



A stronger business case than ever: Keeping climate change on the agenda during economic recession

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Structure of the presentation



1. **Climate change - why we have to act now**
2. **UK Carbon Budgets as part of a global reduction effort**
3. **The costs of tackling climate change**
4. **The economy – macroeconomic context & challenges ahead**
5. **A price worth paying?**

Why we have to act now – global impacts



Atlantic hurricanes 70% more energetic since 1970's

European heatwaves common by 2040s. In 2003 35-52,000 people died

20-33% of all species at risk of extinction by 2100



Peru's glaciers will melt by 2015 effecting 2/3rds of population

Conflict – 2.7 billion at risk as a result of climate change e.g. Sudan

Drought –11 million effected in 2006 in Africa

Flooding – 17 m Bangladeshis at risk and globally 160-370 m could be affected by 2100

Maldives – 90% of coral destroyed

UK Climate Projections



Change in summer mean temperature (°C) for the 2080s under a medium emissions scenario

10% probability level:

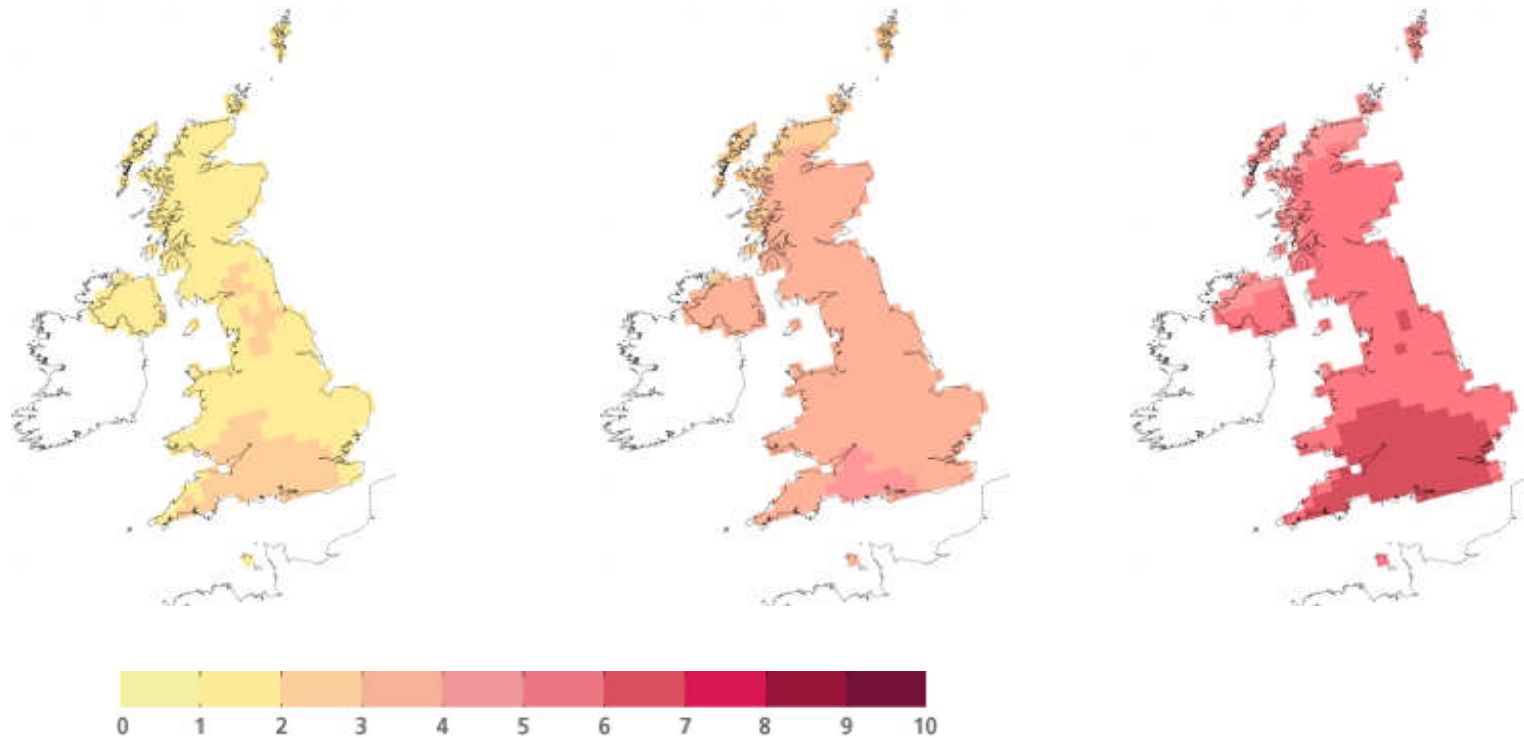
very unlikely to be less than

50% probability level

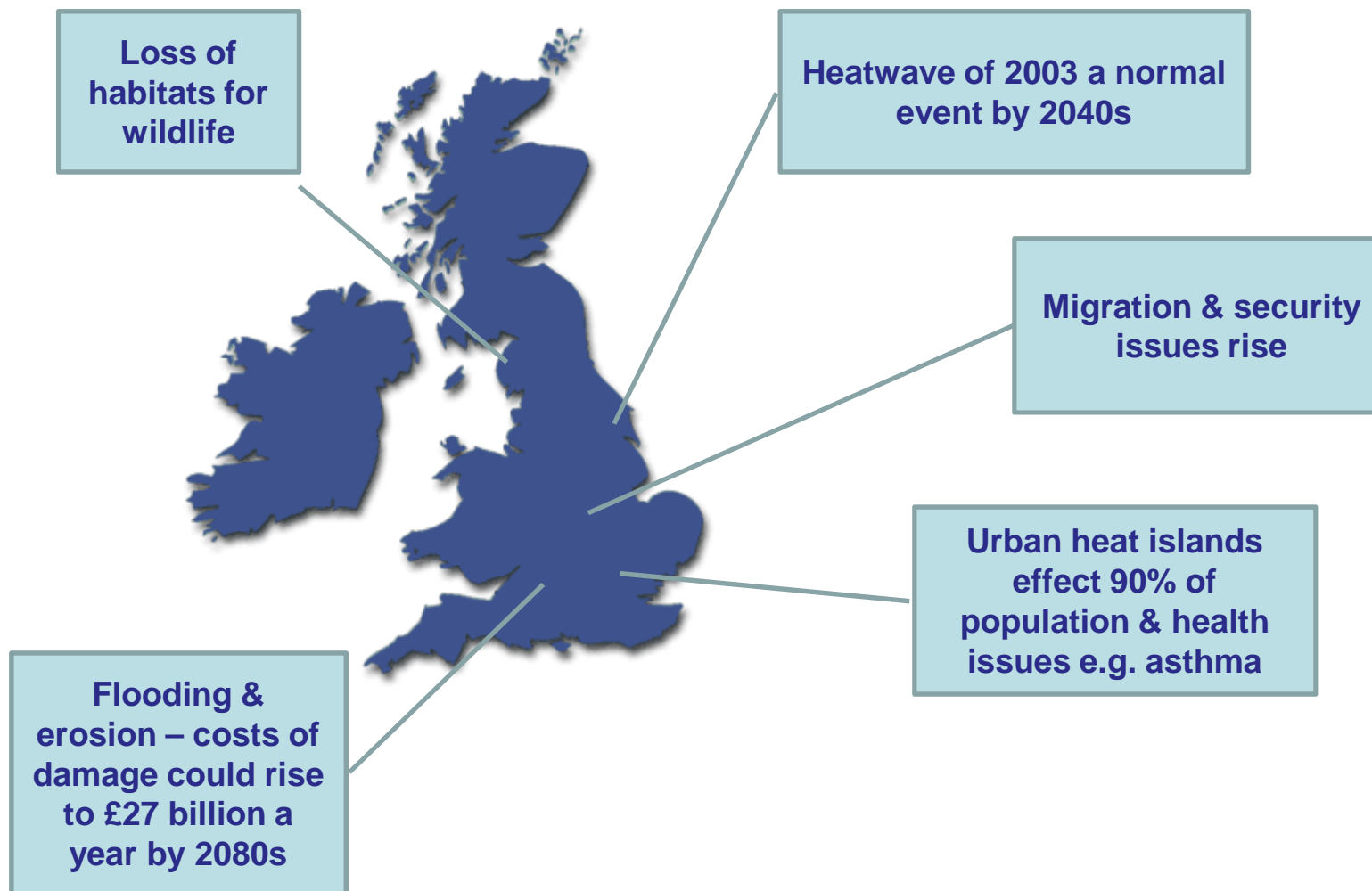
central estimate

90% probability level

very unlikely to be greater than



Why we need to act now – UK impacts



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Required global emissions reduction

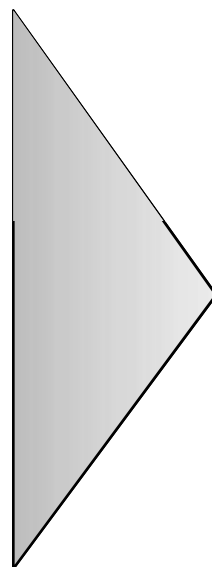
What's changed?

