

Emission(s) impossible?

- the path to cutting the UK's CO₂ emissions by 80% by 2050

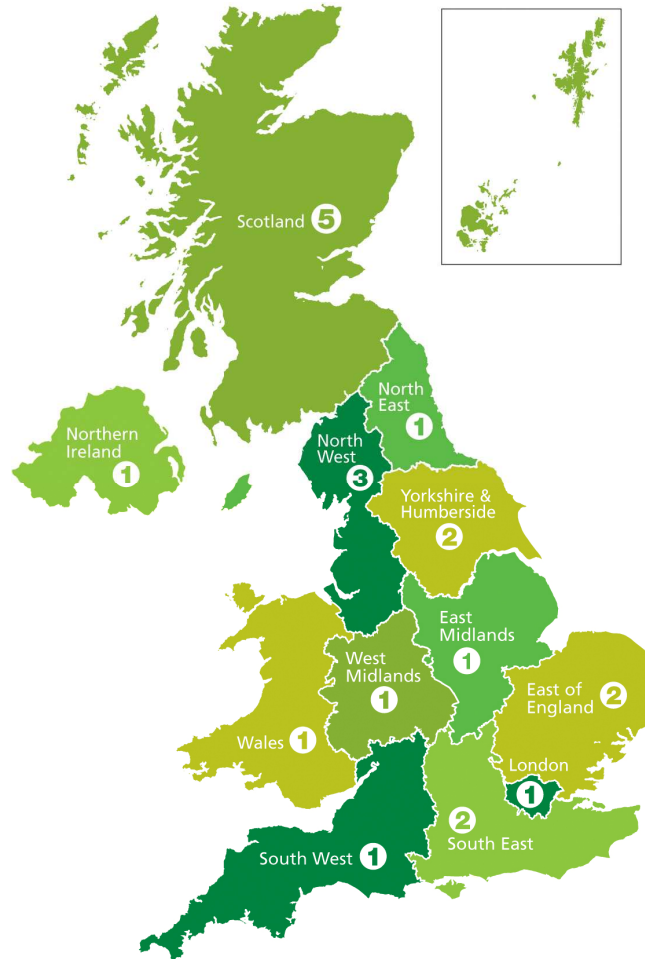
Energy Saving Trust

Fraser Winterbottom

ENVEC 2009, 8th October 2009

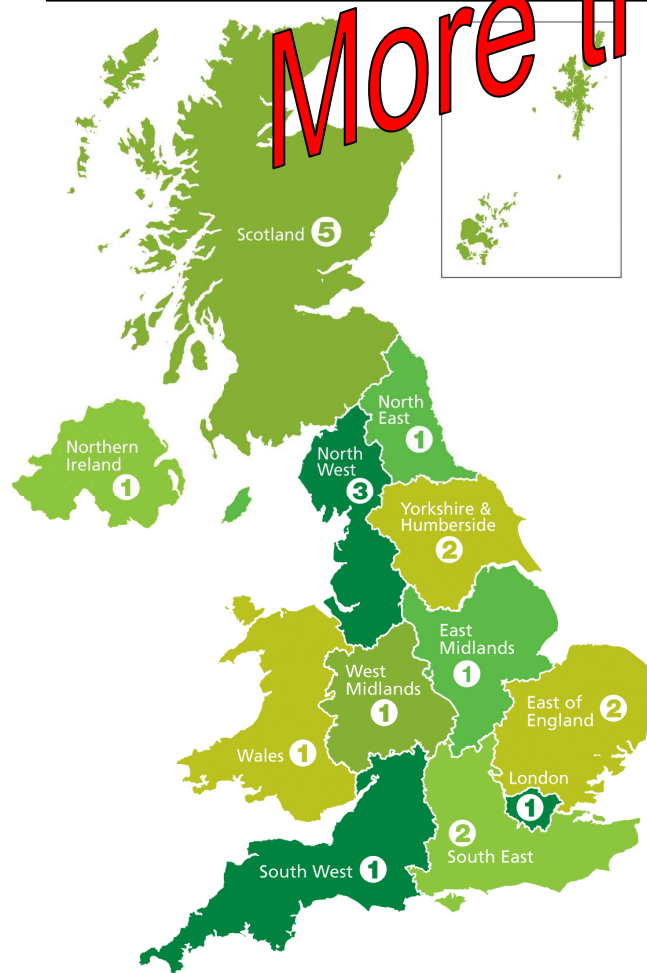


EST provides householder energy advice



- **Over 1.5 million** customers spoken to with advice
- **Over 1.7 million** unique web site visits
- **Over 753,000** Home Energy Checks completed
- **Over 150,000** referrals to grants

