



Saving energy

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Carbon task

- CO₂ same level in 2007 as 1994

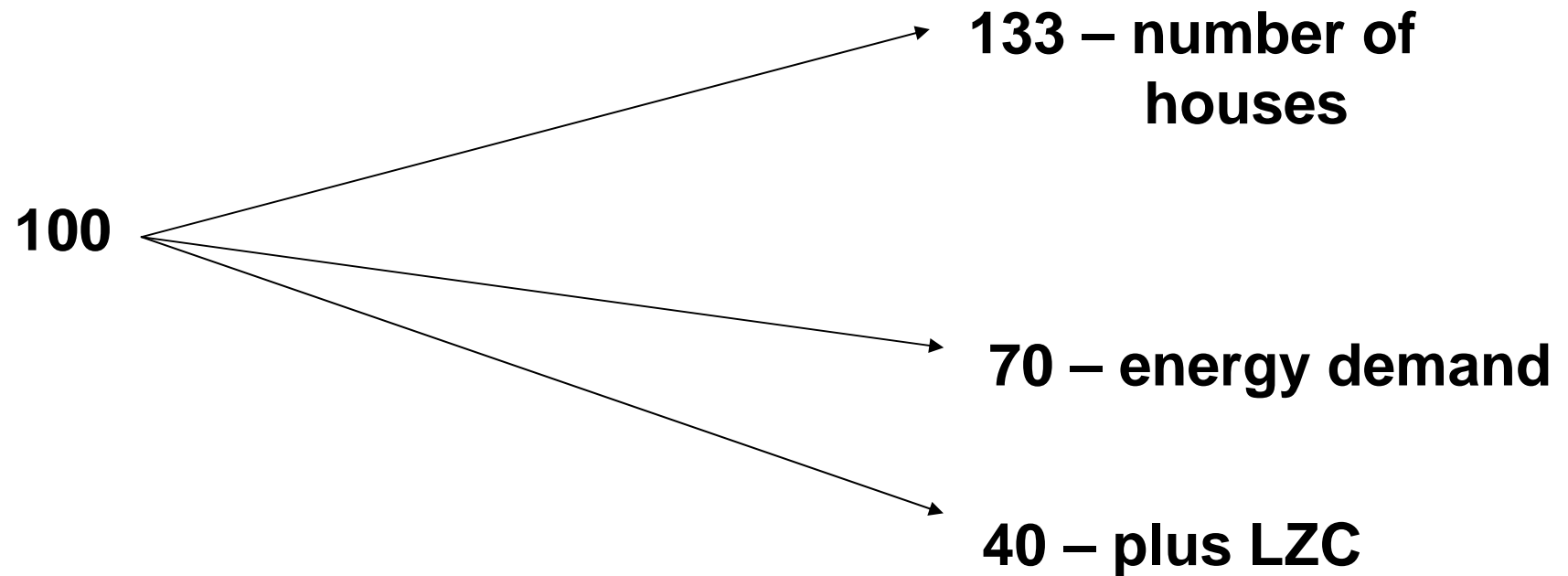
For Climate Change Bill

- 2.6% pa to get 60% cut by 2050

For climate science

- 3.7% pa to get 80% cut by 2050