- Advances in science
- Actual emissions higher than forecast

- keep temperature change close to 2°C and probability of 4°C increase at very low level (less than 1%)

Global trajectories considered

- Early or later peak (2015 vs. 2030)
- 3%/4% annual emissions reduction



of 50%

- 20-24 GtCO₂e emissions in 2050
- 8-10 GtCO₂e in 2100

Appropriate UK contribution

50% global reduction

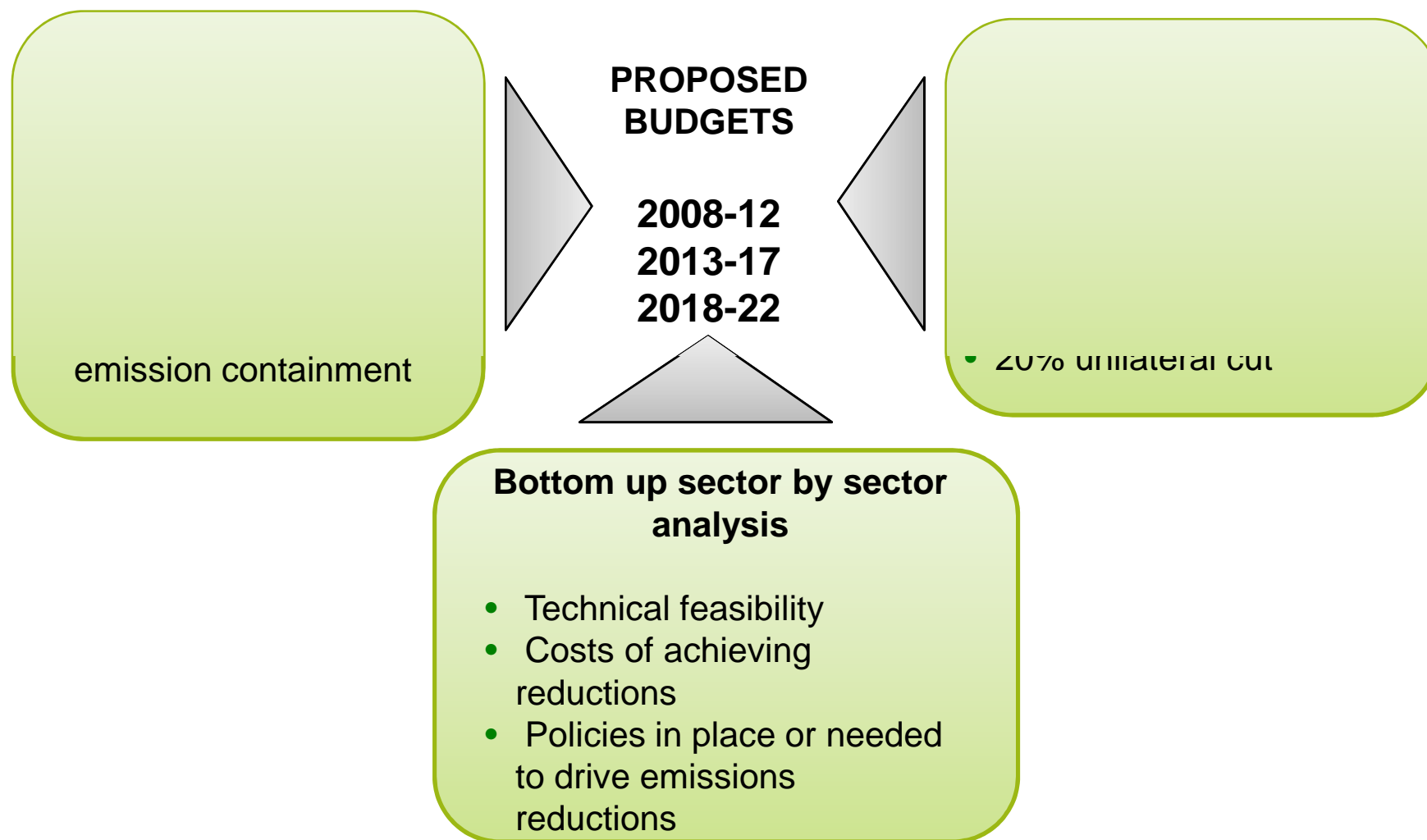
- Equal per capita emissions:
 - 20-24 GtCO₂e total at global level in 2050
 - Implies 2.1-2.6 tCO₂e per capita

All GHGs

2.1-2.6 CO₂e per capita gives a UK reduction of at least 80% in 2050

Aviation and shipping included

Level of budget: factors considered



CCC's proposals for the budget

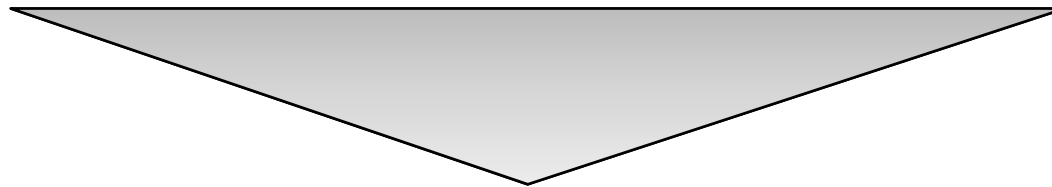


Intended budget

- To apply once a global deal has been agreed

Interim budget

- To apply before there is a global deal
- Should prepare for the Intended budget