EST provides householder energy advice

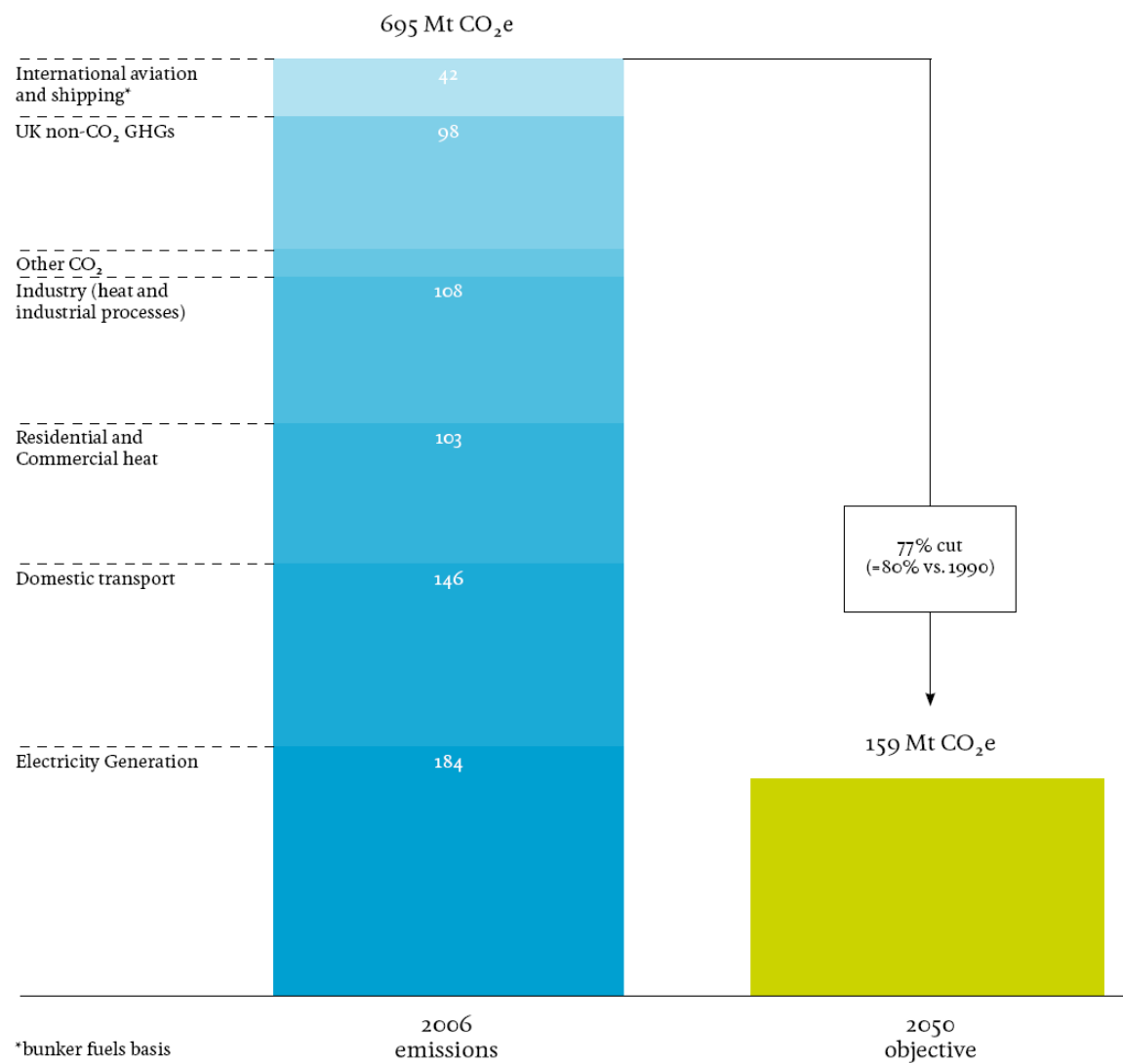


- Rapidly growing LA partnership programmes
- Definitive trials & monitoring from condensing boilers to wind turbines to Heat Pumps
- Central programmes support over 300,000 supply chain contacts
- Large Scottish schemes & regional consortia
- Scope - Efficiency, micro-gen, transport, waste, water

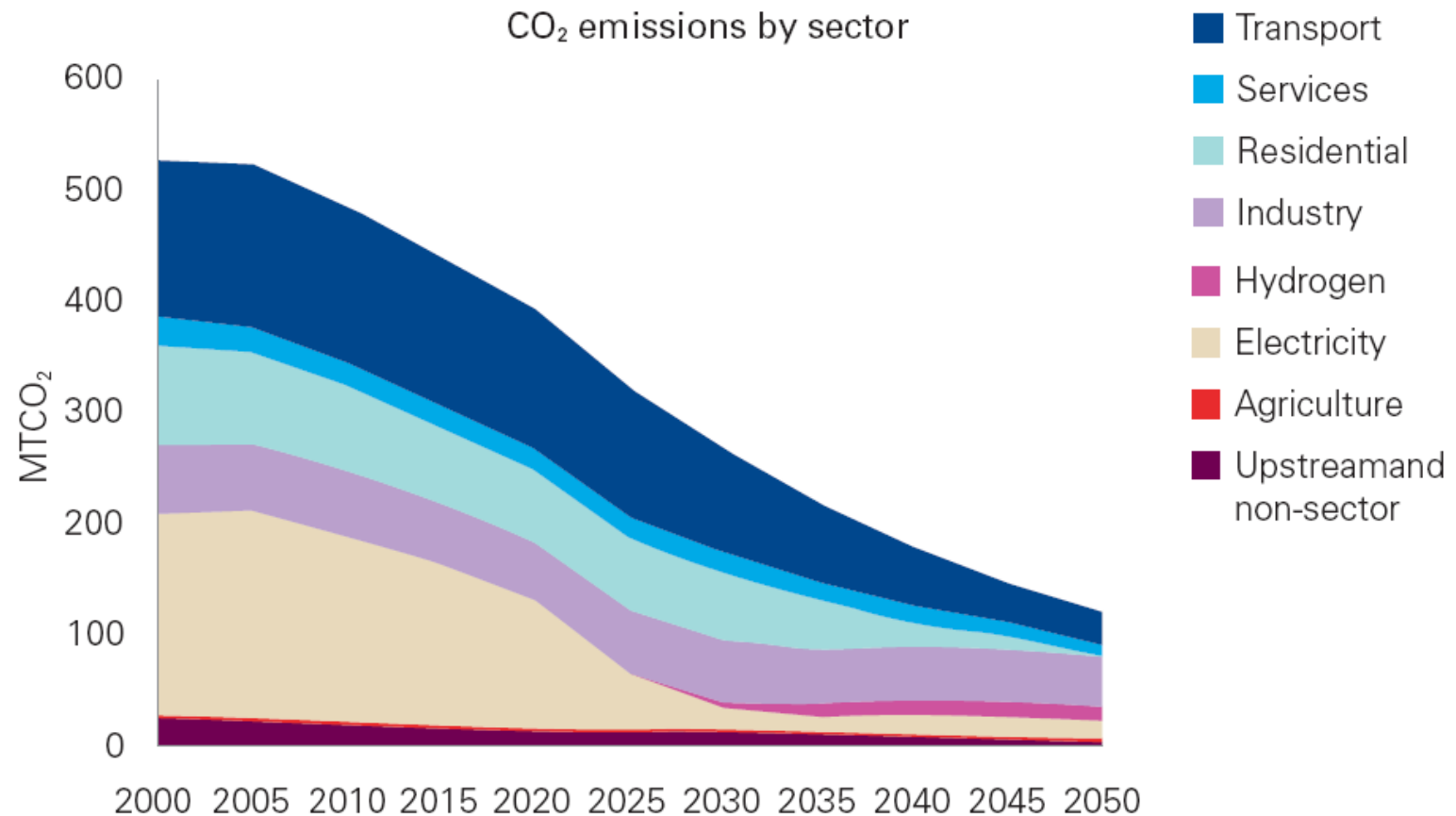
This morning's "taster" menu

- The challenge
- The good, the bad & the ugly
- Public attitudes
- Getting the job done!

Fig. 1: The scale of the challenge - UK National Atmospheric Emissions Inventory



One scenario for UK sectoral CO₂ emissions to 2050 on an 80% CO₂ emissions reduction path



Source: MARKAL (2008)

Where does the UK's CO₂ Come From?

