



dti

MEETING THE
ENERGY CHALLENGE

A White Paper on Energy

MAY 2007

Our key long term challenges

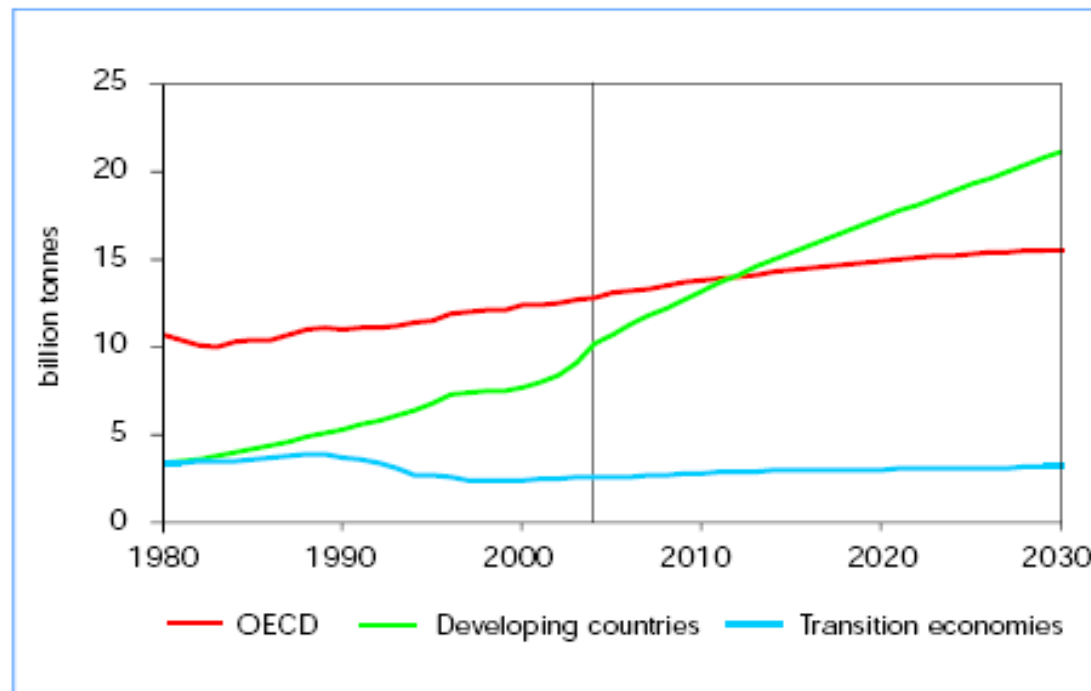
- Tackling climate change
- Ensuring secure, clean and affordable energy as we become increasingly dependent on imported fuel

Context

- Growing evidence of the impact of climate change and need for international effort to tackle it
- Rising fossil fuel prices and slower than expected EU liberalisation
- Awareness of risks from concentration of oil and gas reserves as we become import dependent
- In the UK the need to invest in new energy infrastructure

The climate change challenge I

Energy-Related CO₂ Emissions by Region in the Reference Scenario (IEA, WEO 2006)



Note: Excludes emissions from international marine bunkers.

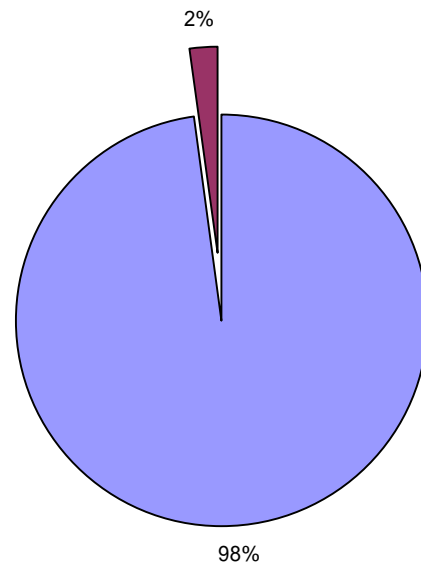
Global primary energy demand will rise by 53% by 2030, leading to a 55% increase in global carbon dioxide emissions.

Over 70% of the increase in energy demand will come from developing countries

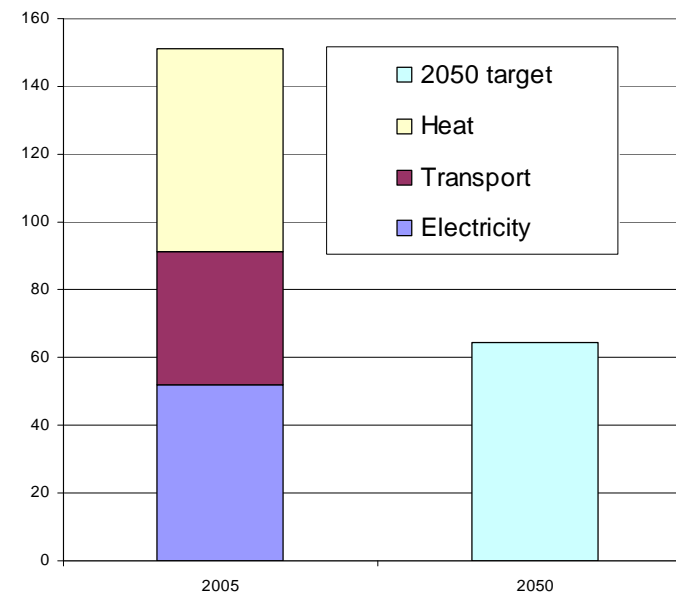
The share of developing countries in world emissions rises from 39% at present to 52% by 2030.