Intended: 42% below 1990 in 2020
(31% % below 2005)

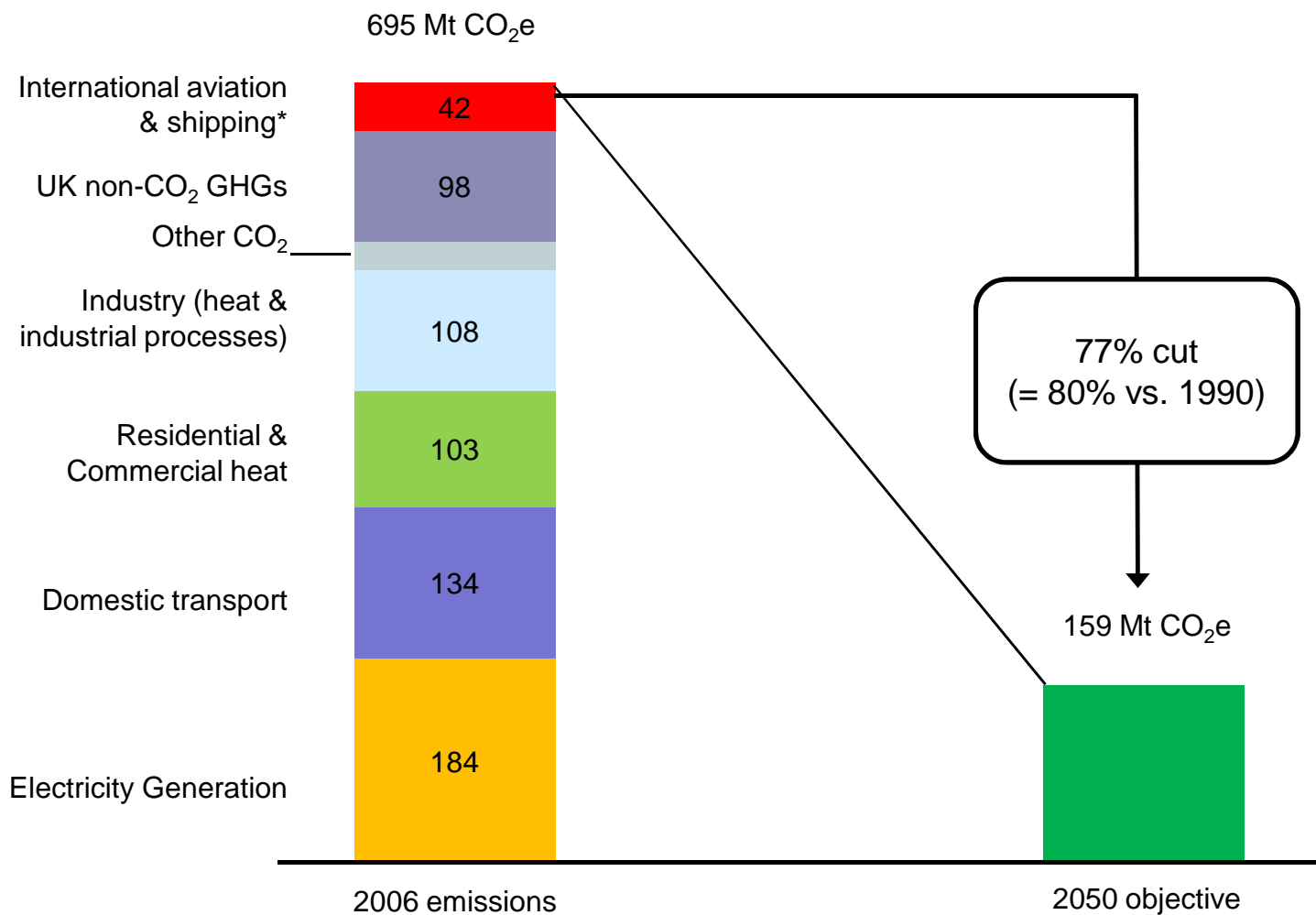
Interim: 34% below 1990 in 2020
(21% below 2005)