Household carbon 1996-2050, UK

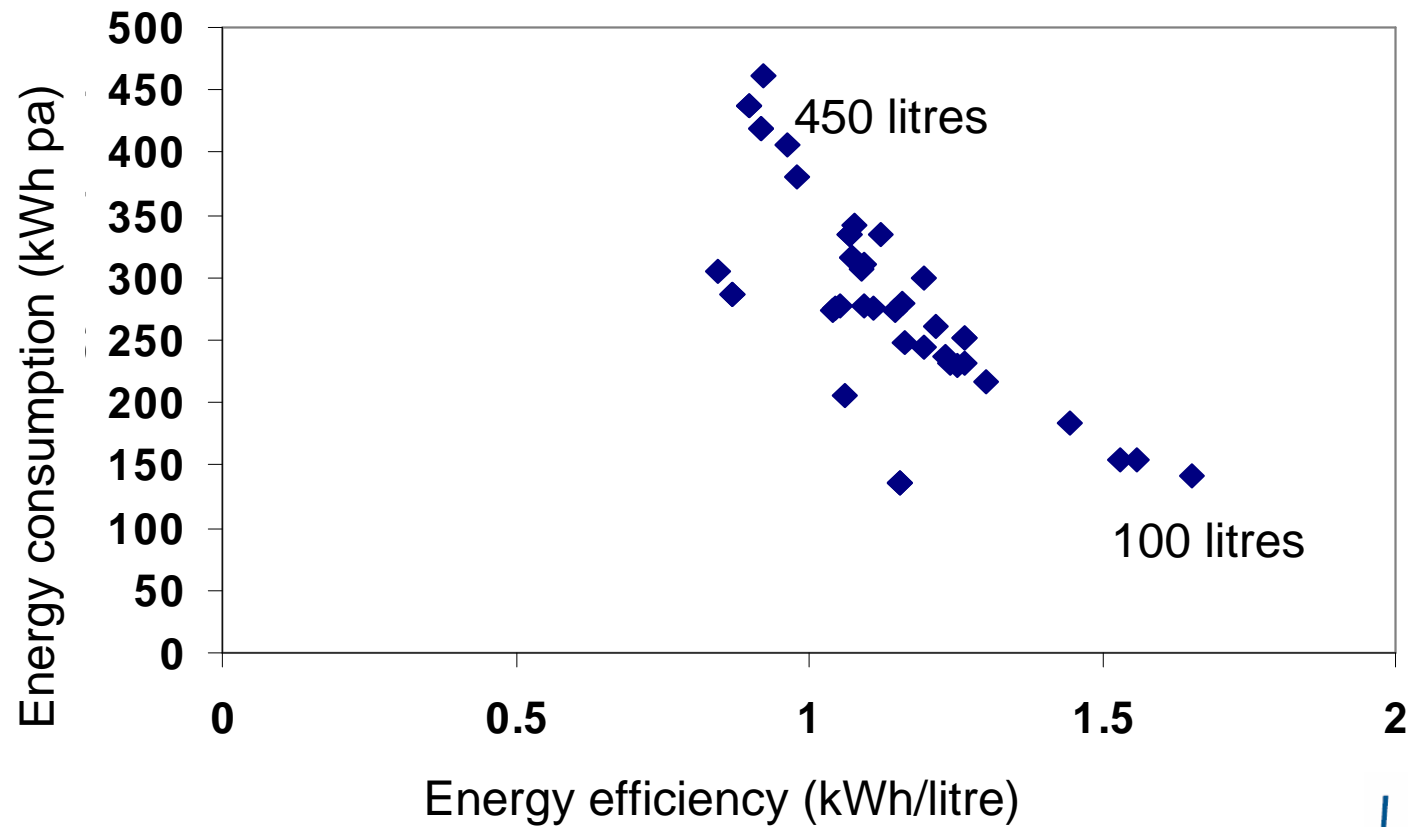


Lighting, efficiency and efficacy

40W GLS	10 lumen/W
60W GLS	12
100W GLS	15
halogen	25
compact fluorescent (CFL)	45
linear fluorescent	60
6W light emitting diode (led)	150

