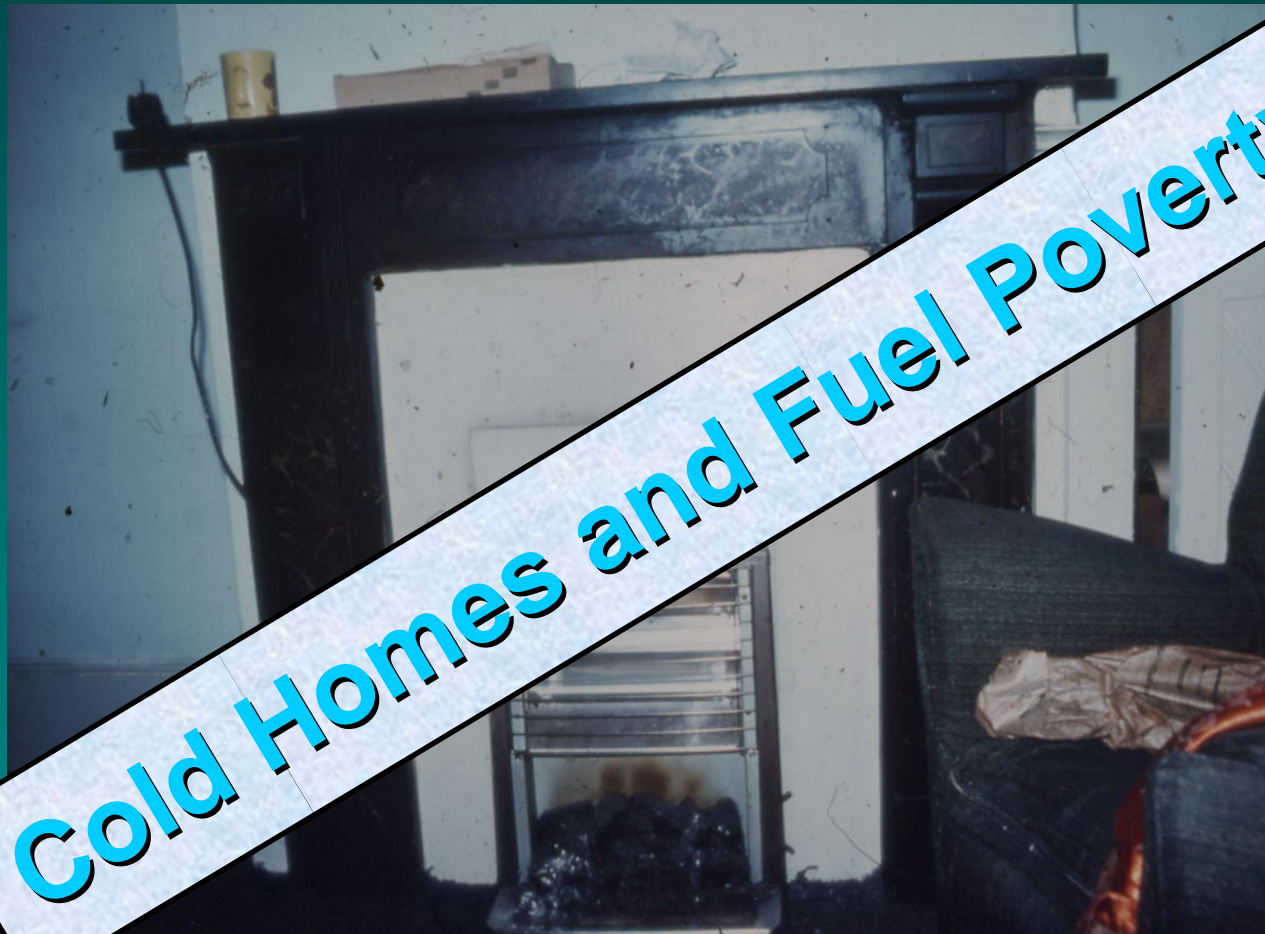


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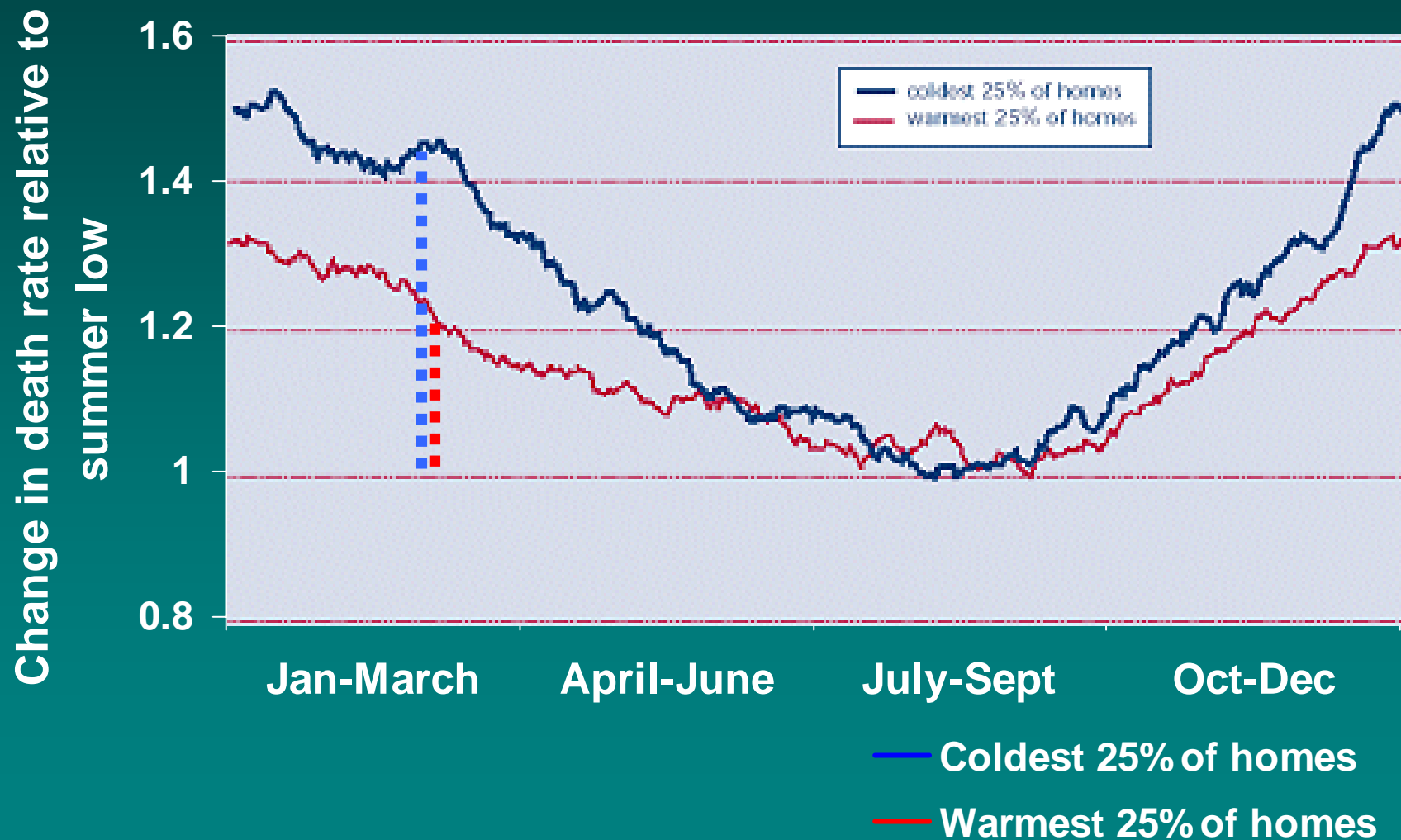