The climate change challenge II

The UK accounts for around 2% of global carbon emissions



Our goal is to put the UK on a path to cutting carbon dioxide emissions by at least 60% by about 2050



The Framework

Principles

- Climate change and energy security are international issues, requiring international action as well as in the UK
- Independently regulated competitive markets are the most cost-effective and efficient way to deliver our goals
- Correcting market failures to align the objectives of market participants with our energy policy goals, e.g. through a carbon price

The Framework

Action

- A long term international framework to tackle climate change
- Legally binding carbon targets for whole UK economy
- More progress in achieving competitive and transparent international markets
- More energy saving
- More support for low carbon technologies
- Right conditions for investment

Microgeneration Strategy

“creating conditions under which microgeneration becomes a realistic alternative or supplementary generation source for the householder, for the community and for small business”.

Addressing key barriers

- Cost
- Information
- Regulatory
- Technical

Cost

- Easier access to ROCs + income tax exemption
- Clearer export reward
- Capital Grants for deployment: LCBP
- CERT/EEC & Supplier Obligation
- Zero Carbon Home policy
- Carbon pricing

Information

- Advice
- Guidance for Local Authorities
- Microgeneration certification scheme
- Energy Performance Certificates (value of home)
- CO2 calculator, billing and metering

Regulatory

- Consultation on permitted development
- Planning Policy
- Ofgem improving incentives for DNOs

Technical

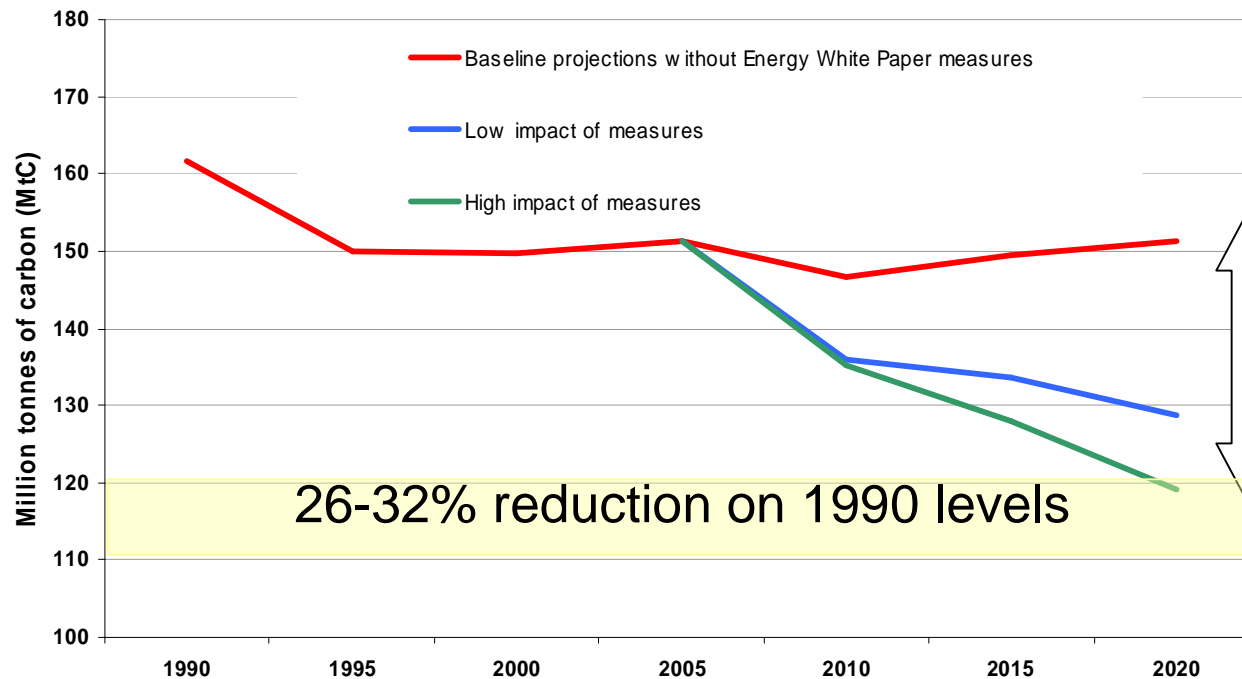
- Smallest generators no longer need permission to connect to network
- New wiring regulations - Jan 2008

Potential and evidence

- EST study –
 - Reduce household emissions by 15% p.a. by 2050
 - Provide 30-40% of UK electricity needs
- DTI funding further work
 - RAB study on zero carbon homes
 - Research on consumer behaviour and future development of market

Impact of our measures – climate change challenge

Projected carbon emissions and carbon impact of our proposals



Together with the EU ETS, we estimate our measures will save 23-33 million tonnes of carbon in 2020

Impact on prices and fuel poverty

- Carbon pricing and RO are already raising electricity prices
- New measures could increase average household prices for electricity and for gas by 2020.
- But they will also improve energy efficiency and help reduce bills
- We estimate our measures will reduce number of households in fuel poverty by around 200,000 by 2010.

Microgeneration: future challenges

- Consumer attitudes & confidence
- Supply-chain, skills
- Industry: moving away from grant funding
- Government: transition from energy efficiency to microgeneration