Energy efficiency vs consumption vs size

Energy consumption and energy efficiency – 'A' rated fridge freezers



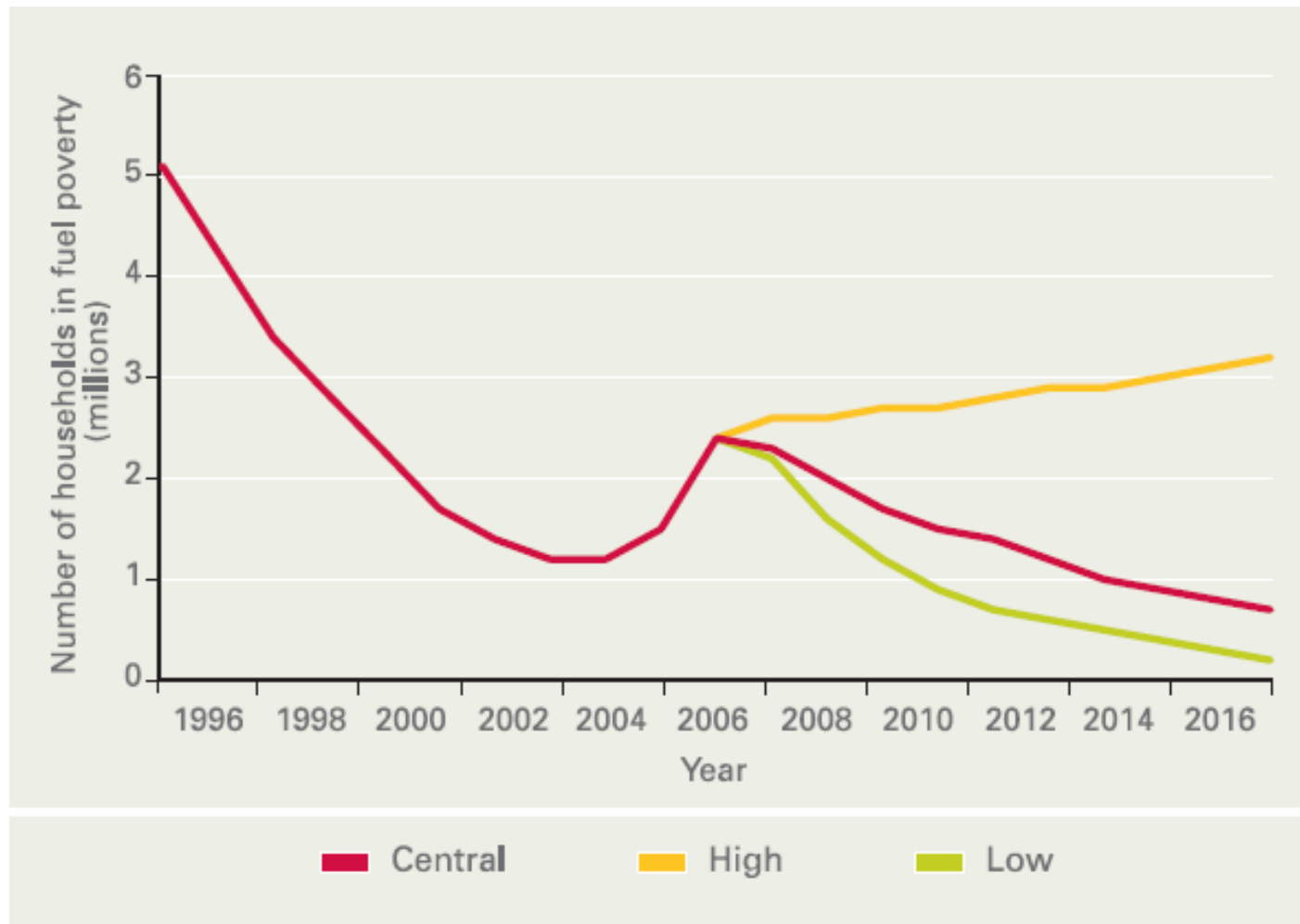
Residential gas and electricity prices

Year	Gas		Electricity	
	Annual Increase		Annual Increase	
2002	0%	100%	0%	100%
2003	1.8%		0.95%	
2004	6.8%		6.02%	
2005	12.8%		10.60%	
2006	24.2%	165%	21.70%	144%
Usage	-3.2%		+1.7%	