Cold Homes and Fuel Poverty

Richard Moore

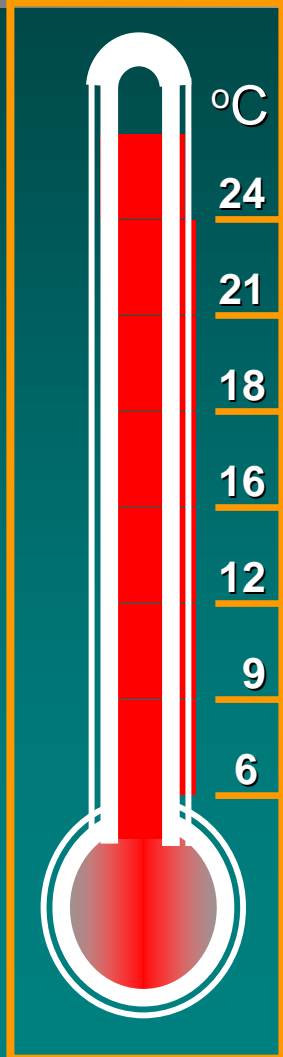
Seasonal fluctuations in mortality in homes

(Source: LSHTM, *The impact of housing conditions on excess winter deaths*, JRF Findings, Nov 2001)



Health risks and home temperatures in 1996

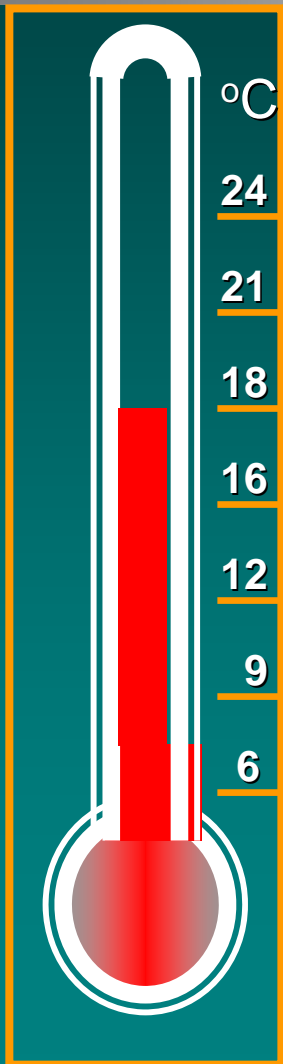
(Source : Building regulation, health & safety, BRE 2001 & 1996 EHCS – No EHCS temperatures since 1996)



°C		<u>Living Room</u> percent	<u>Hall/stairs</u> percent
24	- Risk of strokes, heart attacks	2.0	1.5
21	- Increasing discomfort	18.0	11.0
18	- Comfortable temperatures	45.0	32.0
16	- Discomfort, smaller health risk	21.0	23.0
12	- Risk of respiratory diseases	12.5	24.5
9	- Risk of strokes, heart attacks	1.0	4.5
6	- Risk of hypothermia	0.5	3.5
	Main health risks		
	Unhealthily cold	14.0 %	32.5 %
	Total cold homes	35.0 %	55.5 %

Percentage of occupied cold homes when outside

$\leq 5^{\circ}\text{C}$ (mean 1.6°C) (Source: 1986 & 1996 EHCS & extrapolation to 2006 assuming constant trend)



	<u>Living Room temperatures</u>			<u>Hall/stair temperatures</u>			
	% in 1986	1996	2006	1986	1996	2006	
24							
21	21°C+	13.5	20.0	26.0	4.5	12.5	19.5
18	18-21	35.5	45.0	50.0	24.0	32.0	38.5
16	16-18	27.0	21.0	15.5	22.5	23.0	21.0
12	12-16	22.0	12.5	7.5	32.0	24.5	17.5
9	<12°C	2.0	1.5	1.0	10.5	4.5	2.0
6	<9°C	—	—	—	6.5	3.5	1.5
		18.1 m	19.6 m	21.2 m	18.1 m	19.6 m	21.2 m
	<18°C	51.0 %	35.0 %	24.0 %	71.5 %	55.5 %	42.0 %
	<16°C	24.0 %	14.0 %	8.5 %	49.0 %	32.5 %	21.0 %

HHSRS proxy for Category 1 'Cold homes'

(Source: CLG 2006, A Decent Home, Definition & Guidance etc)

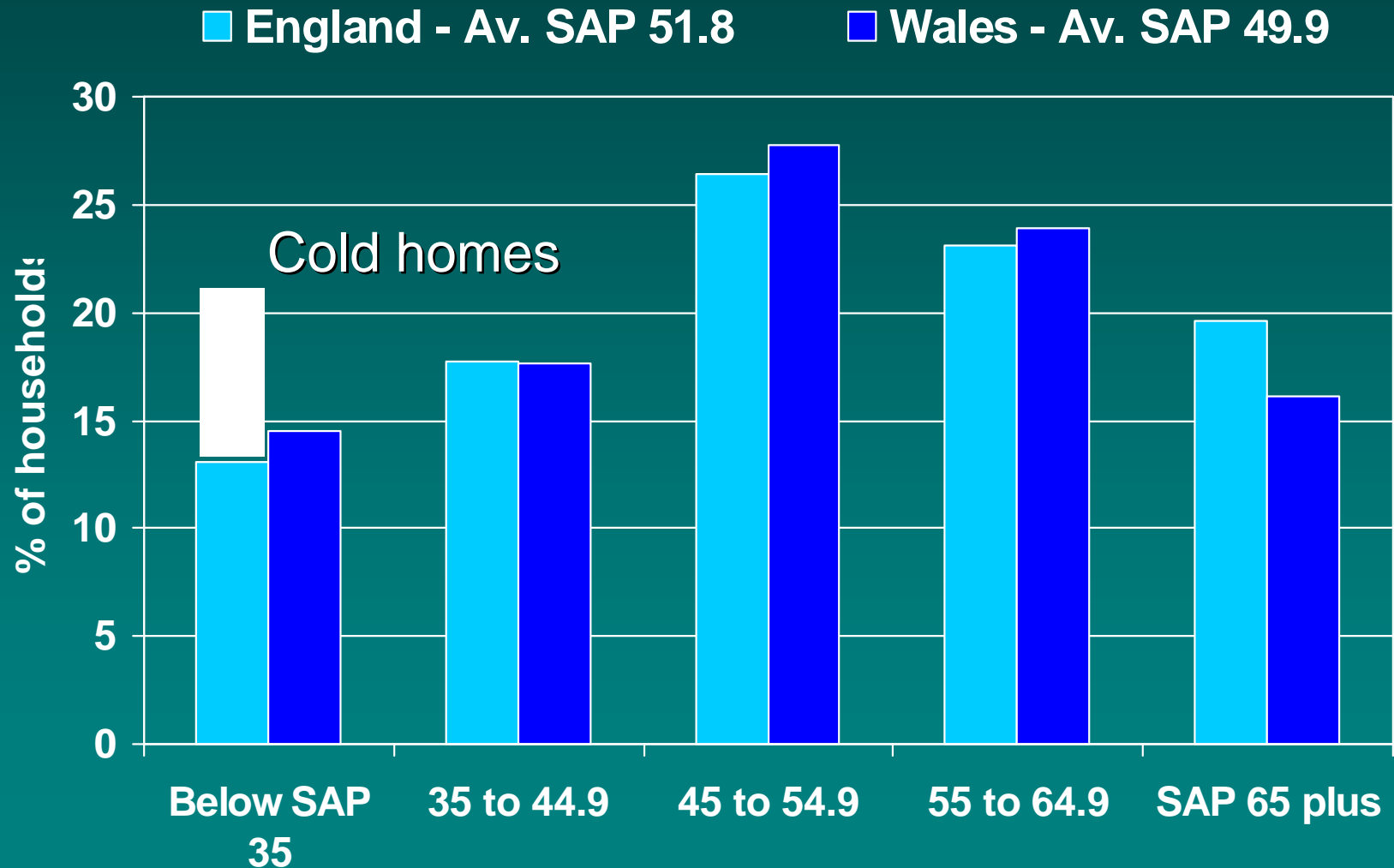
“A SAP rating of less than 35 (2001 methodology) has been established as a proxy for the likely presence of Category 1 hazards from excess cold”

Predicted EHCS estimate of % of occupied housing having hall/stair temperatures (a proxy for mean of all rooms) that were unhealthily cold in 2006 = 21%