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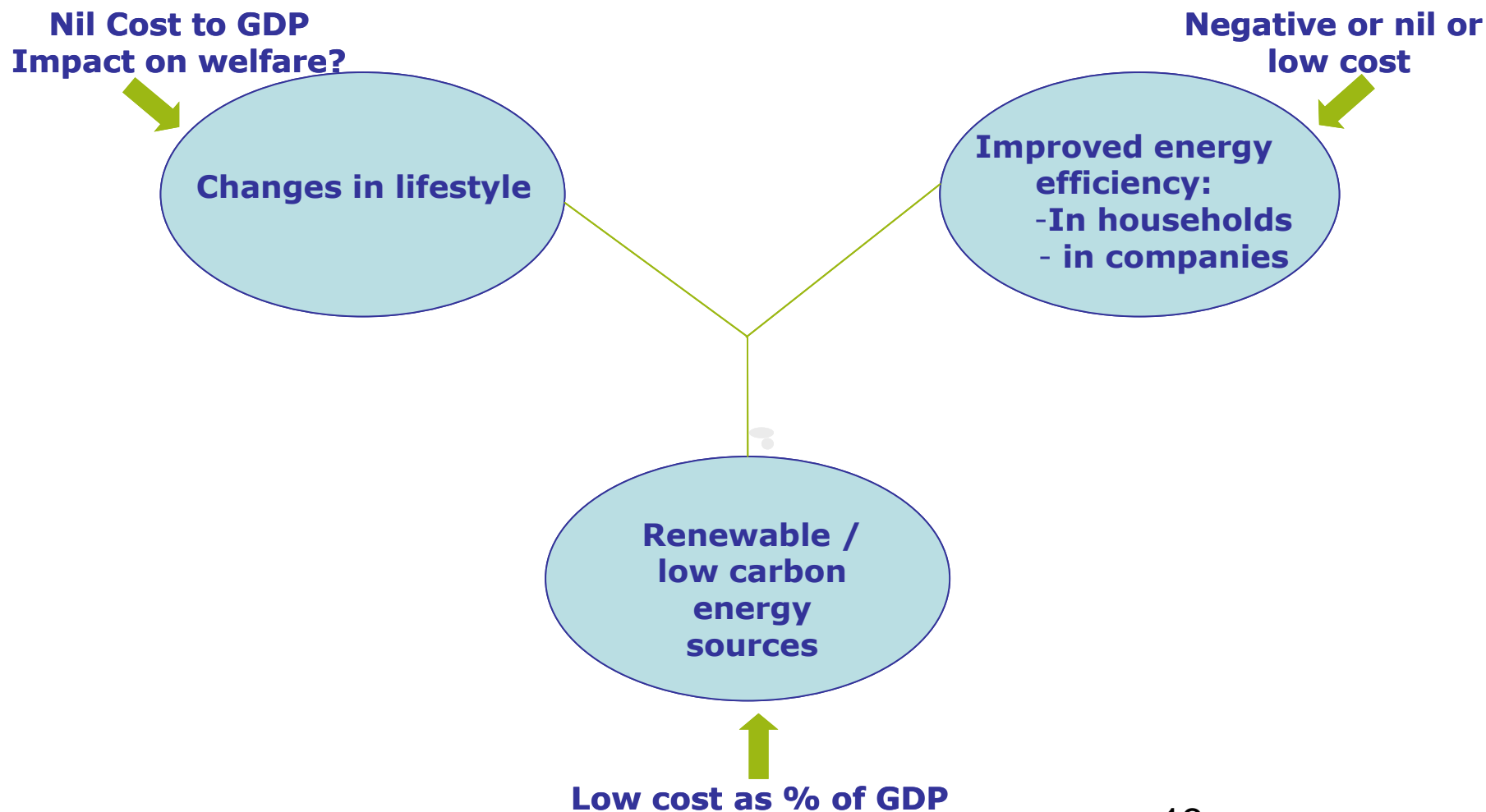
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The scale of the challenge