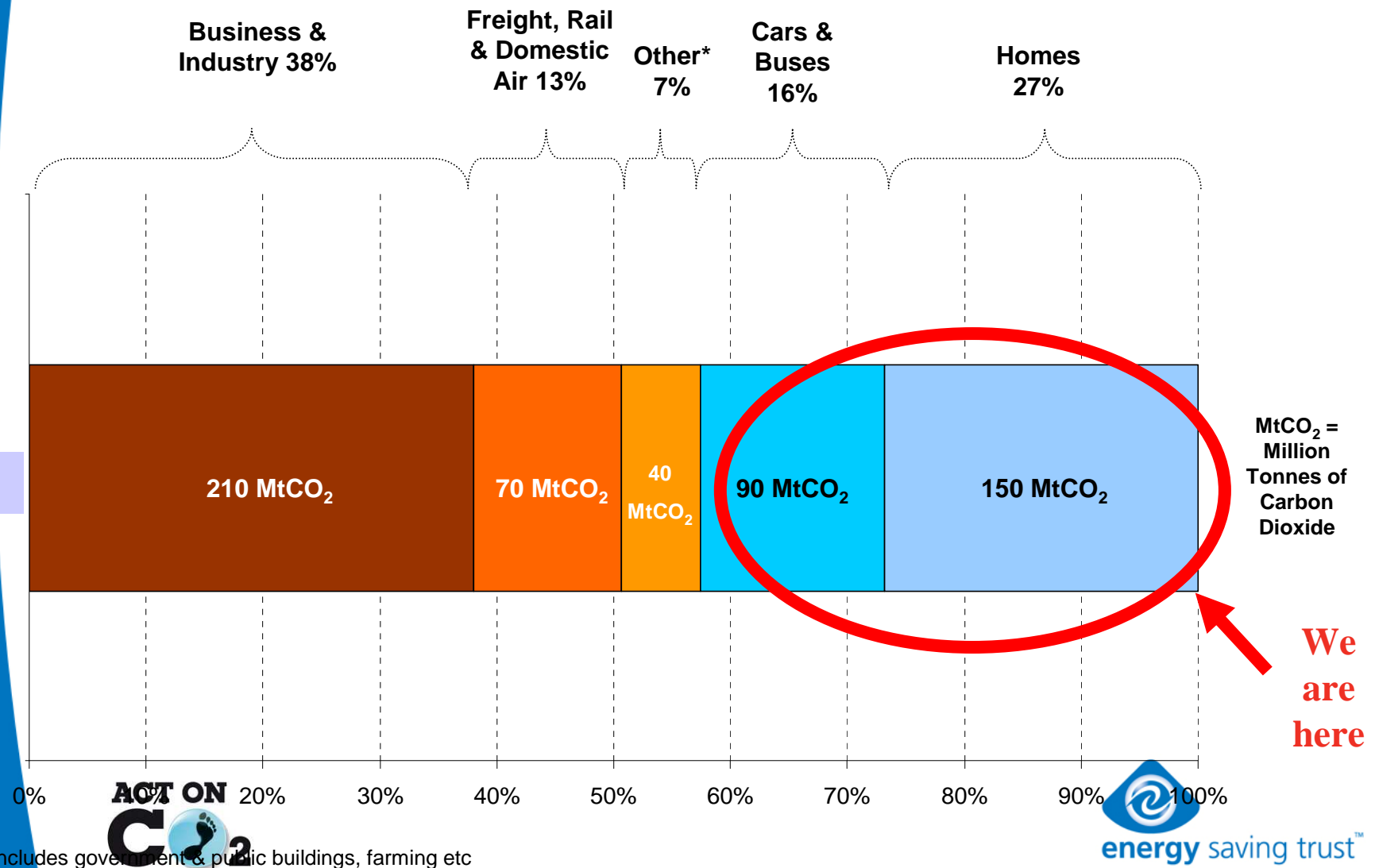
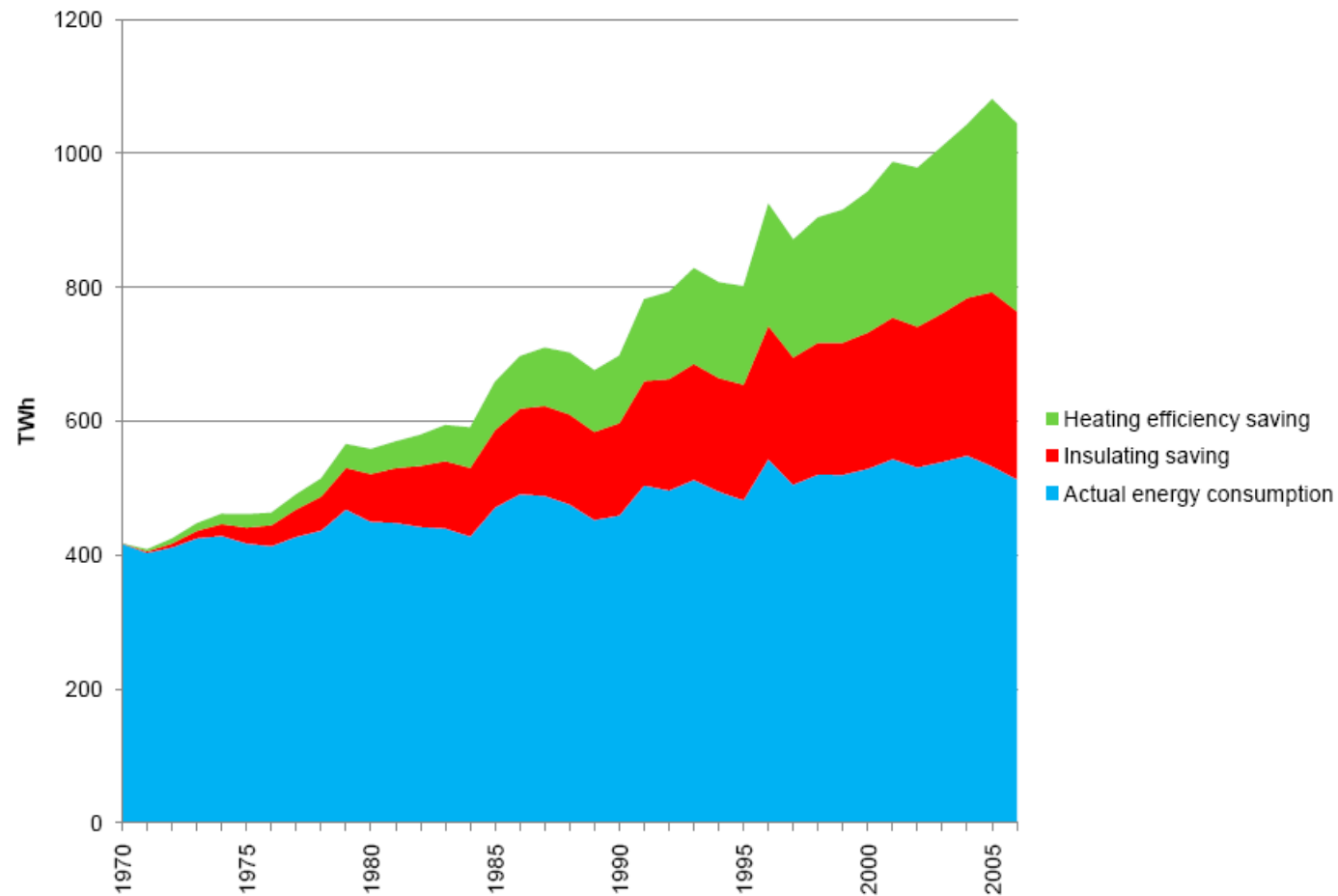


