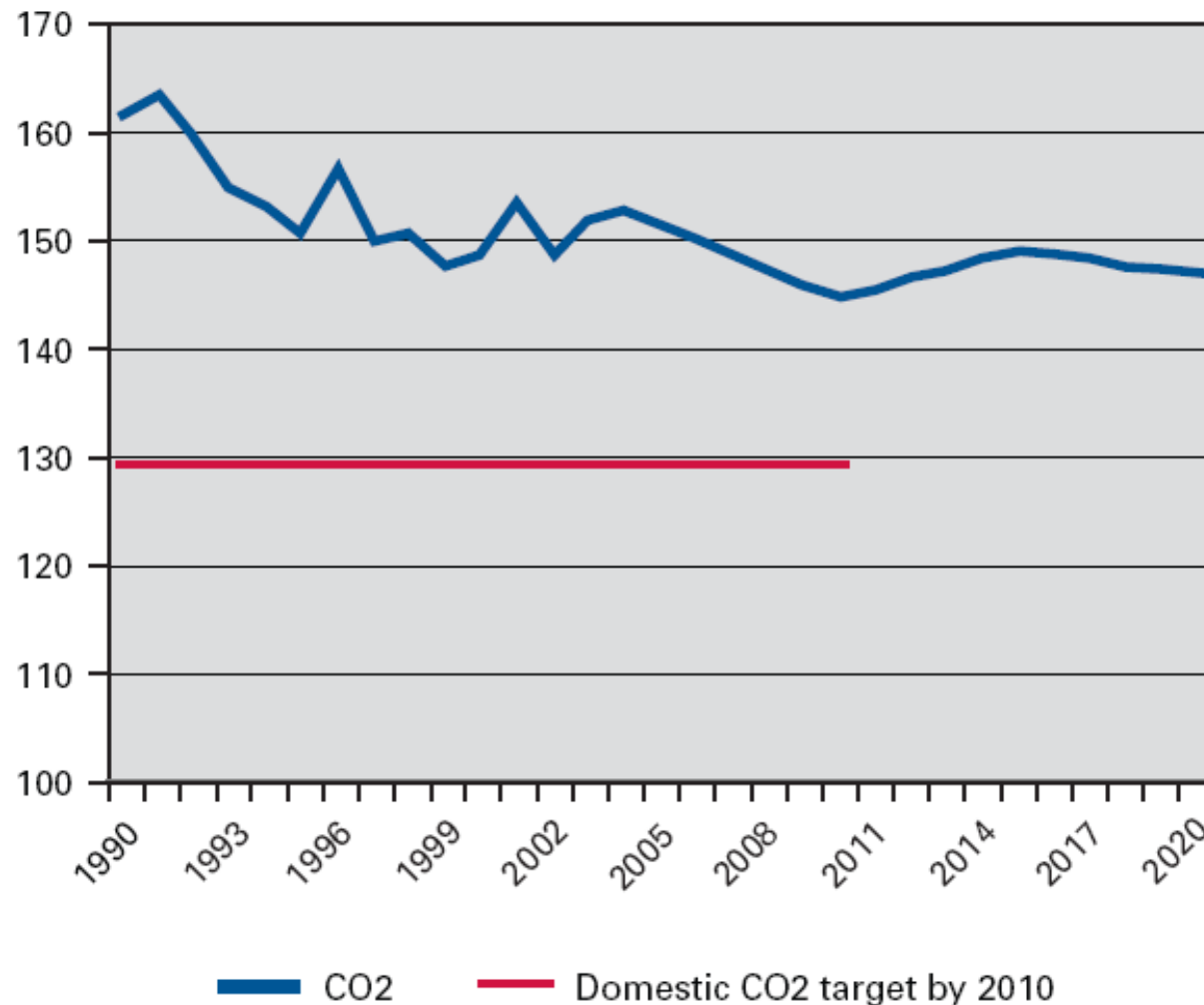
2005 data, source DTI 2006

# Greenhouse gas emissions vs. EU target



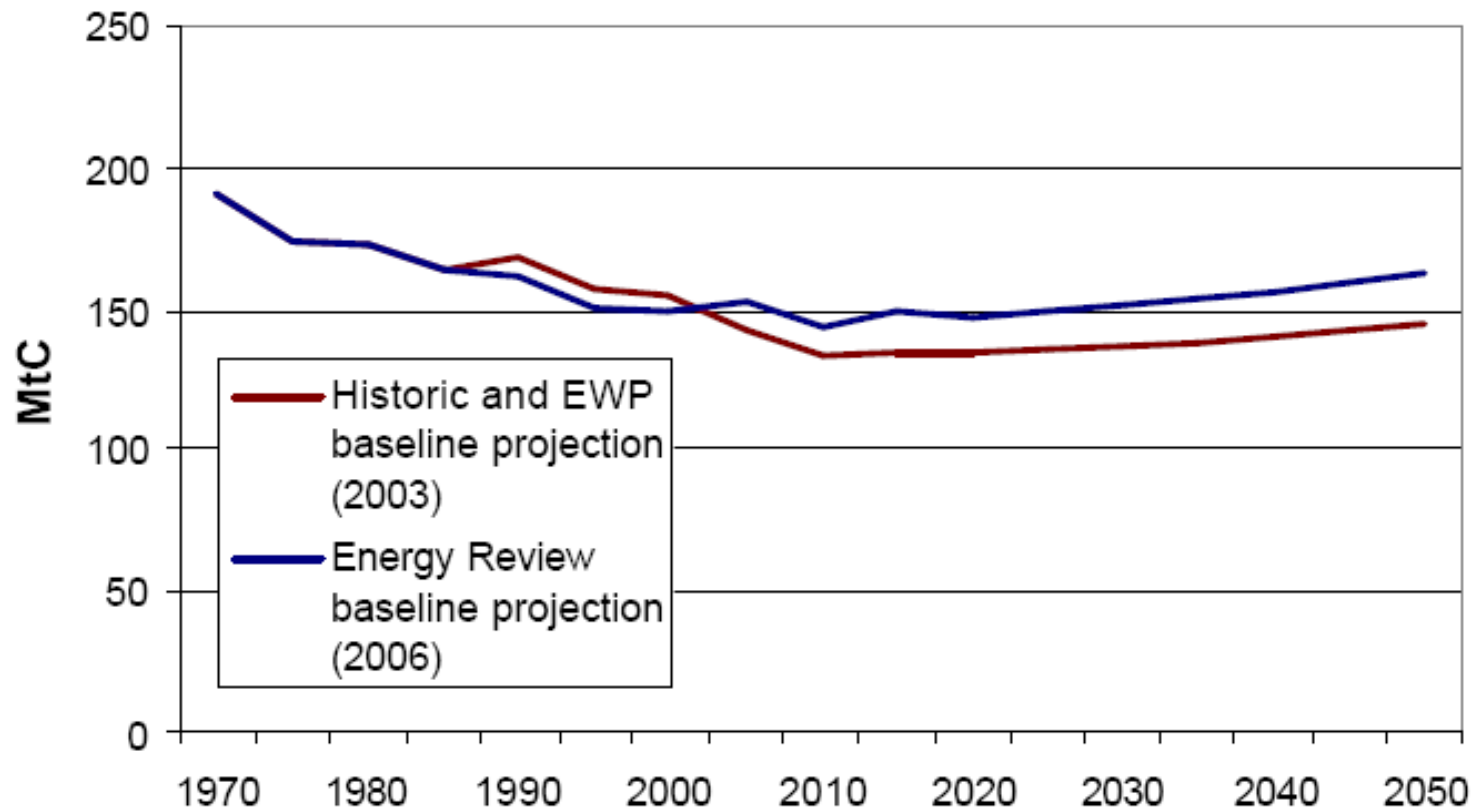
2005 data, source DTI 2006

# Carbon emissions vs. national target



2005 data, source DTI 2006

# Carbon emissions 2003 view vs. 2006 view



2005 data, source DTI 2006

# Climate change programme - 2010

Sector	Main policy	CCP2005		Additional policy	CCP2006	
		Mn tonnes	Cost effectiveness £/t		Mn tonnes	Cost effectiveness £/t
Energy supply	RO	2.5	(175)	EU ETS phase 2	3.0-8.0	(10) to (40)
				Biomass heat support	0.1	(140)
	<b>Total</b>	<b>2.5</b>	<b>(175)</b>		<b>3.1-8.1</b>	
Business	CCA	2.9	90			
	<b>Total</b>	<b>5.0</b>	<b>120</b>		<b>0.2</b>	
Domestic	Eec	1.6	270	Eec	0.3-0.6	180
				Boilers and buildings dir	0.1-0.4	(15)
	<b>Total</b>	<b>3.6</b>	<b>400</b>		<b>1.2</b>	
Transport	Voluntary agreements	2.3	(365)	RTFO	1.6	(130)
	Fuel duty escalator	1.9	250	Voluntary agreements	0.1	(580)
	<b>Total</b>	<b>5.1</b>	<b>(160)</b>		<b>1.7</b>	
Agriculture		0.7	42	Non-food crop strategy	0.1	(45)
Other		0.4			0.3	
<b>Total</b>		<b>17.3</b>			<b>6.6-11.6</b>	

2005 review updated the 2010 baseline

# Energy review measures - 2020

	<b>MtC abated in 2020</b>
Better Billing	0 – 0.1
<b>Changes to the Renewables Obligation</b>	<b>0.7 – 1.5</b>
<b>EU Emissions Trading Scheme</b>	<b>8</b>
More energy efficient products	2
Renewable Transport Fuel Obligation	0.3 – 1.1
<b>New measure for achieving carbon savings from large non-energy intensive organisations</b>	<b>1.2</b>
Successor to EU voluntary agreements on car fuel efficiency	1.8 – 2.1
Continued commitment on energy suppliers to 2020	3.0 – 4.0
Continuation of building regulations 2005	2.5 – 3.0
Carbon neutral government	0 – 0.8
Carbon neutral developments	0 – 0.04
<b>Total</b>	<b>19.5 – 25.3</b>