Fuel poverty

- Fuel poverty: one of 4 objectives in EWP 2003
'to ensure that every home is adequately and affordably heated'
- EWP 2007: 'our goal remains ...' (p23)
- Legal obligation to eliminate for vulnerable by 2010 and for all by 2016 (Warm Homes and Energy Conservation Act 2000)

Fuel poverty, England



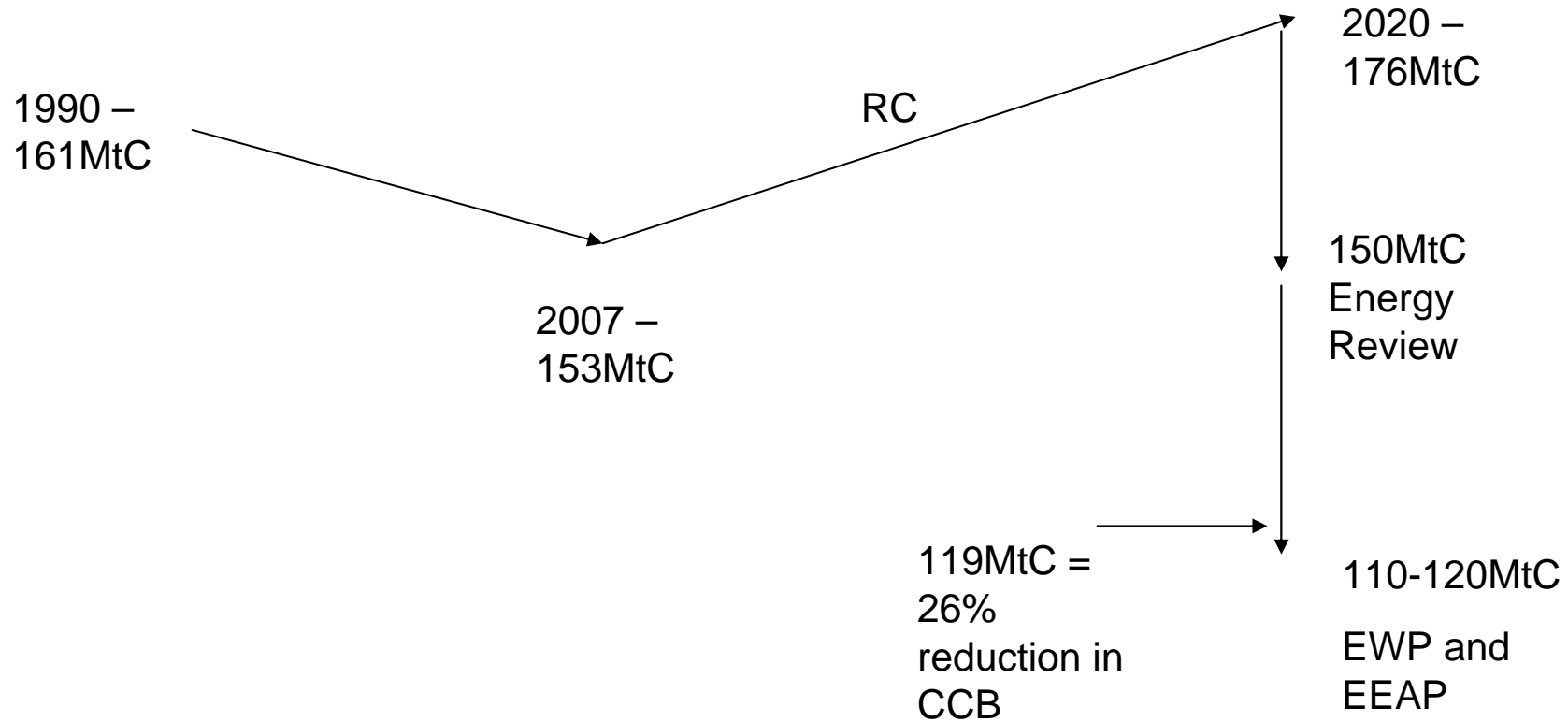
UKERC

Source: EWP 2007, fig 2.1.1

Fuel poverty

- 'As incomes are assumed to rise faster than fuel prices, ...number [of fuel poor] will fall to around 700,000 in 2016.' Para 10.32
- EWP measures for 'joined up government' to raise awareness of schemes and more benefit checks
- 'our proposals will lead to a reduction of 200,000 UK households in fuel poverty by 2010.' Para 10.33
- No mention of increased expenditure on energy efficiency
- FPAG had asked for £1bn pa, April 2007
- Bad luck, fuel poor