Figure 6.6 Energy savings due to insulation and heating efficiency improvements in Great Britain 1970 to 2006



Source: BERR (2008) *Energy Consumption in the UK*

Figure 6.5 Average internal temperature in residential buildings 1970 to 2006

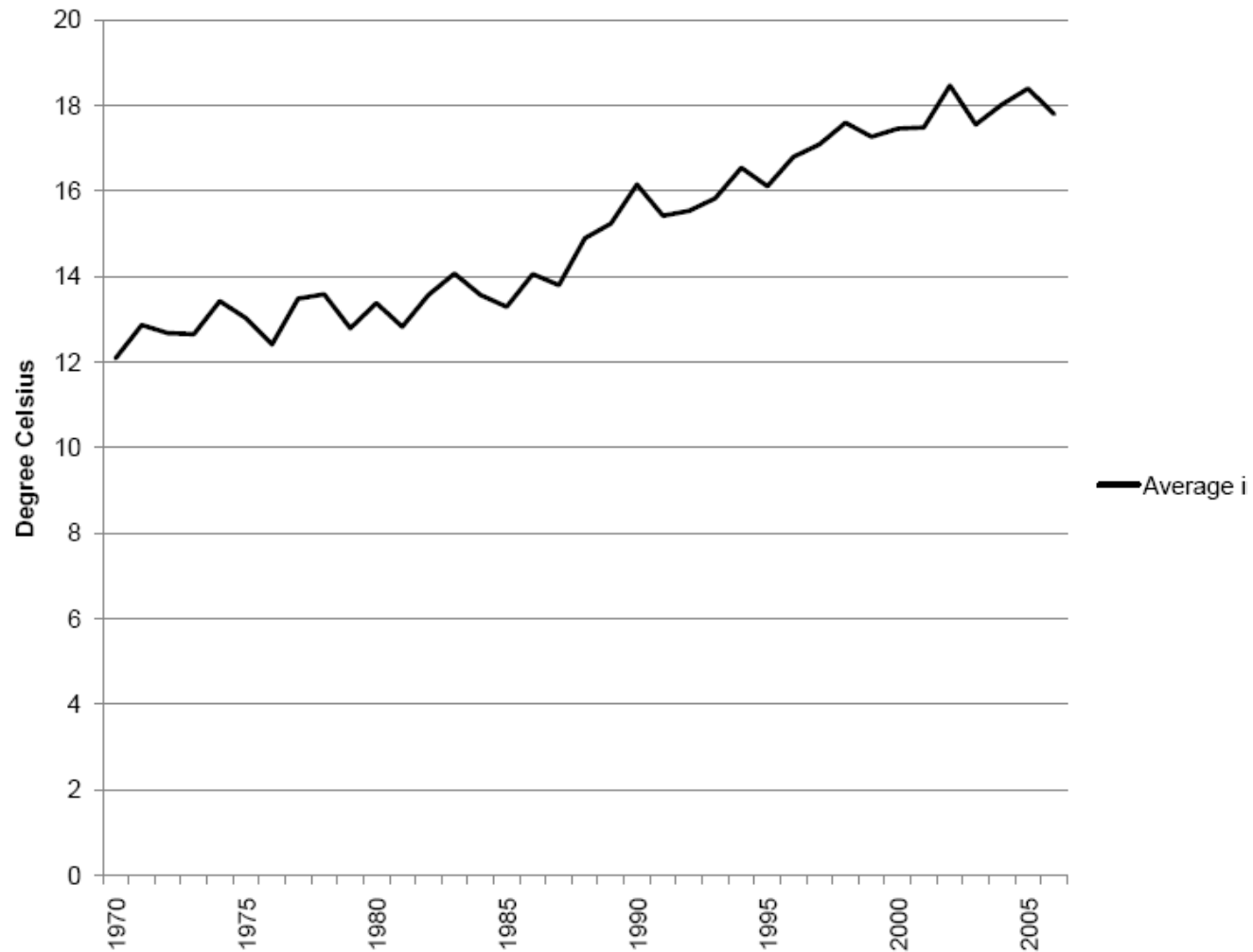
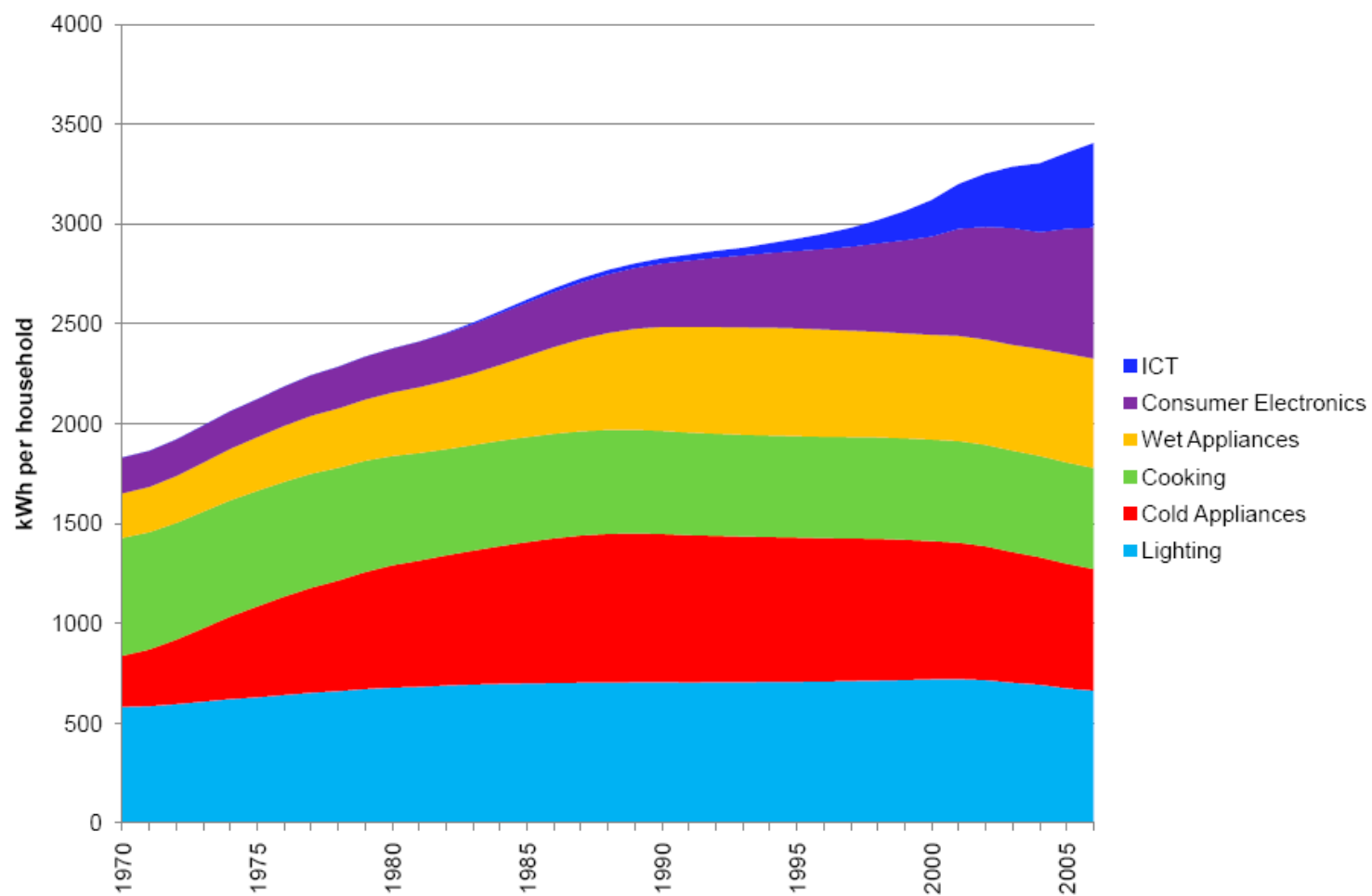