2006 energy review restated targets at 2020 and added new measures

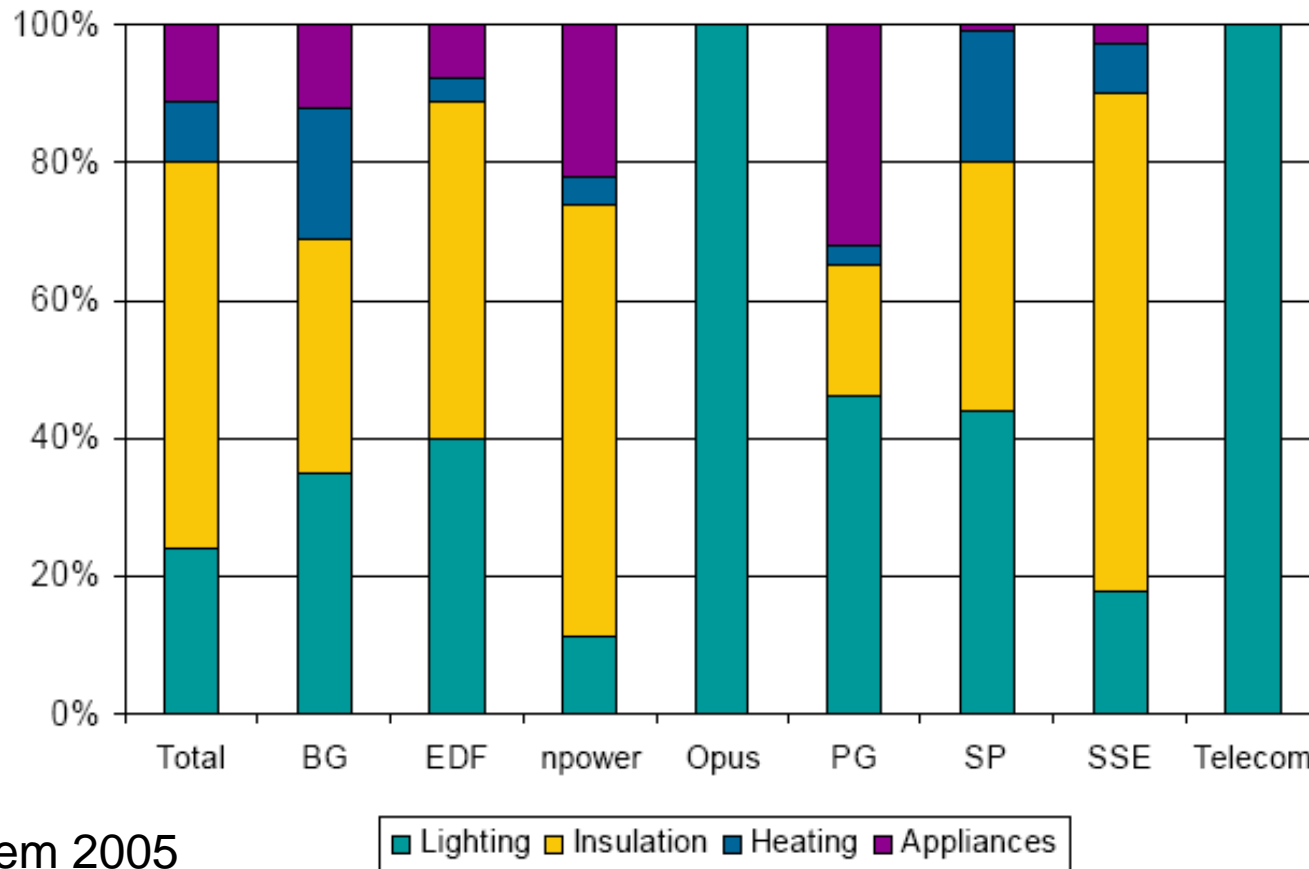
# Renewable obligation

- Target/quota system
  - 3% in 2002-03 to 15.4% in 2015-16 (% supplier volumes)
  - aspiration to reach 20% by 2020 but no targets as yet
  - each supplier must show compliance or pay buy-out
  - 4.4% actual in 2005-06 against 5.5% target



# Energy efficiency commitment

- Phase 1 (2002-05 compliance), 64TWh
- Phase 2 (2005-08), 130TWh
- 50% must be sourced from priority customers



Source Ofgem 2005

# EU emissions trading scheme (1)

## UK allocation, phase 1

	Annual allocation before subtracting NER	% of sector total allocated to New Entrant Reserve (NER)	Annual allocation to existing installations (i.e. after NER)	Average annual emissions (1998-2003)	Annual emissions (2003)	% change between annual emissions in 2003 and total allocation
	MtCO <sub>2</sub>	%	MtCO <sub>2</sub>	MtCO <sub>2</sub>	MtCO <sub>2</sub>	%
Power Stations	136.9	4.6%	130.6	155.01	174.37	-21.5%