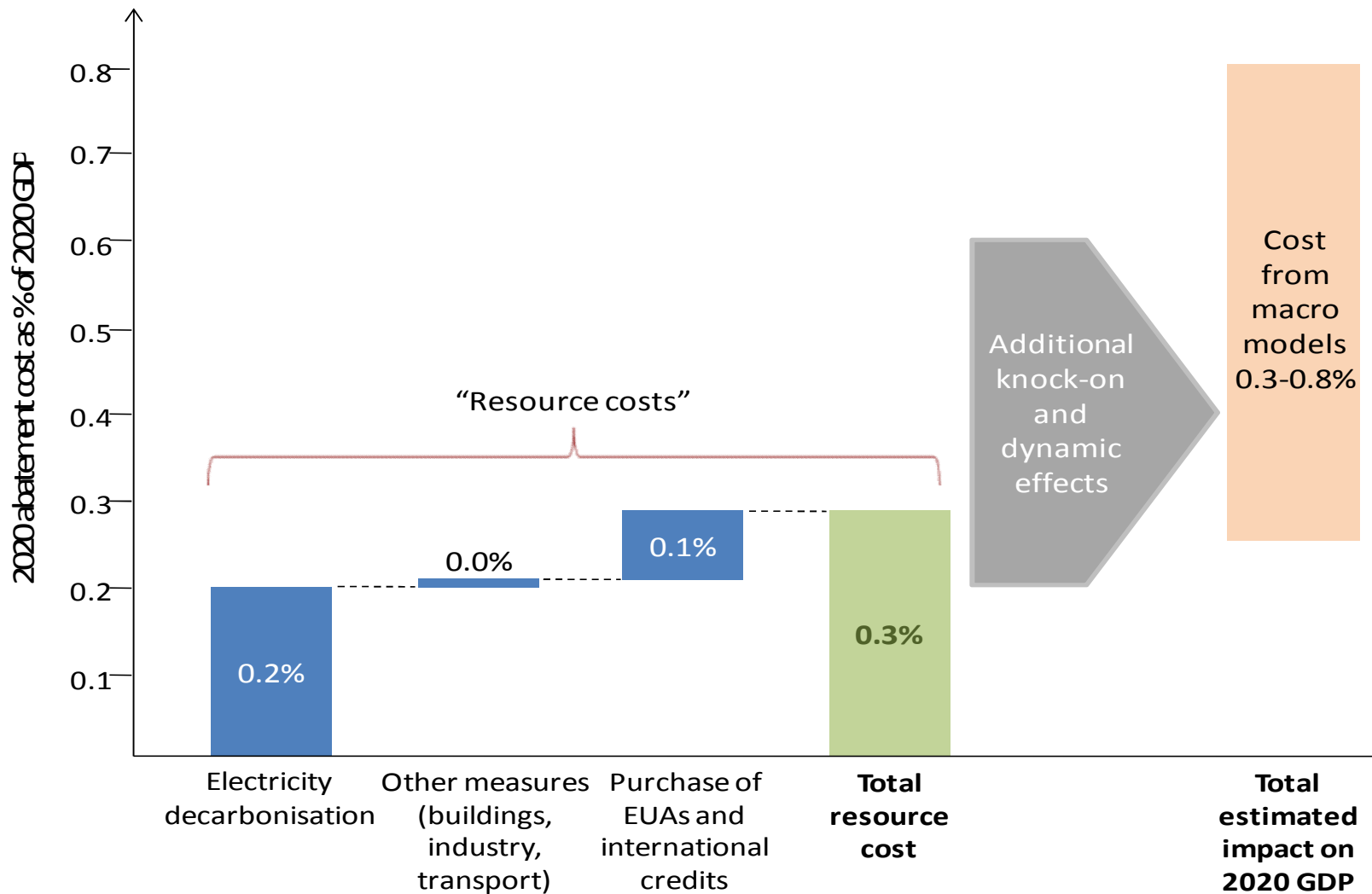


* bunker fuels basis

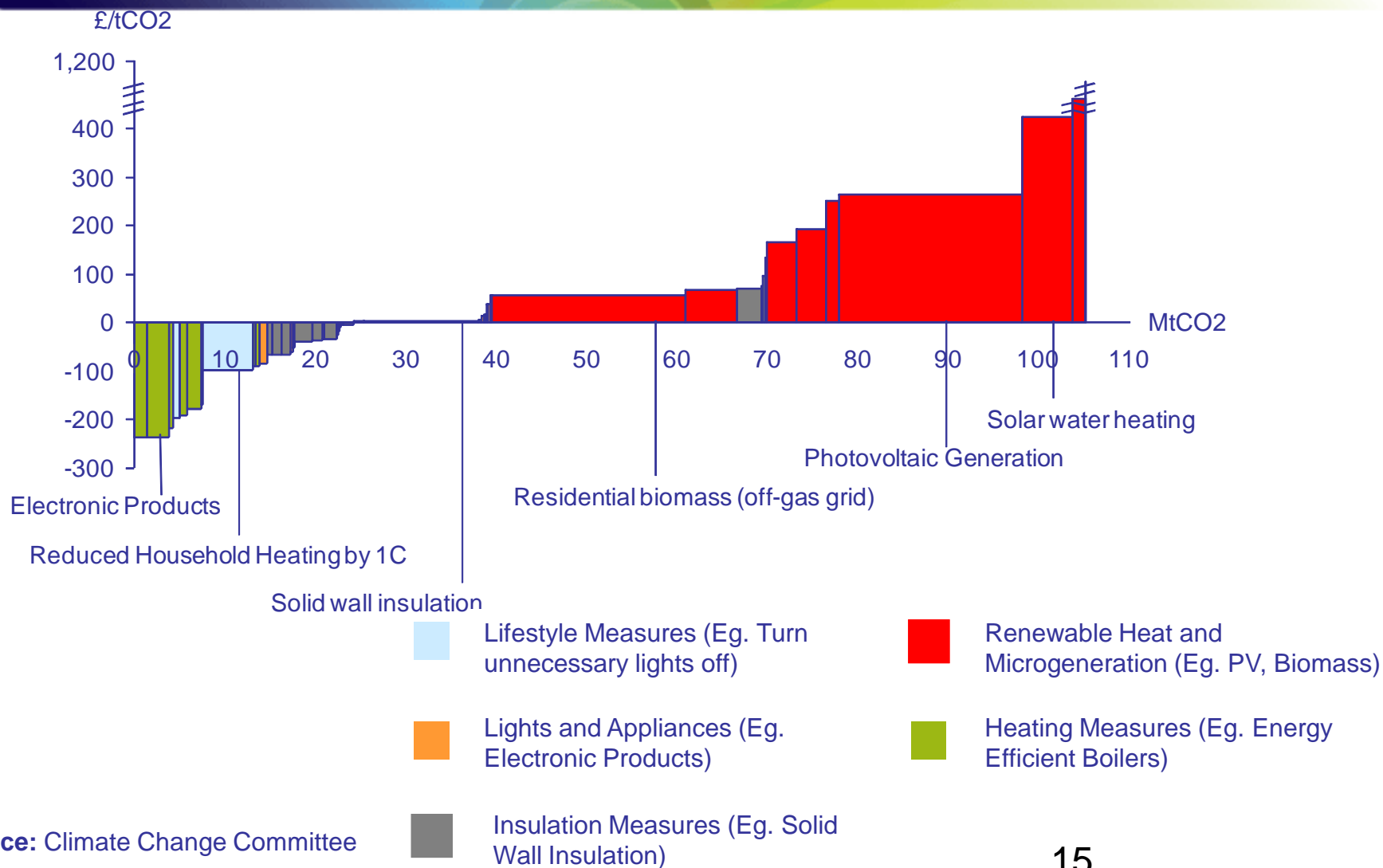
Three ways to achieve emissions reductions