Figure 6.7 Electricity consumption per household by domestic appliances 1970 to 2006



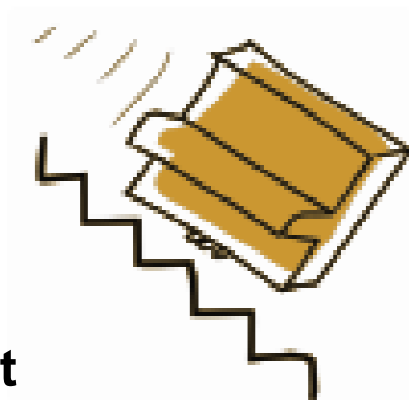
Source: BERR (2008) *Energy Consumption in the UK*

Good, bad & ugly

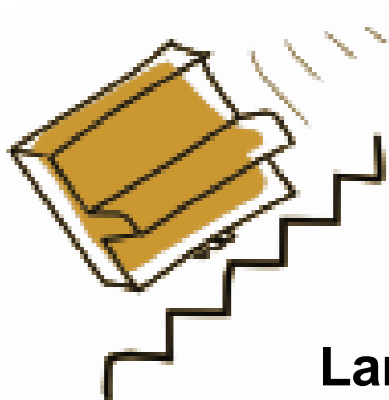


**Growing
challenge**

**Money
is tight**



**Lost
economic
opportunities**



**Economic
power
shifts**

**Language
issues**



A realistic assessment of our status

**Public
gets it**



**Govt
gets it**



**Can be
done**

The job can be done

Practical action

- Current technologies will give us a flying start
- ... with large scale deployment
- Across wide scope – water, waste, homes, travel
- Reasonable grid decarbonisation

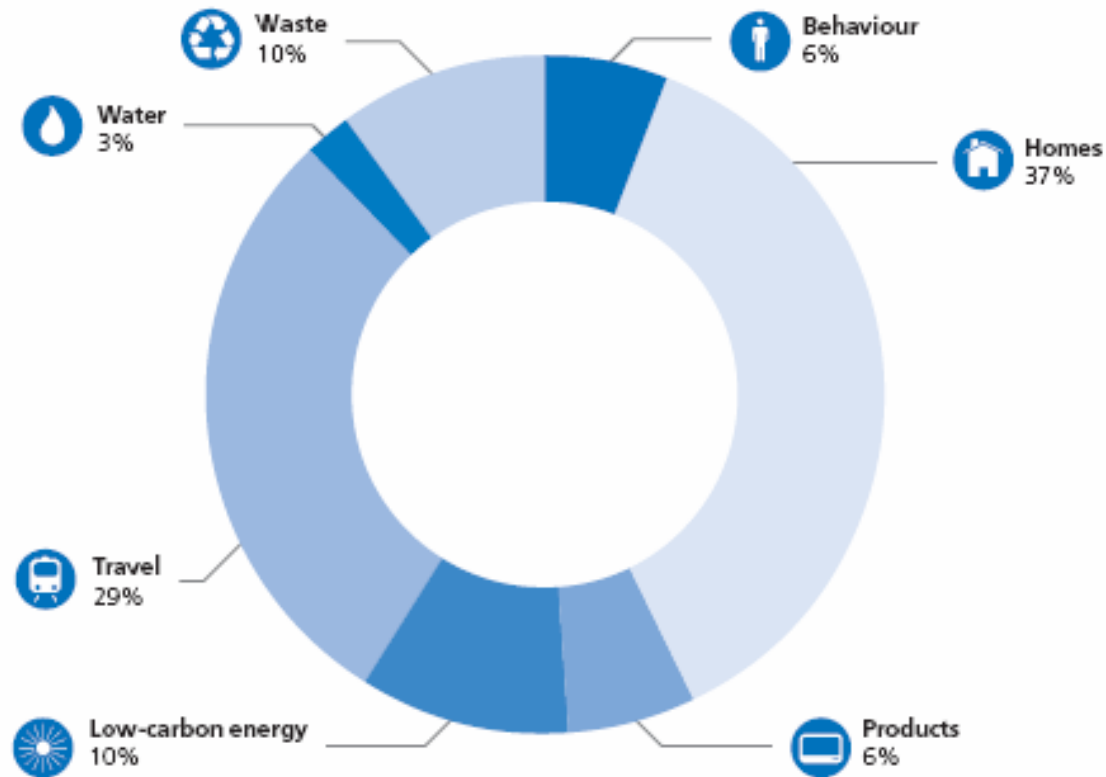
Desirable outcomes

- Careers, skills & jobs
- Warm comfortable housing
- Stronger communities & products that last
- Affordable energy bills for householders & the UK?