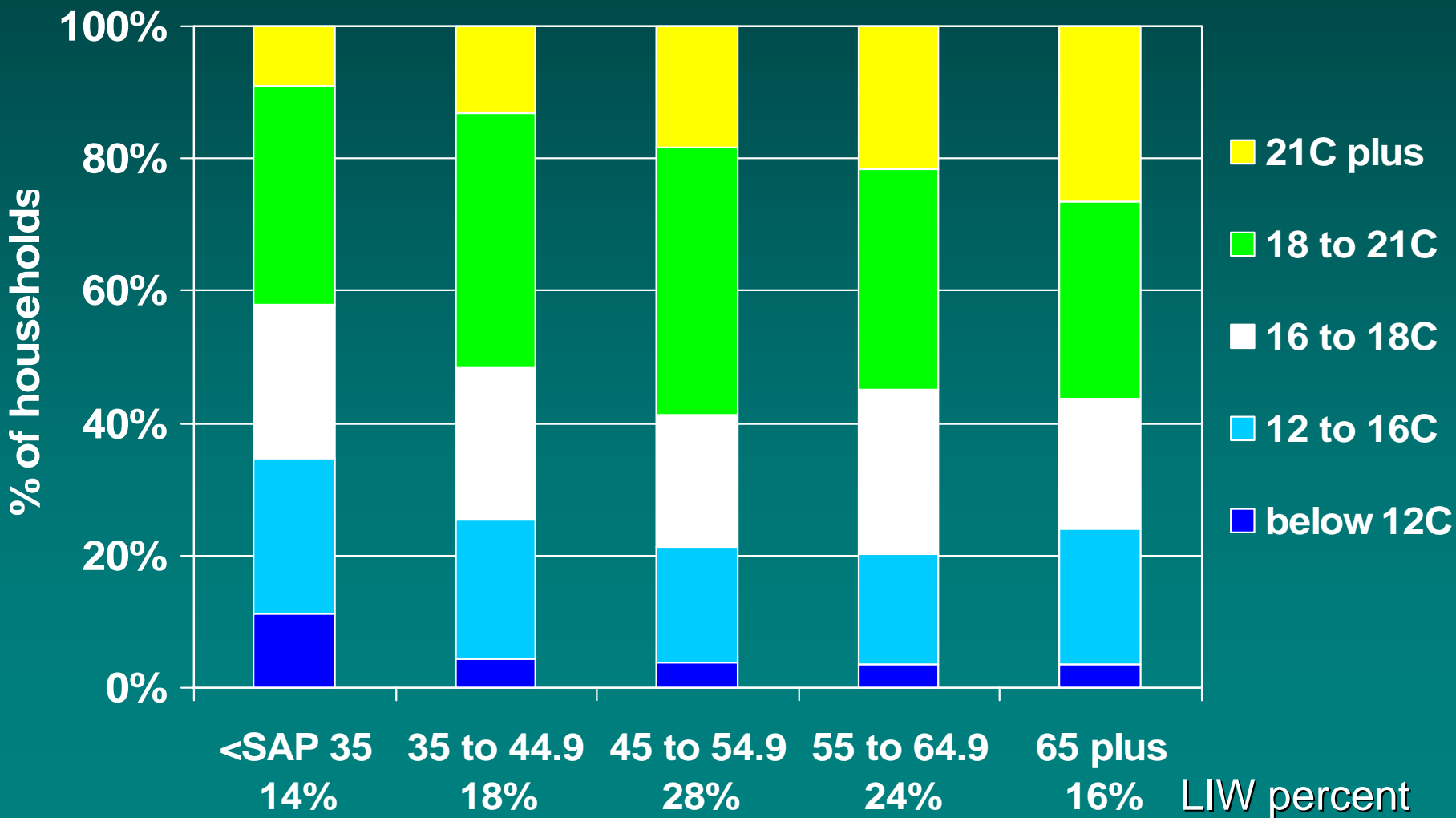
(previous slide)

Distribution of SAP ratings in England & Wales

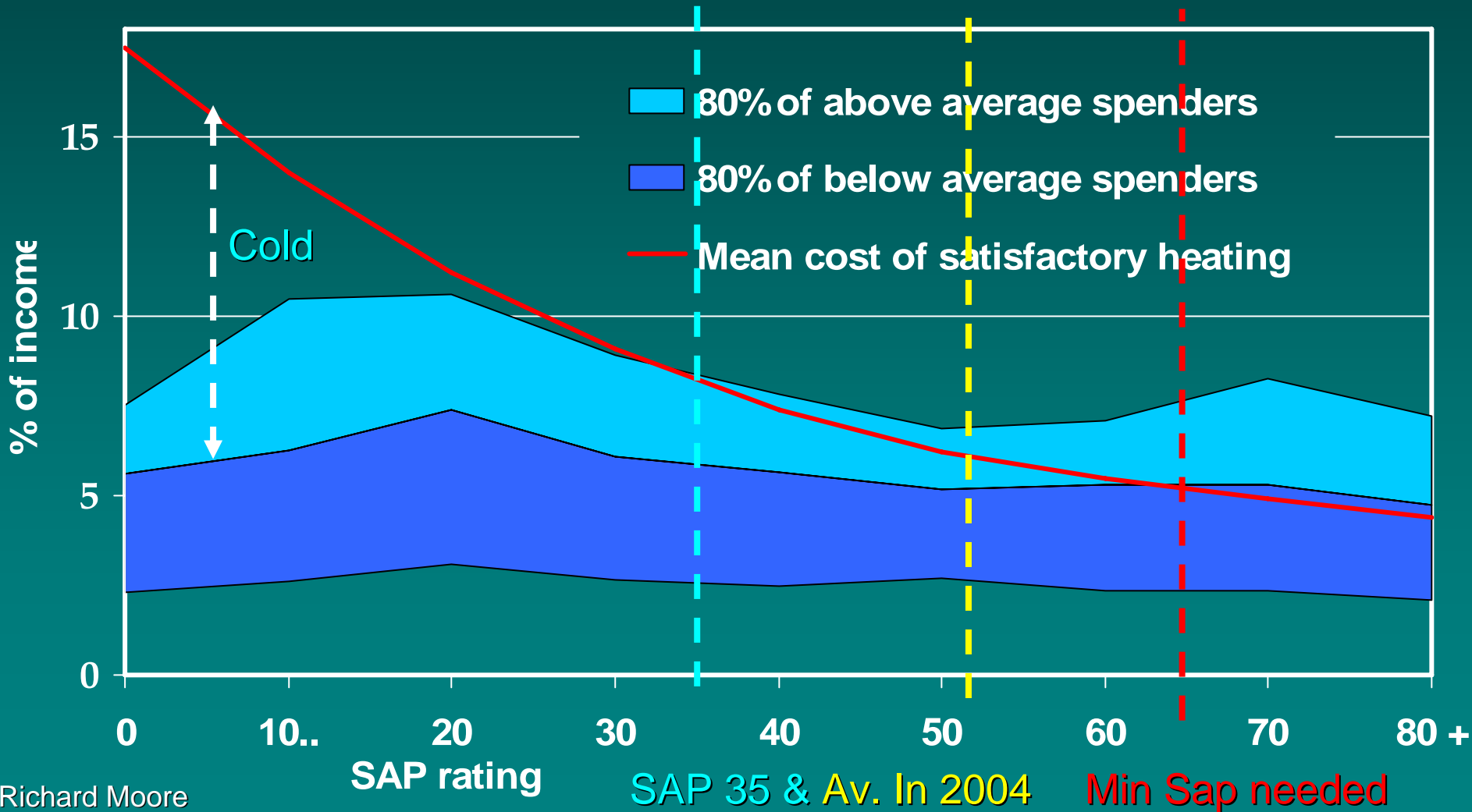
(Source : 2004 EHCS & 2004 Living in Wales survey)



Home temperatures in occupied homes by SAP rating when outside $\leq 5^{\circ}\text{C}$ (Source: 1996 EHCS & 2004 LIW)



Range of fuel spend against costs (as % of basic income) by SAP rating (Source: 1996 EHCS)