Cost of meeting the budgets



Negative cost efficiency improvements



Source: Climate Change Committee

Feasible emissions reductions



Sector	Emissions reduction (MtCO ₂ 2020)
Power	50
Residential Buildings	32
Non-residential buildings and industry	17
Transport	30
Agriculture	11
Total	140

= 42,500 fully-loaded planes flying across Atlantic and back

Opportunities for Businesses – energy efficiency improvement



Energy efficiency improvement:

- ☉ Business emissions are around 40% of UK total (220 MtCO₂)
- ☉ CCC estimates up to 17 MTCO₂ could be saved by 2022, largely through improved energy efficiency of buildings and industry processes, and different practices (e.g. turning down air conditioning)
- ☉ Carbon Trust suggests scope for up to 70% reduction in energy costs

Policies:

- ☉ EU ETS
- ☉ Climate Change Agreements
- ☉ Carbon Reduction Commitment
- ☉ SMEs???



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Emissions

- ☉ Will there be hot air due to lower GDP?

Carbon Price

- ☉ Will the carbon price bounce back/should it be underpinned

Financing

- ☉ Is there adequate finance for renewable and greening car industry?

Challenges ahead – limits to markets



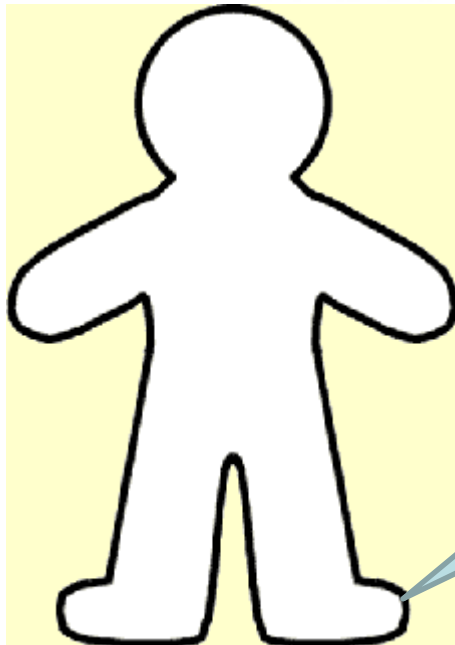
- Ⓒ Low & volatile carbon and electricity prices risk to vital decarbonisation of the power sector
- Ⓒ New conventional coal-fired power stations should only be built on clear expectation they will be retrofitted with CCS capability in 2020s (addressed in recent DECC consultation)
- Ⓒ Provision of CCS infrastructure may best be on basis of statutory monopoly
- Ⓒ Limited uptake of energy efficiency improvements under current market based arrangements
- Ⓒ Government will have to kick start the electric car market

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Individual emissions & cost of acting in UK



The average UK citizen emits 9 tonnes of CO₂ equivalent gases per year.