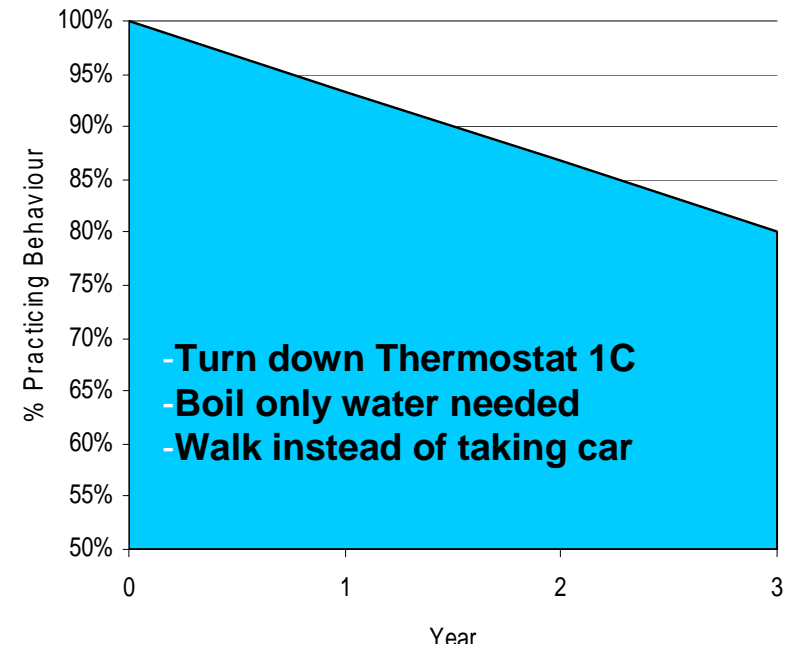
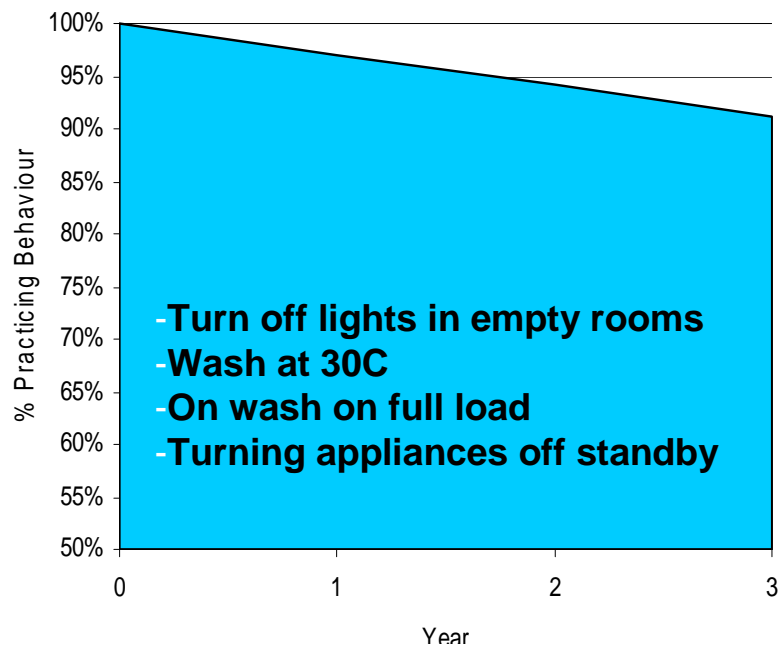


Where savings will come from

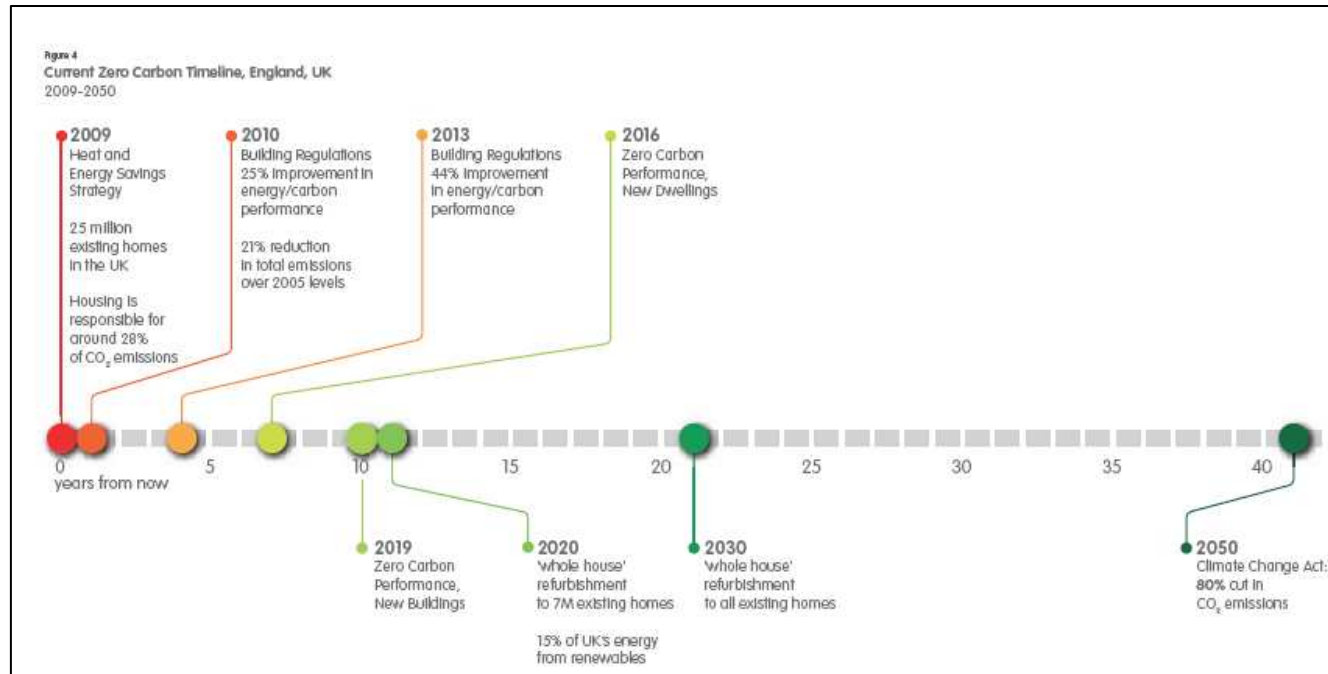
Annual savings potential by 2020 ('Emission Impossible?')
Total annual CO₂ savings = 100 million tonnes