Main causal factors in cold homes and fuel poverty

Primary cause of cold homes =

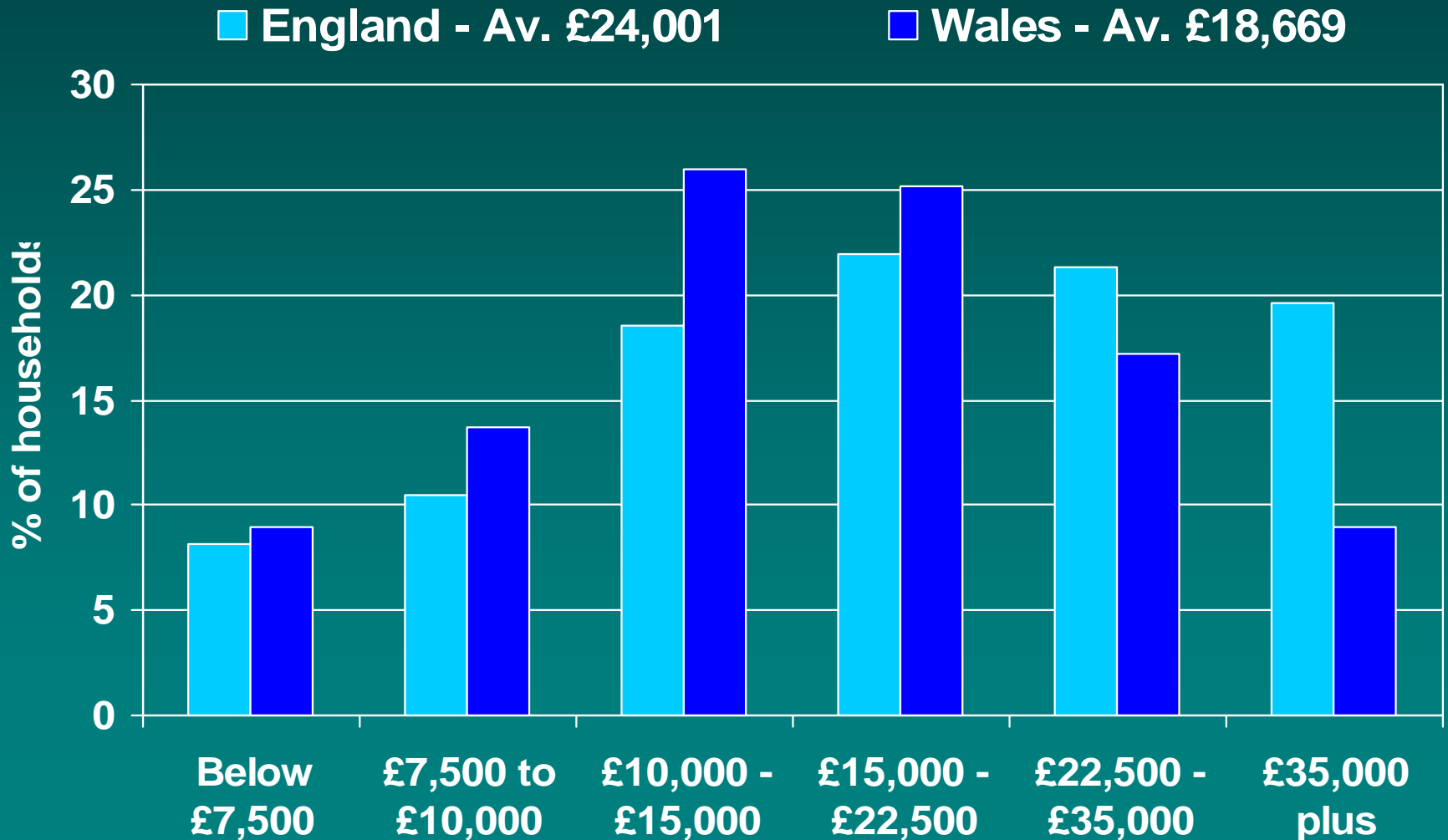
- Fuel poverty

Primary causes of fuel poverty =

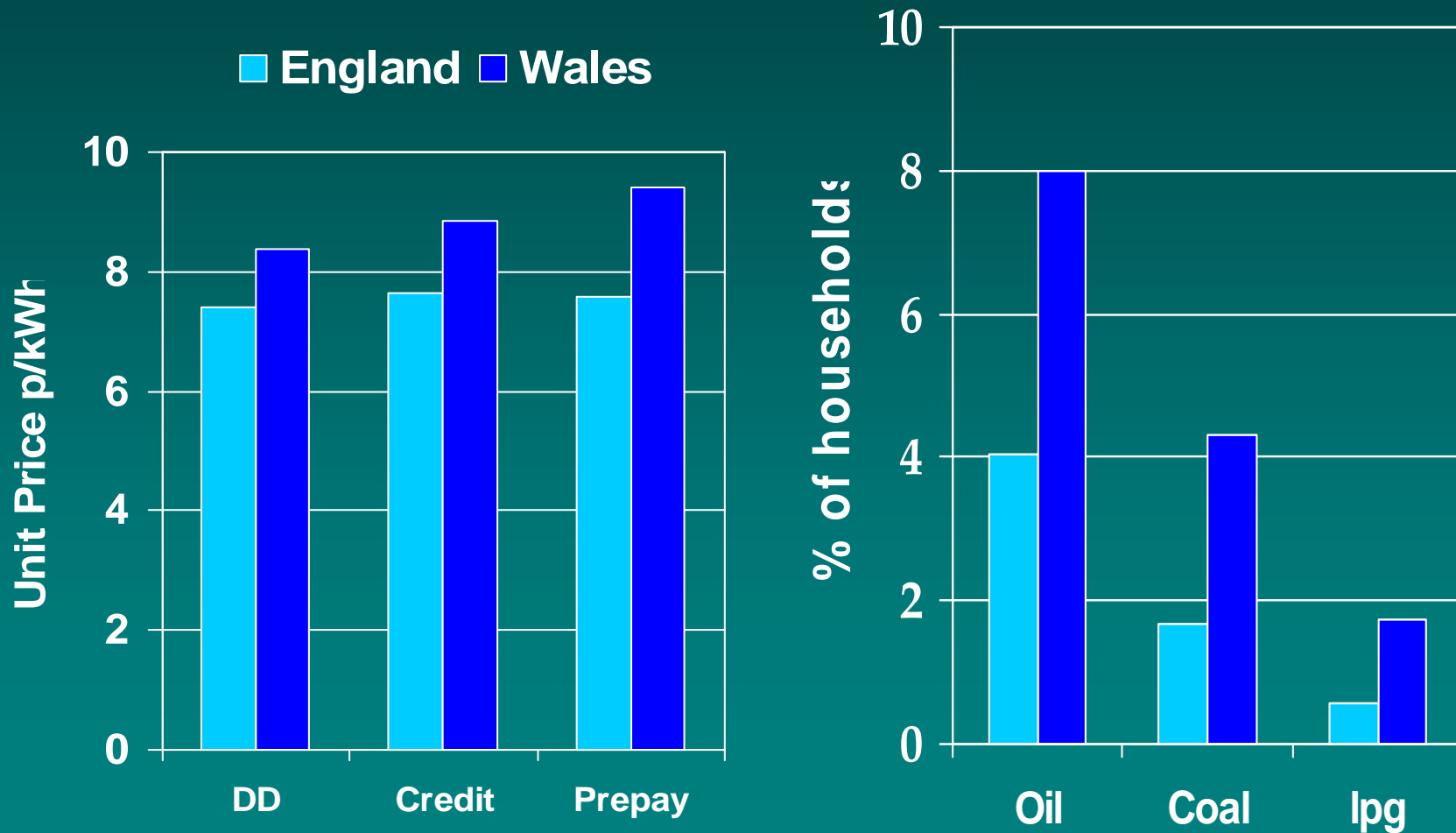
- Poor energy efficiency and
- Low household incomes
- High fuel prices
- Under-occupation

Distribution of full incomes in England & Wales

(Source : 2004 EHCS & 2004 Living in Wales survey)