Various projections, UK 1990-2020



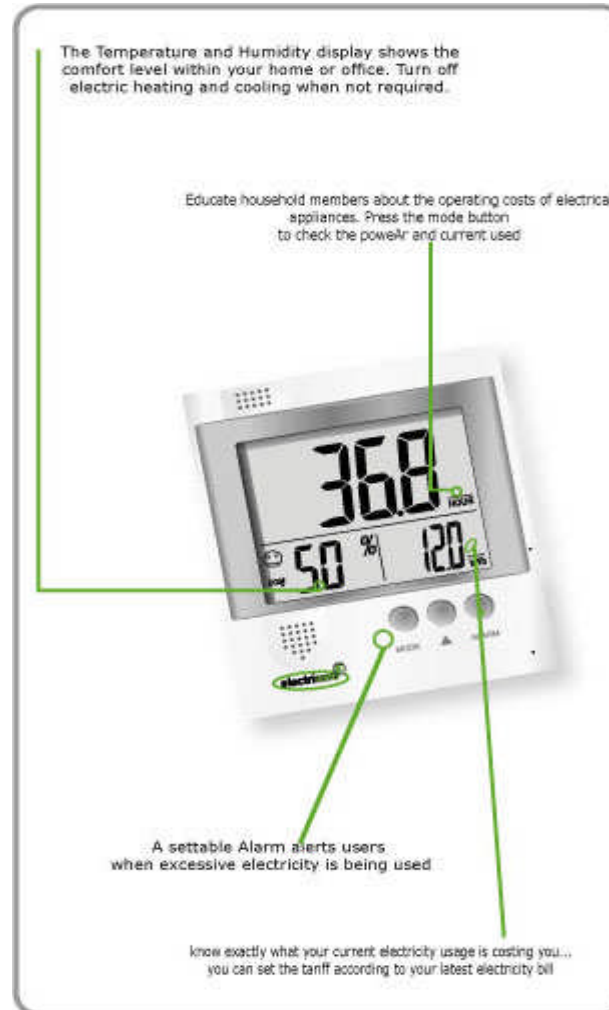
Utilities

Domestic and non-domestic, electricity and gas

- Better billing – more informative, bar charts
- Monitors – free, if requested, for 2 years
- Smart meters – 2-year trial
- EEC / CERT / Supplier's Obligation

- All out to consultation, August 2007
- Some required in Energy Services Directive
- By 2020: save 3.1-4.7MtC, mainly Supplier's Obligation
- Lot of potential – will it be achieved?