By 2020 this will need to be reduced to 6 tonnes per person under a 42% budget

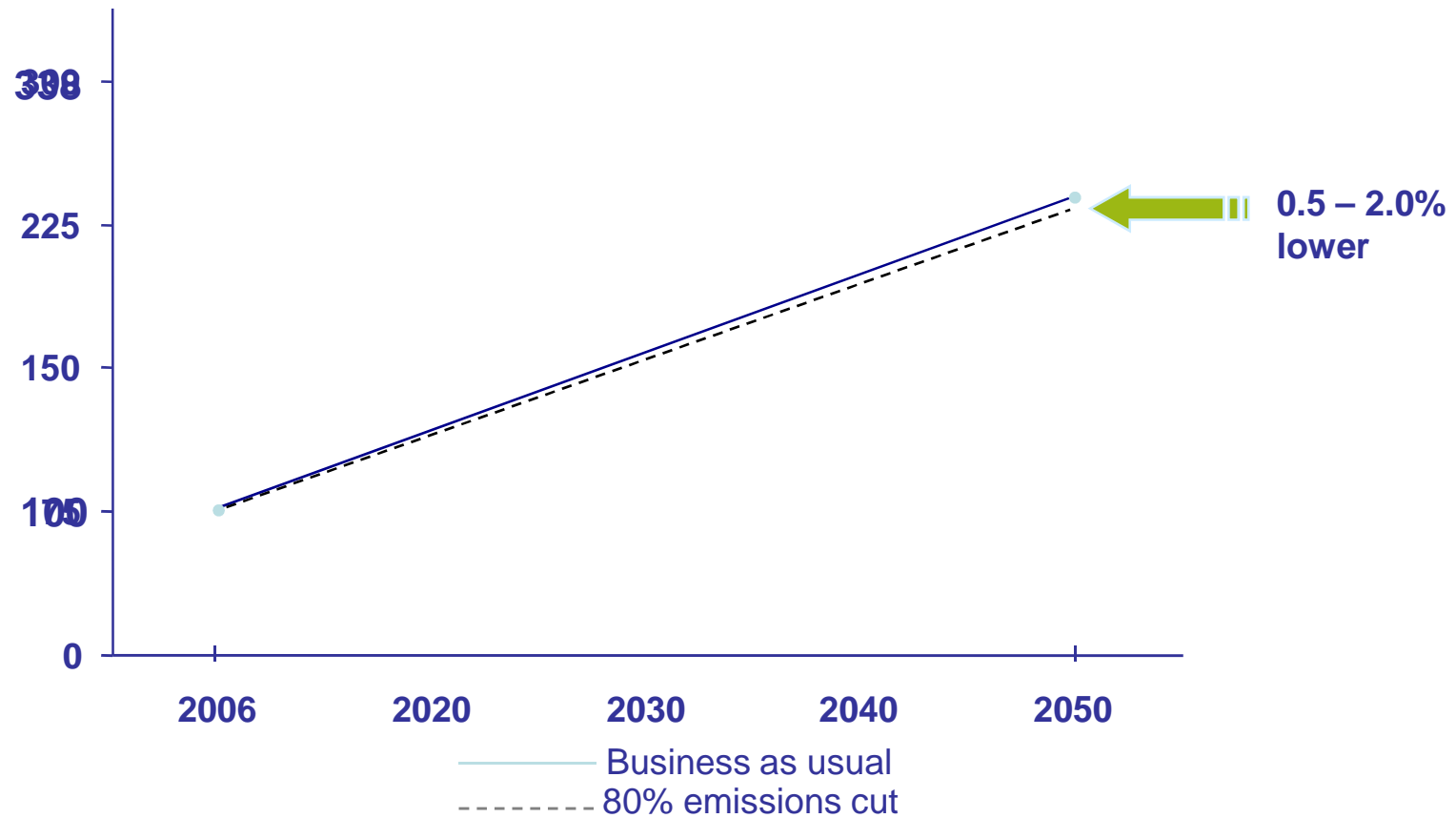


Tackling climate change will cost someone earning £21K now and £24k in 2020, £240 in 2020

Growth in UK living standards: with 80% emissions cut



GDP per capita 2006=100



Conclusion – low-carbon living in 2020



- Energy efficient homes and offices
- More carbon friendly practice e.g. turning down air conditioning
- Electric vehicles / plug in hybrids
- Much that can be achieved by businesses and via CSR work
- New jobs in green economy e.g. wind generation, electric cars.

Opportunities for Businesses – new markets



- ◌ Global market for low-carbon goods and services projected to rise to £4.5 trillion by 2015
- ◌ Offshore wind – UK currently 1st in world. Carbon Trust estimates 70,000 jobs could be created
- ◌ Carbon Capture and Storage – roll out following four demonstrations?
- ◌ Low carbon vehicles (e.g. electric car production)
- ◌ Financial services industry
- ◌ Consulting services