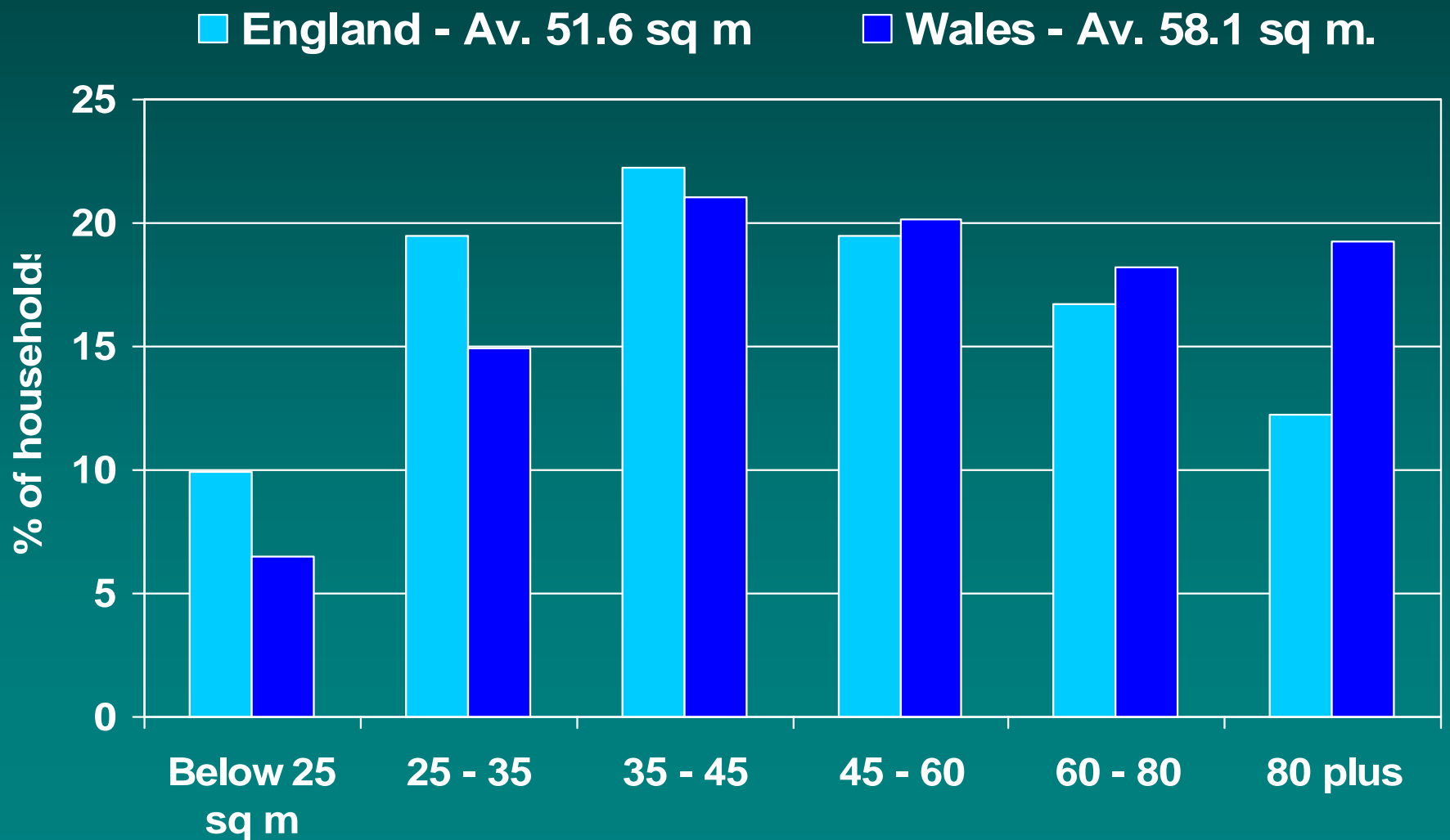


Electricity Prices & Non-metered (rural) Fuels in England & Wales (Source : BERR data & 2004 EHCS & 2004 LIW)



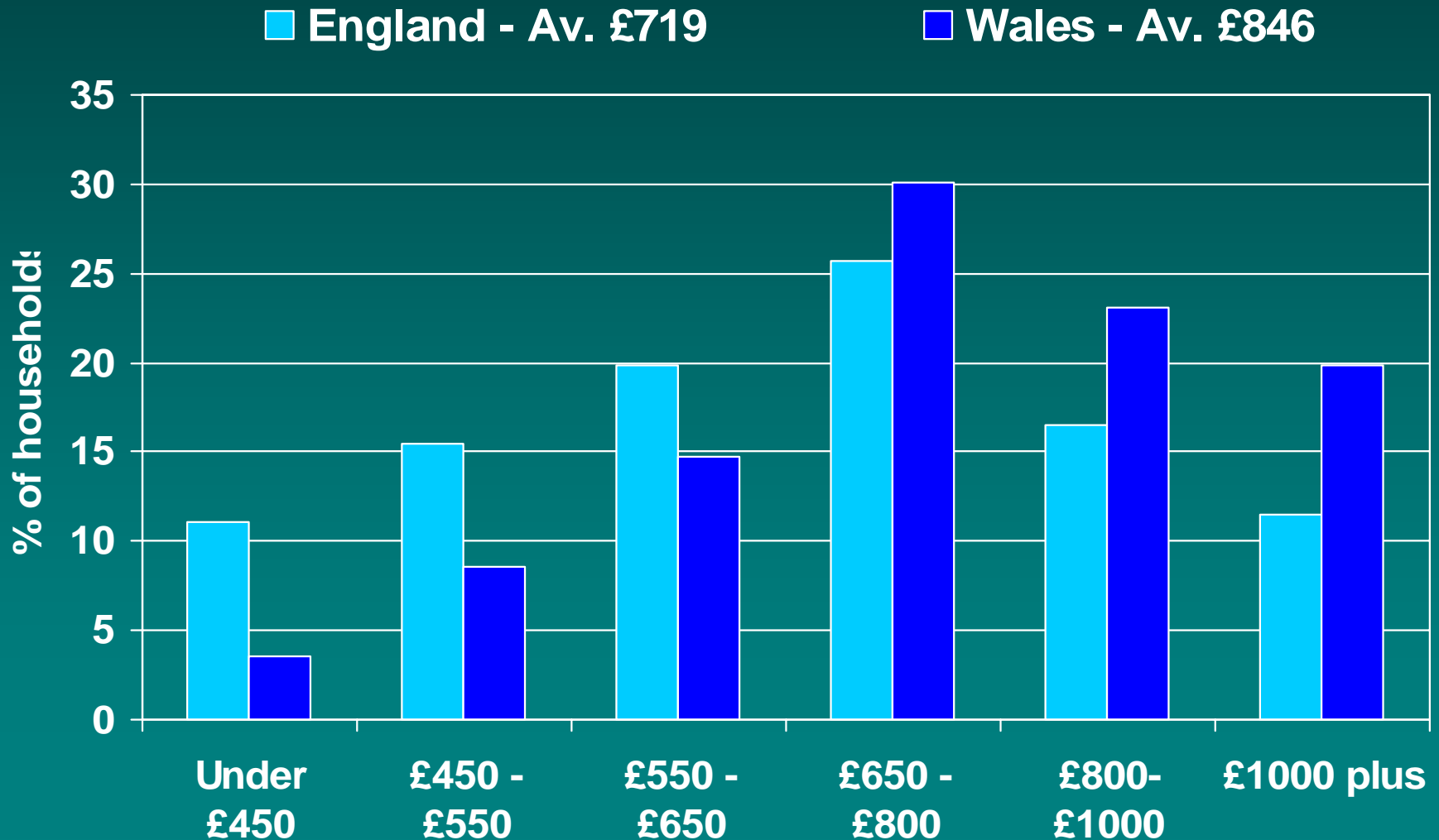
Floor area per adult in England & Wales

(Source : 2004 EHCS & 2004 Living in Wales survey)