Behaviours can become habits



NHBC Foundation/BRE Trust Low Carbon Compendium



EST Research

Carbon reduction from 2006 level for New Build	Residential emissions target by 2050 (Mt CO ₂)	New Build emissions by 2050 (Mt CO ₂)	Existing housing emissions by 2050 to meet target	Reduction from existing housing from 1990 level to meet target (%)
44%	24.89	17.33	7.38	94%
70%	24.89	13.81	10.88	91%
100%	24.89	9.75	14.94	88%



Missing opportunities on implementation

Consequential improvements

7m un-upgraded boilers

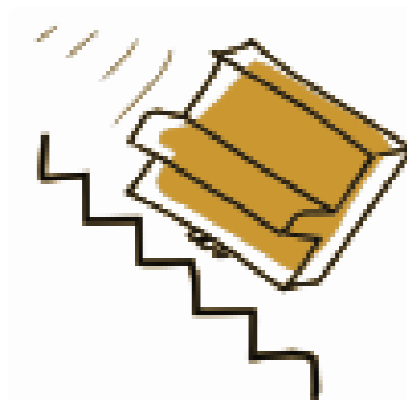
Lack of use of EPCs

Too many lightbulbs

Supply chain stop-start

Inspection regimes

Top tips versus deeper support & advice?



Public attitudes

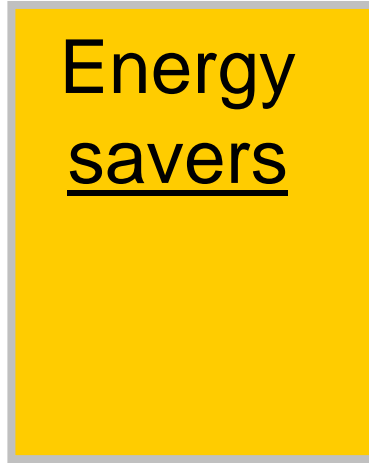


Today's attitudes

Green
hearted



Energy
savers



Apathetic



75%



Energy saving debate is now mainstream
Saving money and not wasting money is of
principal importance

But concerns/recession & whether they can
make a real impact, may conclude they've
done their bit



A recent marked shift in perception

- Though people could have reservations about being told what to do they felt the government should take more action and that it was important to slash carbon emissions (which they do not fully understand) in order to tackle climate change. Parents (especially mums) tended to stress their concerns for their children and many saw the changing weather patterns as proof that more action needed to be taken now.
- *'I worry about my children's future and the state of the planet we're leaving them'*

Shifting the middle group

Government action & legislation

- People are ready and expecting this (though beware of stealth taxes); enforcing action expected and minimum standards
- Avoids free rider effect, “why me first?”
- “If government is really serious it will sort it”

Benefits & solutions

- Looking to save money and avoid waste
- Advice must be tailored to me and my circumstances
- Take the Hassle factor away
- I’ll only pay £50 a month, and my outlook is 3 to 5 years





volkswagen.co.uk/efficiency

~~Our BlueMotion range combines~~
~~lighter materials, enhanced~~
~~aerodynamics, economical engines~~
~~and tyres that create less friction,~~
~~which saves you fuel and can~~
~~reduce your tax, which means you~~
~~will have more money.~~

BLUEMOTION
— TECHNOLOGIES —

Another example of Volkswagen efficiency.