Refineries	19.8	2.0%	19.4	17.74	18.03	9.8%
Offshore	19.1	8.1%	17.5	16.62	17.47	9.1%
Iron & Steel	23.7	15.6%	20.0	18.33	19.85	19.4%
Cement	11.2	14.3%	9.6	8.84	9.71	15.7%
Chemicals	10.4	8.8%	9.4	9.02	9.41	10.0%
Pulp & Paper	5.1	2.2%	4.9	3.66	4.53	11.6%
Food, Drink & Tobacco	3.9	3.7%	3.8	3.08	3.95	-1.3%
Non-Ferrous	3.1	2.1%	3.0	2.72	2.80	9.1%
Lime	2.7	1.4%	2.6	2.29	2.22	20.3%
Glass <sup>1</sup>	2.2	7.9%	2.0	1.72	1.92	13.9%
Services	2.1	2.9%	2.0	1.78	2.03	1.6%
Other Oil & gas	1.9	18.3%	1.6	1.42	1.92	1.5%
Ceramics	1.8	4.3%	1.8	1.73	1.79	3.4%
Engineering & Vehicles <sup>2</sup>	1.3	2.7%	1.3	1.08	1.19	8.6%
Other <sup>3</sup>	0.4	10.5%	0.4	0.34	0.38	4.7%
<b>TOTAL</b>	<b>245.43</b>	<b>6.3%</b>	<b>229.85</b>	<b>245.37</b>	<b>271.55</b>	<b>-9.6%</b>

NB: Please note that the figures for average annual emissions 1998-2003 do not generally include installations which closed prior to 2004. Therefore, these average figures are not directly comparable with either the annual allocations or 2003 actual emissions