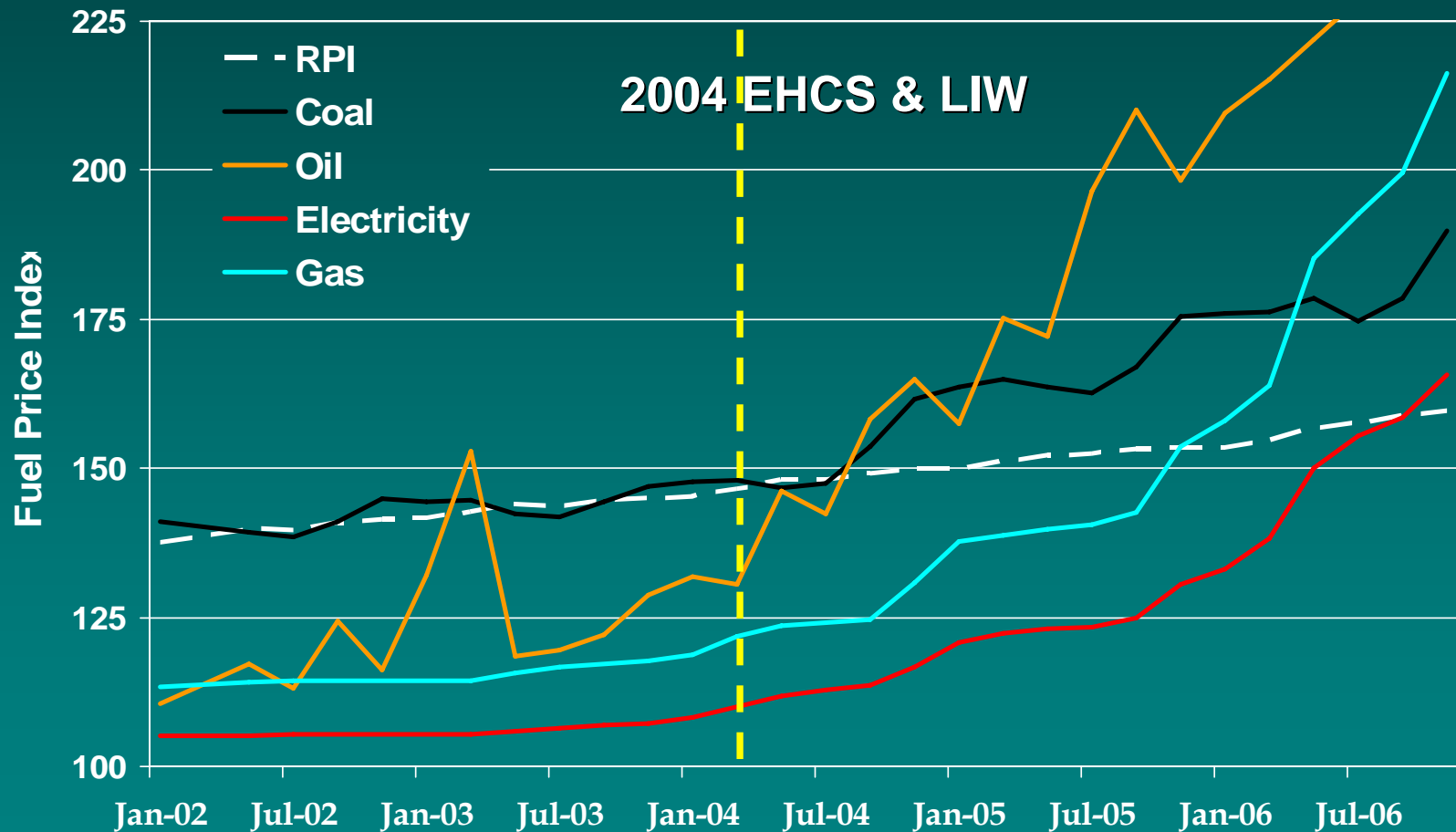
Distribution of fuel costs in England & Wales

(Source : 2004 EHCS & 2004 Living in Wales survey)



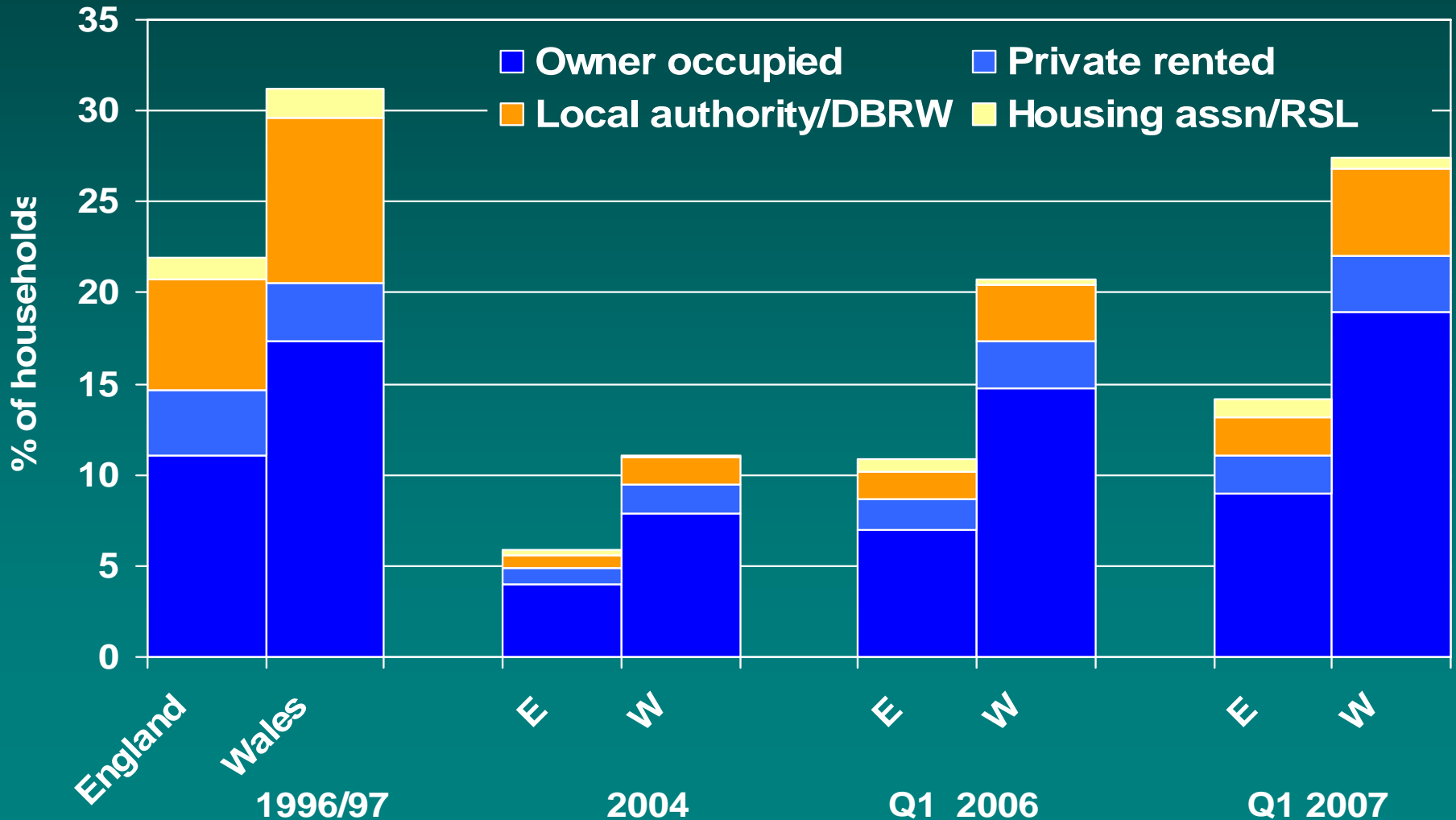
Trends in prices of main fuels 2002 to 2007

(Source : BERR quarterly fuel prices – fuel index)