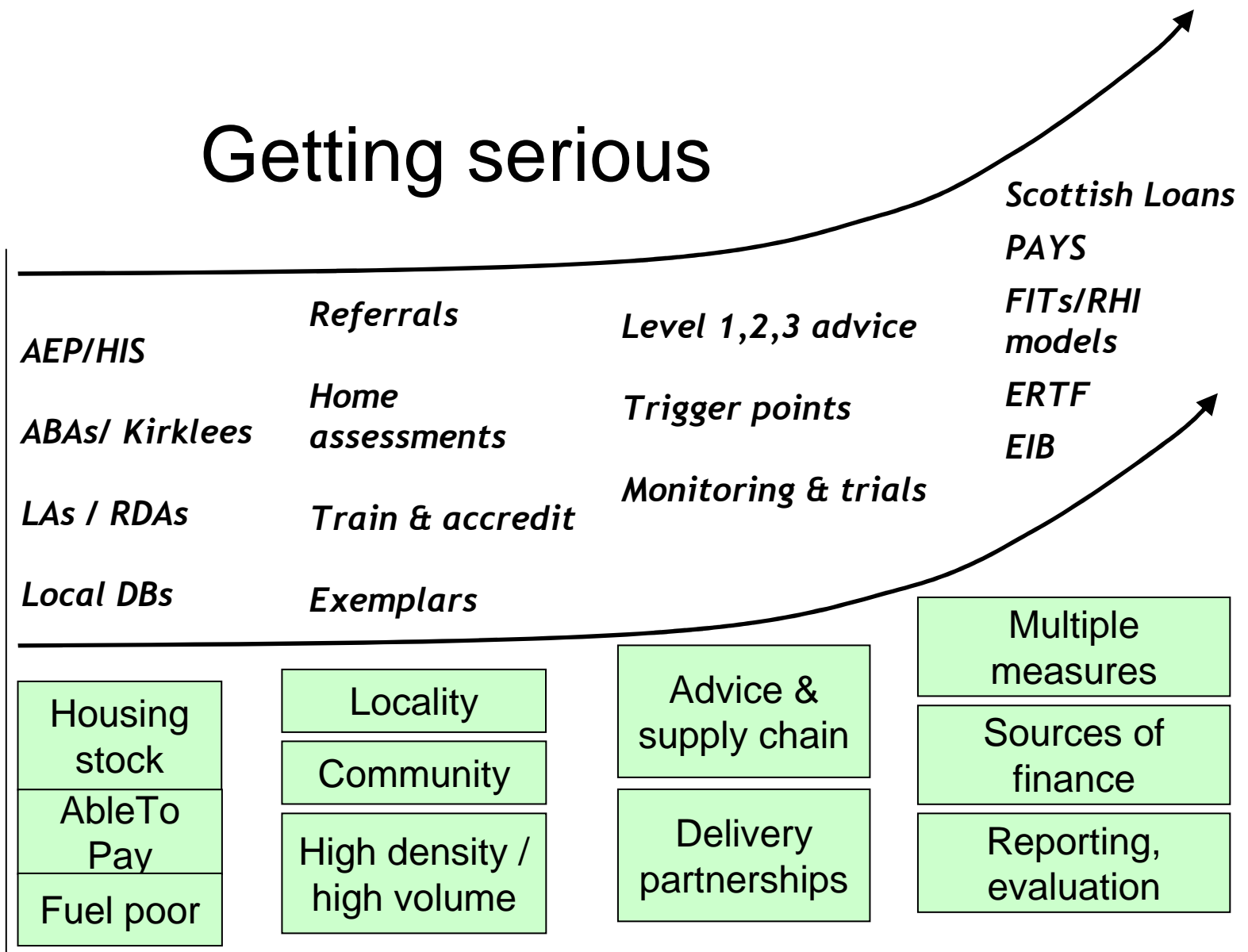


Getting the job done

(the real world!)



Getting serious



Area Based

- Economies of scale & scope
- Ability to unlock wide sources of funds
- Other sources can address non-CERT measures
- Database marketing
- Standard assessment tool
- Multiple measures of a single pass
- Engage local supply chain

“Pay As You Save”

- Fund from savings or from revenue streams
- Address higher level of savings /expensive measures
- Work with local authorities, energy companies
- Low interest rates
- Security goes with property



Willingness to invest?

1

Price levels

- Importance: 37%
- Preferred price range: £0 to £4,000

2

Preferred energy saving measure and monthly energy saving

- Importance : 21%
- Preferred measures:
 1. Solar Water Heating
 2. Triple glazing
 3. Internal and External wall insulation

3

Preferred incentives

- Importance: 16%
- Preferred incentives: upfront, council tax rebates

4

Preferred monthly loan repayment

- Importance: 13%
- Preferred repayment range: £30 to £50 – ideally where they are losing a max of £10 or saving a max of £10, depending on the saving and preference for long or short payback periods.

5

Acceptable payback periods

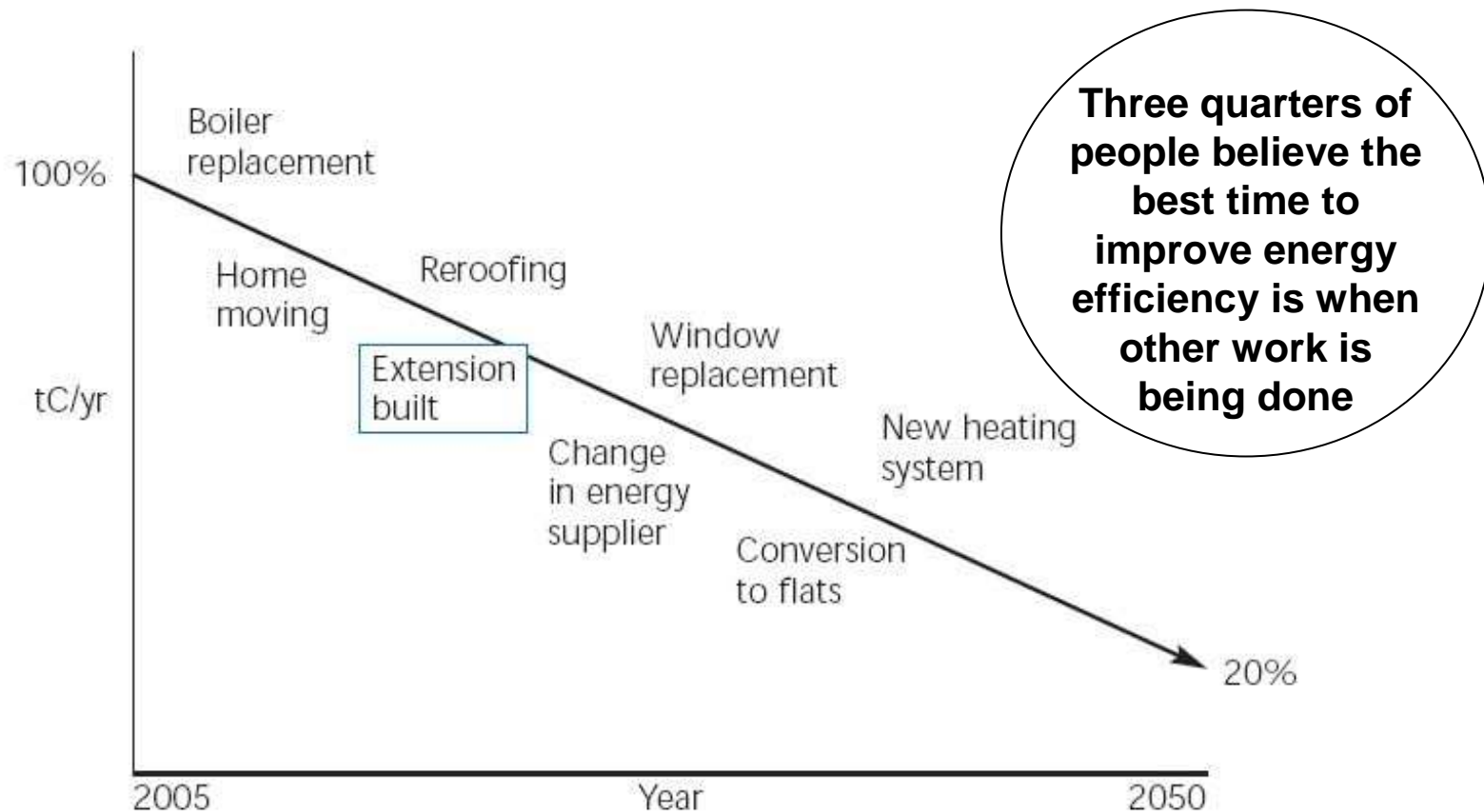
- This means that the preferred payback period is 0 to 5 years, and acceptable is up to 15 years.

6

Preferred payment methods

- Importance: 13%
- Preferred finance source: government
- Preferred payment method: Interest free loans (or savings when possible)

Minimising cost & disruption, the lifetime of a home & “trigger points”



Calls to action for all of us

- A bit more leadership? ... or a lot more cooperation!
- Customer at the heart
- Focus on implementation; & sharing and spreading good ideas quickly; and stop re-inventing the wheel