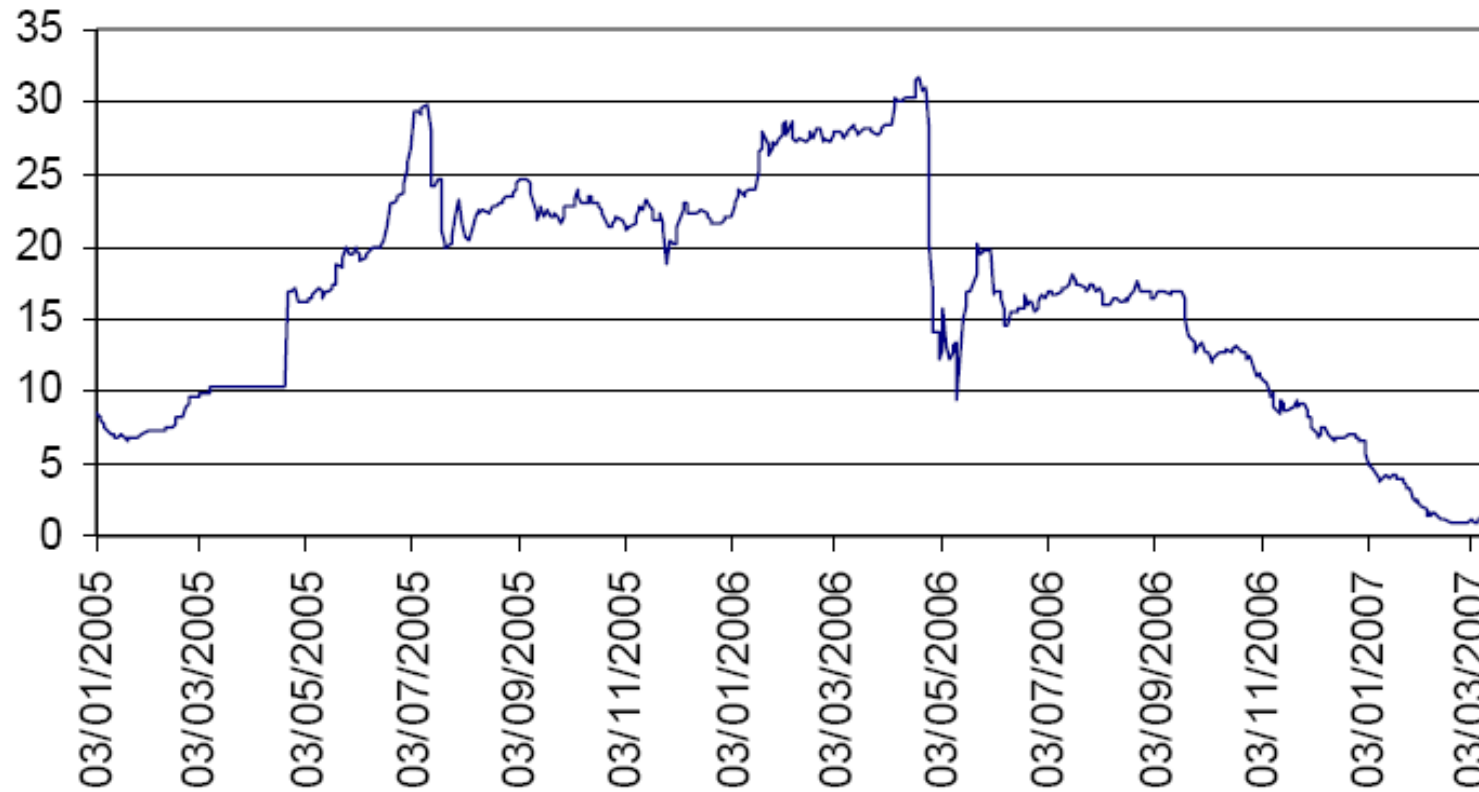
Notes:

1. Includes mineral wool

2. Includes rubber, aerospace, foundries, semiconductors, cathode ray tubes, and nuclear fuel processing and production

3. Includes other non-metallic minerals, textiles, wood products and wood board, and coal mining.

# Emissions trading scheme (2) phase 1 price



Source: Bloomberg

# Climate Change Levy (CCL)

- From April 2001 on non-domestic users of energy:
  - £4.30/MWh on electricity
  - £1.50/MWh on gas
  - increased by inflation from April 2007
- Complex abatement/exemptions
  - renewables and good quality CHP
  - climate change agreements

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