FP trends by tenure in England & Wales

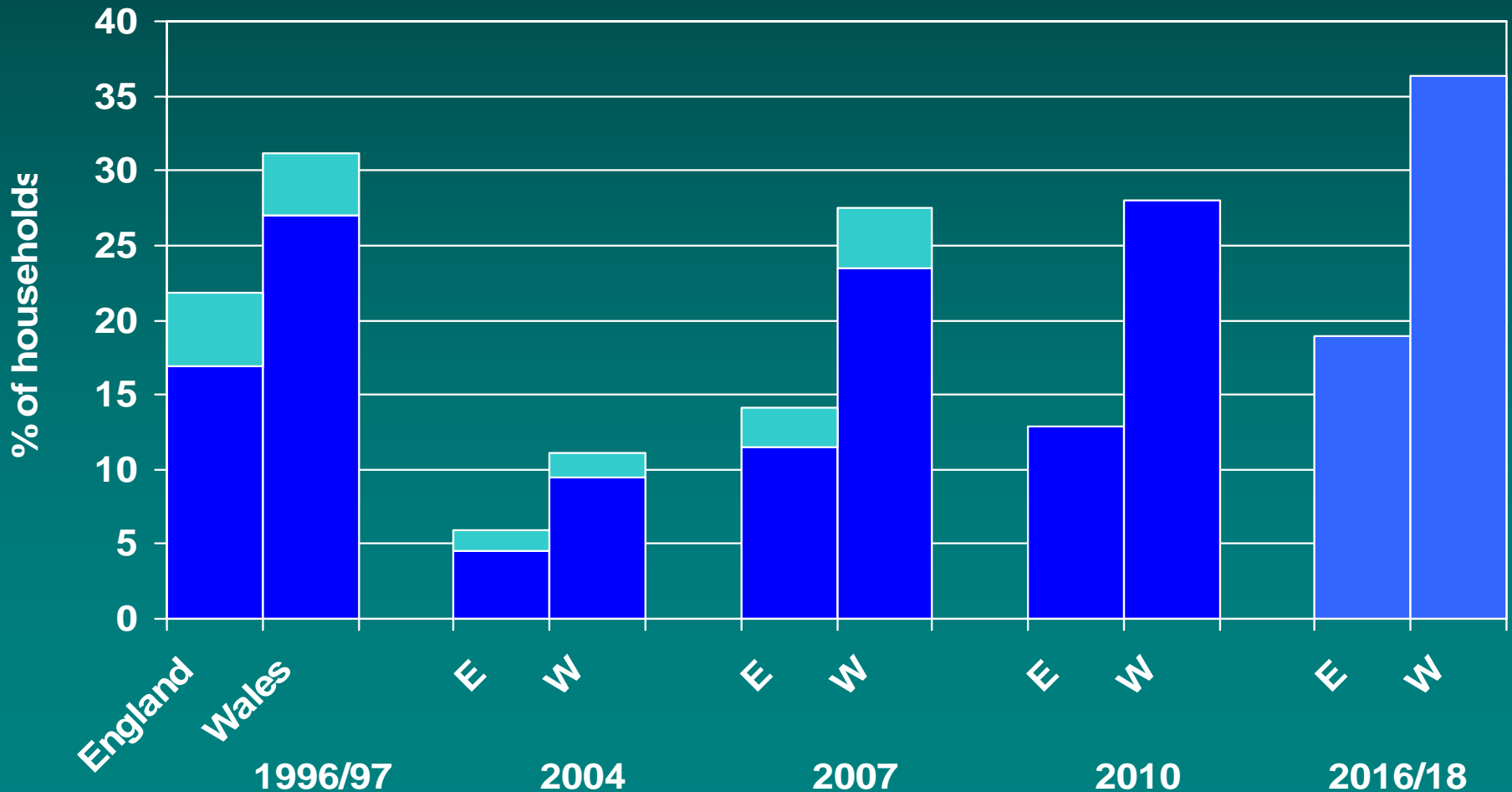
(Source : 1996/2004 EHCS & 1997/2004 WHCS/LIW + model)



FP trends by vulnerable in England & Wales

(Source : 1996/2004 EHCS & 1997/2004 WHCS/LIW + model)

■ vulnerable group ■ Not in vulnerable group ■ All households

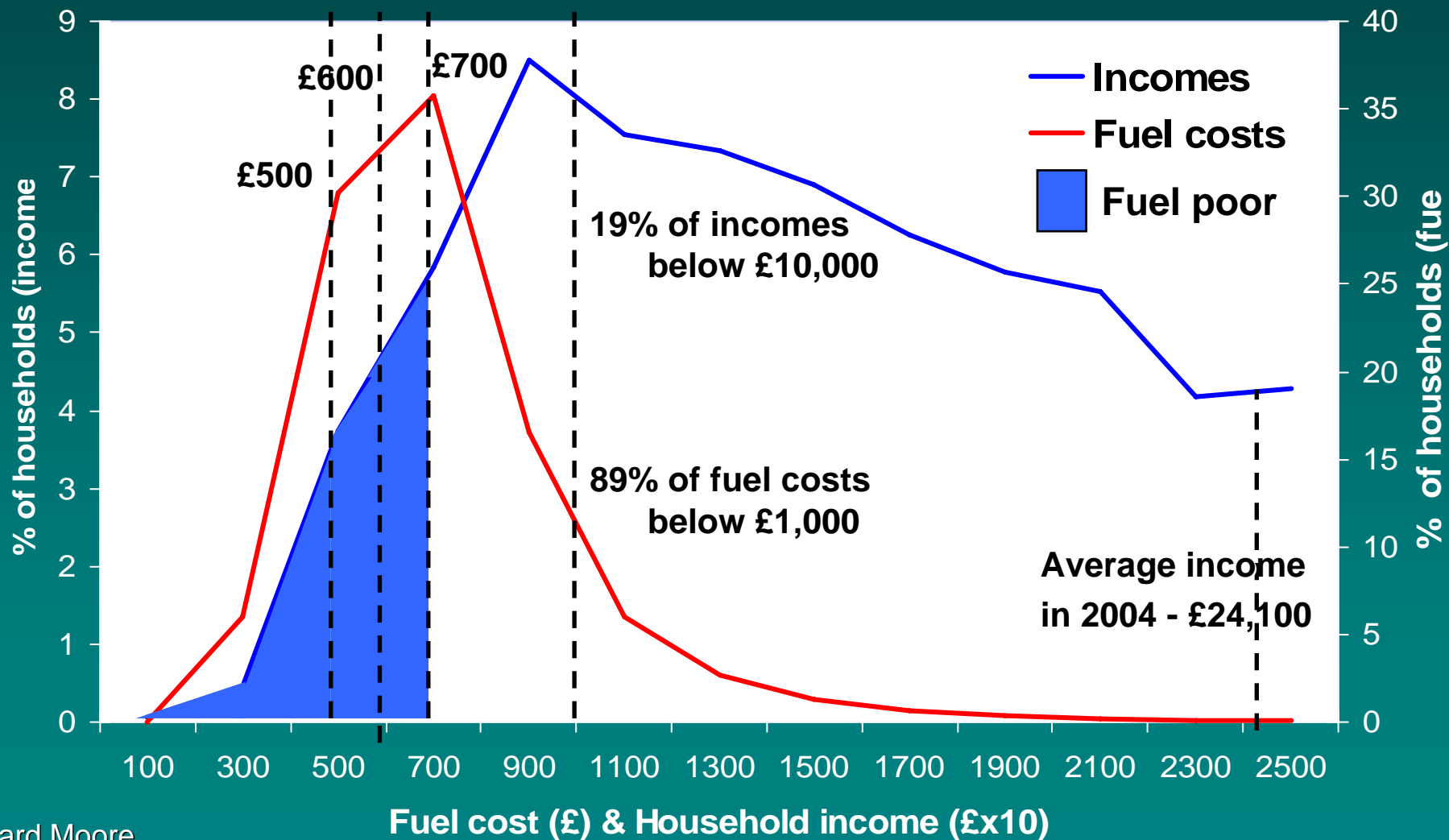


FP trends for vulnerable & all households by fuel price scenario (Source : CSE/ACE/RM model)