Direct feedback – an in-home display



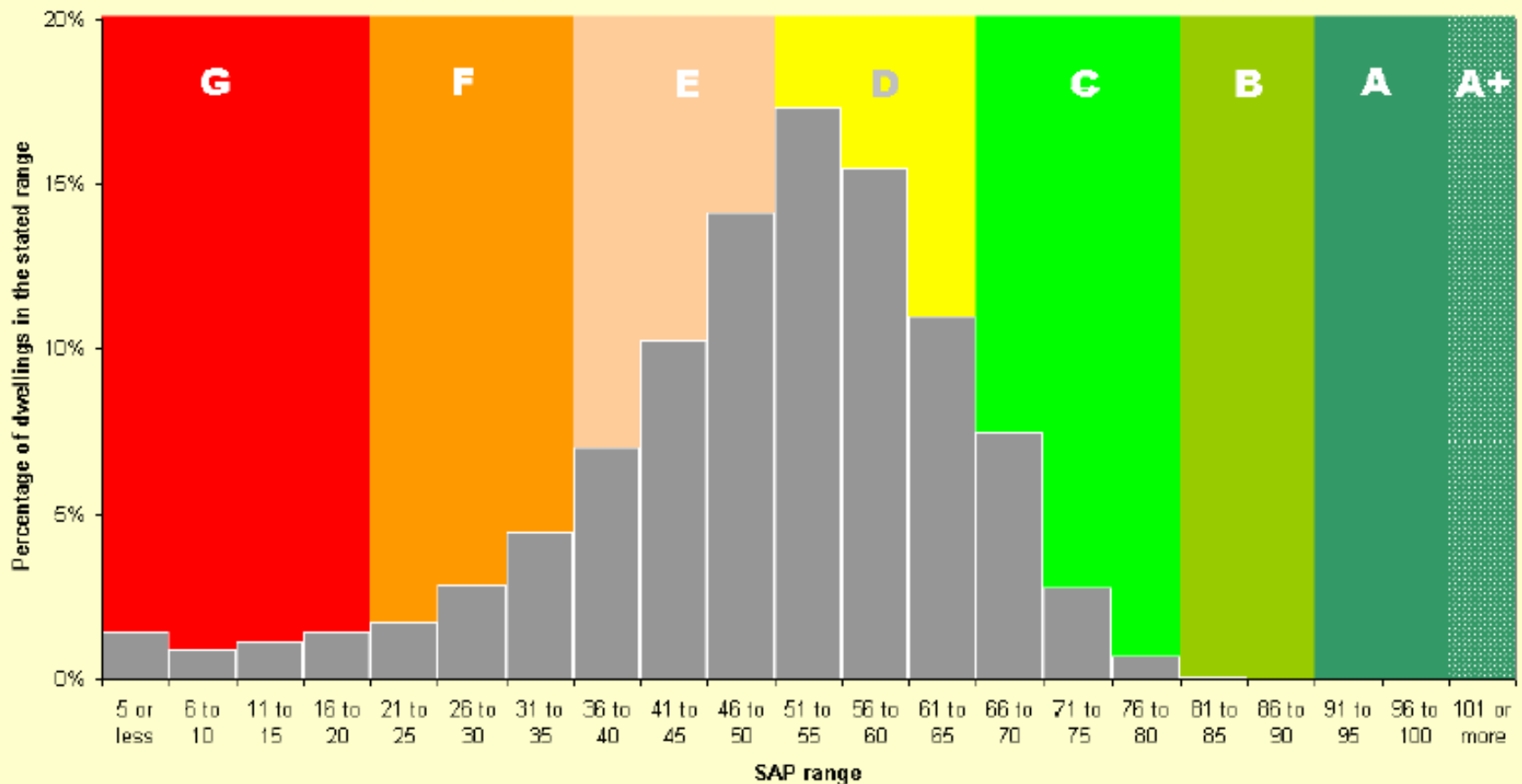
All buildings



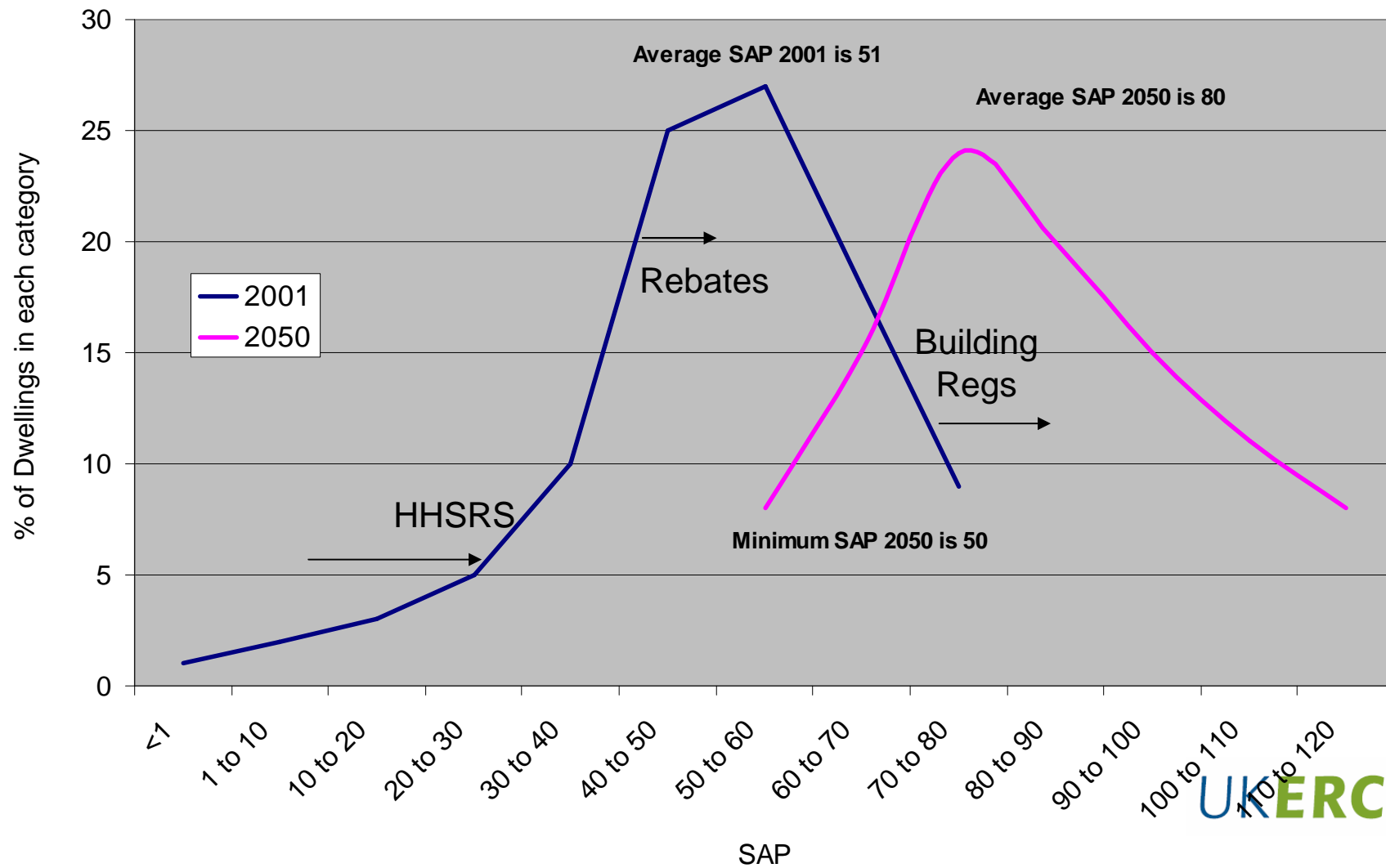
- Energy Performance Certificates – new and existing buildings
- Required by the EC Energy Performance in Buildings Directive
- All transactions, sale or rent, by 1.10.08
- By 2020: save 0.6-1.6MtC
- Too timid – relying on labels

Energy performance certificates - houses

Distribution of SAP 2005 ratings in the English housing stock
(2001 English House Condition Survey data adjusted to SAP 2005)



Transforming the housing stock



Products policy

- Depends on decisions in Brussels
- End-use Products / eco-design Directive
- 17+ products being studied
- UK voluntary action on inefficient bulbs, if industry will promote
- By 2020: save 1-3MtC
- Lighting is unambitious, products uncertain

Summary

- Some useful initiatives, eg EPC
- Preparing for 26% C reduction by 2020
- No overall vision, or sense of urgency

- Vast untapped potential, particularly in combination with micro-generation and trading (eg personal carbon allowances)