



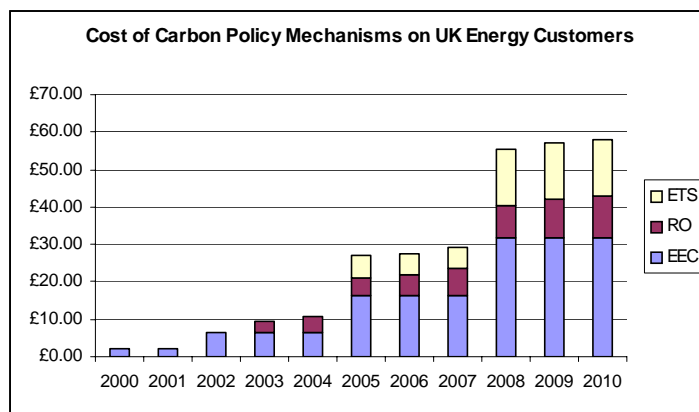
Centrica Context

- **Onshore and imported gas**
- **Power generator, predominantly from gas**
- **Largest supplier of gas and electricity in the UK**
- **Largest installer of heating technology in Europe**
- **Investor in renewable technology, including Fuel Cells (Ceres)**
- **Energy efficiency measures and renewables impact all of the above...**

The average UK household is relatively wealthy compared to previous generations but is feeling the pinch

Statistics	Pressures – seen rises in...
Net wealth doubled in real terms since 1991	Food costs
# Homes: 25m	Petrol pump rises
Income: £27,000	Utility bills
Debt: £55,000	Council Tax
Gas cost: £1,000	Income Tax
Emissions: 10tCO2	Mortgage payments
Heat/ Power: 6tCO2	Car taxes
	Card APR

Householders are already paying for abatement through their energy bill – to the tune of ~7%



And our consumer research shows a recent slump in support of green as a buying criterion – price is definitely king

New housing has some excellent ambitions for Zero Carbon by 2016 – but the volumes will be low



**Number
? pa
4m by 2020
Potential
efficiencies
Low**

Thus the solution to get the CO2 savings required will lie largely in the 25m existing homes

Facts

86% of homes standing in 2020 have already been built

£1 in every £3 is wasted through heat loss

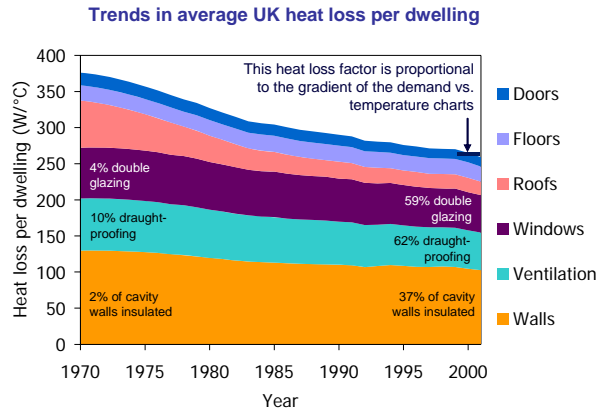
Only 1 in 5 of homes have condensing boilers

Households account for 28%-30% of total UK CO2 emissions

We believe half of realistic savings can come from simple measures such as cavity wall and loft insulation applied to the 25m homes already built. 9.1m homes still have unfilled cavities...

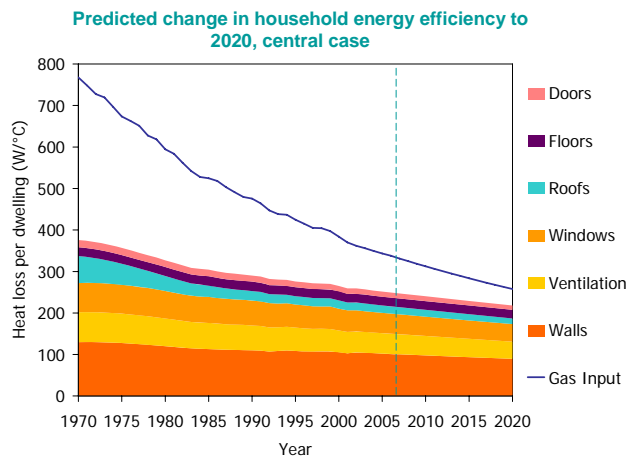
...and the introduction of renewables and microgeneration opens up even greater potential

Improvements in insulation have reduced the average heat loss of UK dwellings by a third since 1970



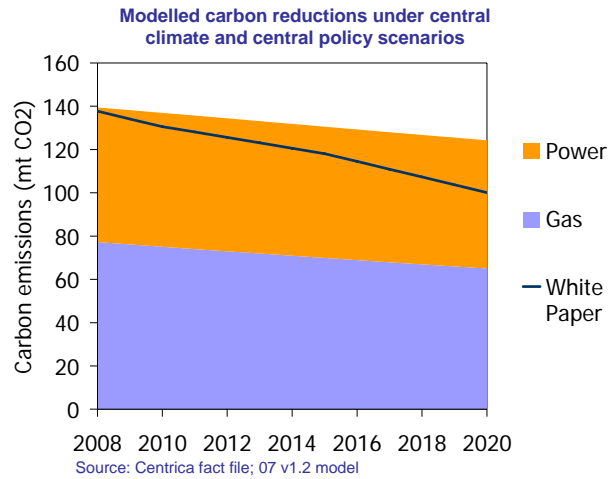
Source: Centrica 03 fact file

Persistent CERT support will yield a further 11% plus 9% CO₂ abatement from new boiler installations = ~ 20% reductions.