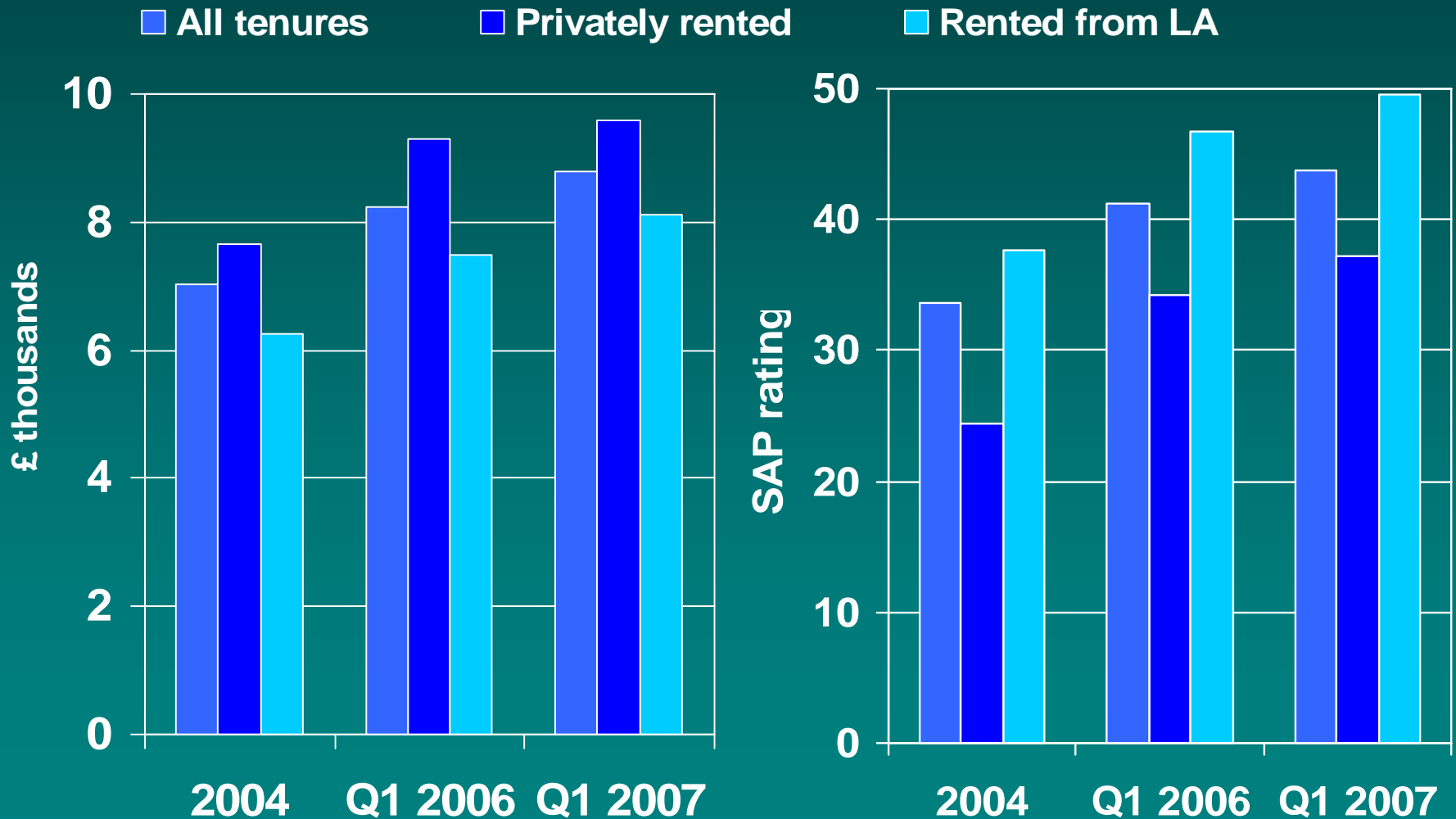
■ England Vuln. 2010 ■ Wales Vuln. 2010 ■ England All 2016 ■ Wales All 2018



The distribution of fuel costs relative to that of incomes & the impact of fuel price rises

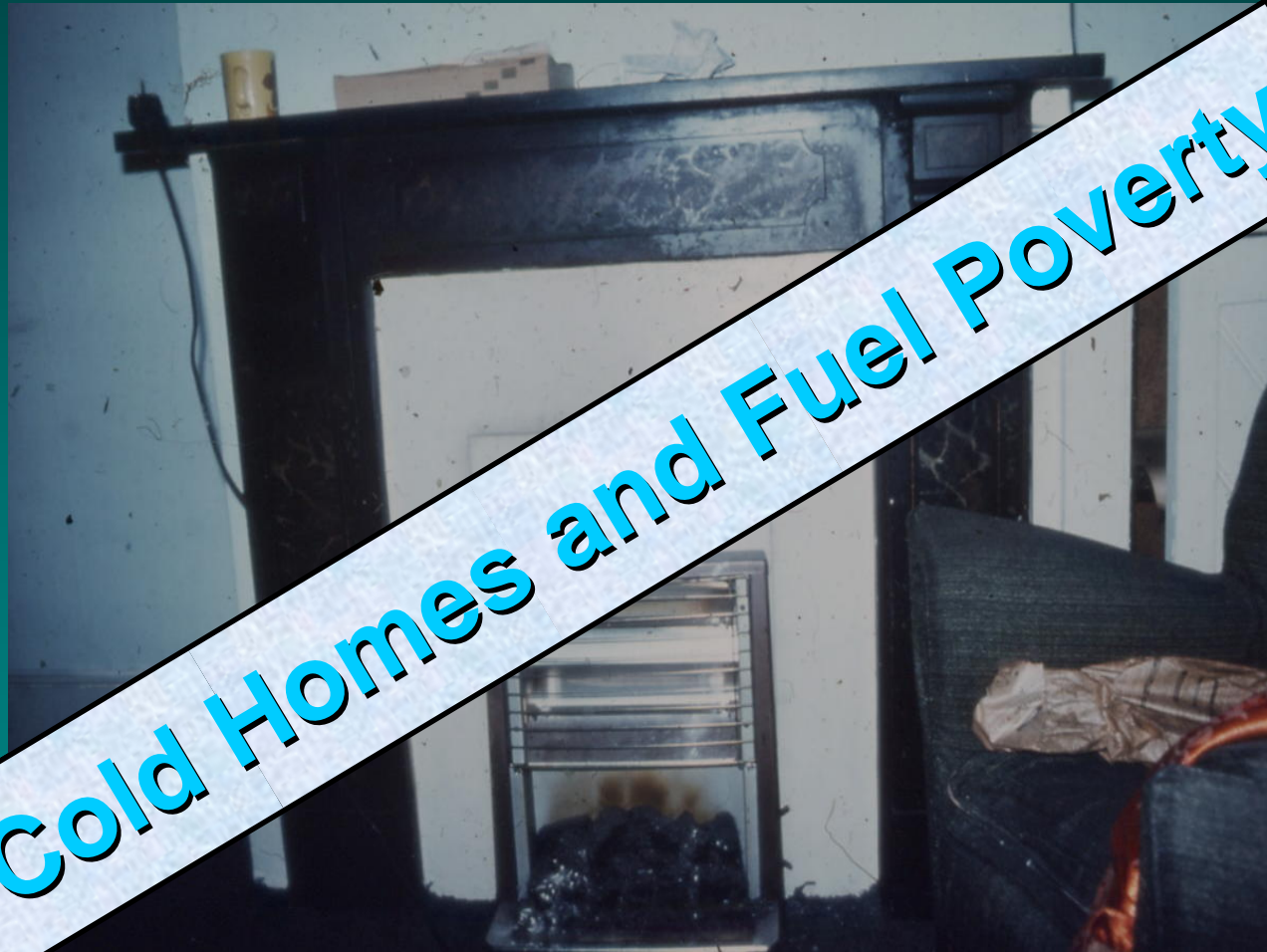


Increase in av. incomes and SAP ratings of fuel poor with increasing fuel poverty



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THE END