Source: Centrica fact file 07 v1.2 model

Nevertheless, UK domestic emission improvements will fail to keep pace with government targets



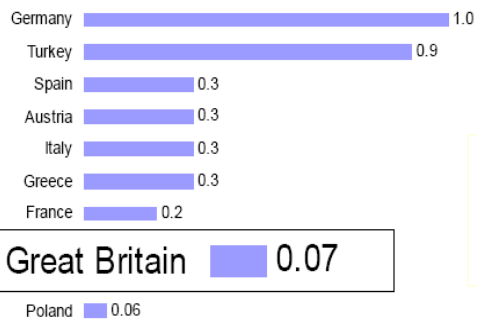
➔ Therefore, we will need to lead the way in renewables to meet our targets. So how are we doing?

UK solar penetration is very low. On this basis we would be well to learn from other countries...

European market volume of solar collectors 2007

Sales

breakdown in million m²



The same story for heat pumps

Professor John Chesshire's report of 1 June 08 models take up and demonstrates we will be nowhere without significant support mechanisms

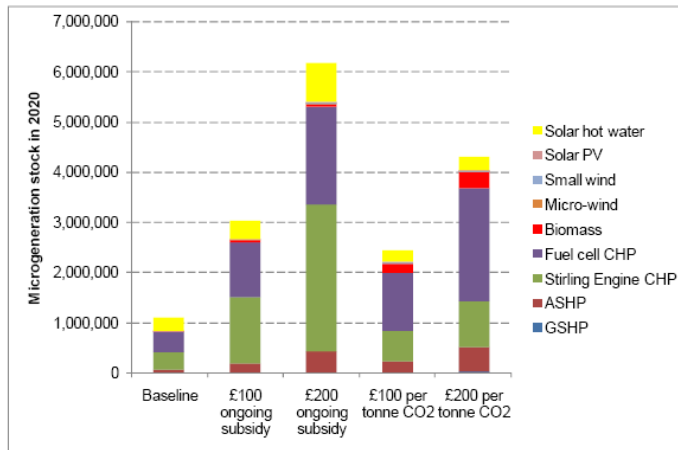


Figure 24 Microgeneration stock in 2020 - annual subsidy

...and predicts a paucity of carbon abatement without these support mechanisms

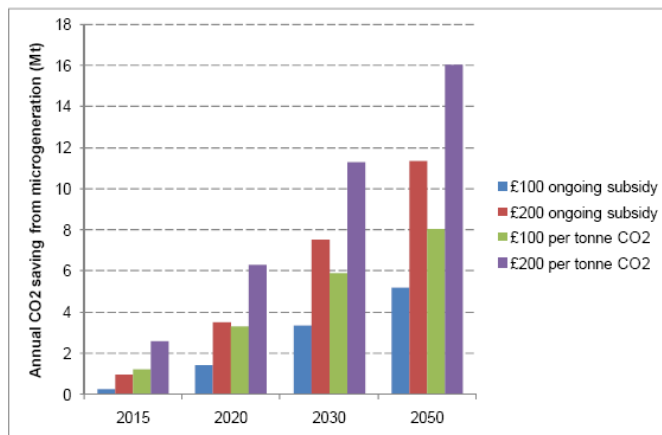


Figure 23 Reduction in annual CO₂ emissions - annual subsidy

Our own Green Streets experiment in 8 streets shows some good potential, albeit with significant investment (£30k per street)

City	Energy Savings %				
	Year To Date			This Month (April)	
	All Energy	Gas	Electricity	Gas	Electricity
Leeds	28.71	30.70	18.35	60.84	18.16
Plymouth	21.82	19.94	29.58	42.50	23.42
Cardiff	21.54	22.60	18.10	35.54	17.68
Birmingham	20.38	22.24	12.6	35.81	10.87
Southampton	19.04	20.69	10.93	23.94	10.25
London	17.11	19.33	4.88	26.02	-7.61
Edinburgh	12.15	15.24	-6.30	1.19	-31.38
Manchester	5.76	1.73	22.56	19.16	17.88

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We are happy to invest the £1/4m for these homes – the issue at debate is where will the further £60bn come from?

In summary

1. Casting forward the existing CERT carbon abatement mechanism (funded by the consumer) and adding the effect of new boilers we will see a reduction in emissions of approximately 20% on existing homes
2. But we will miss target on this basis
3. Consumers are unlikely to jump at further expenditure to fund new technology without material incentives

Topic for debate:

What will be the nature of these incentives, and where will they come from?

