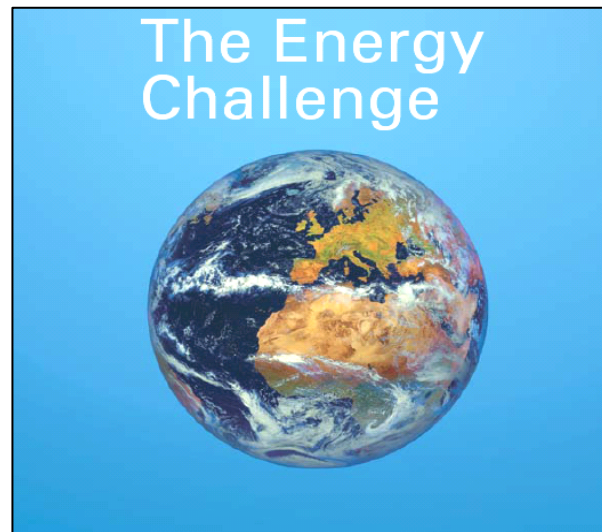




Conclusions from the UK Energy Review



Julian Braithwaite
Counsellor, Global Issues, British Embassy Washington

CSIS 19 July 2006



Why another energy review?

- UK green house gas emissions are down (-14% since 1990) but even more evidence of **urgent need to tackle climate change**.
- **Rising prices** for fossil fuels worldwide
- **Growing UK dependence** on oil and gas imports. We expect 40% gas imports by 2010 rising to 90% by 2020; and a net importer of oil by 2010.
- We will need to **replace power stations** equivalent to one third of existing capacity within 20 years.
- We have competitive **markets** but face reliance on markets that are not.



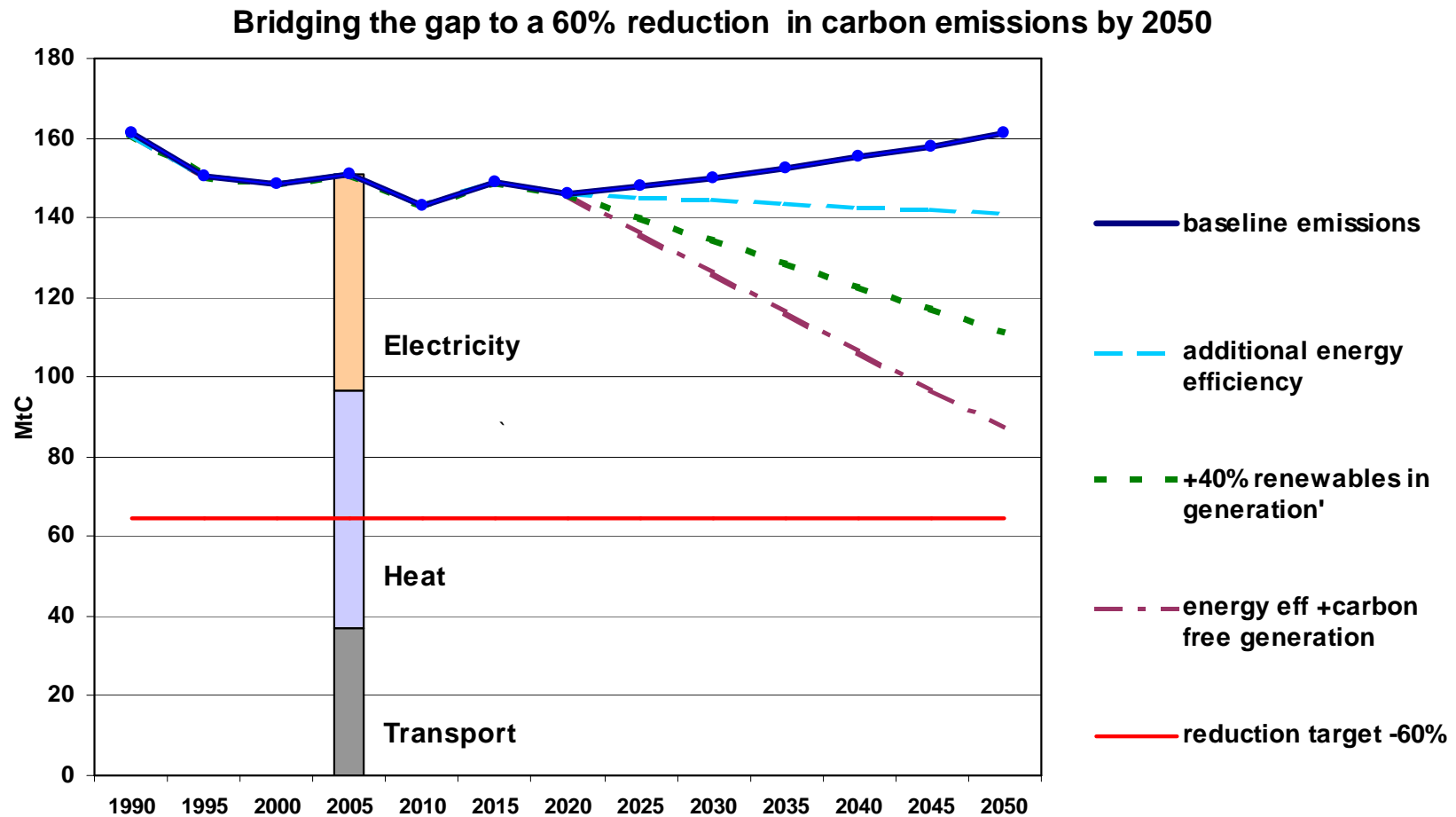
Two Long-Term Challenges for UK energy policy

- Tackling **climate change**/carbon emissions:
 - Saving energy through energy efficiency
 - Promoting cleaner energy technologies
- Delivering **secure energy** supplies

The UK's overall goal is to achieve both with clean energy at affordable prices even as energy import dependency grows

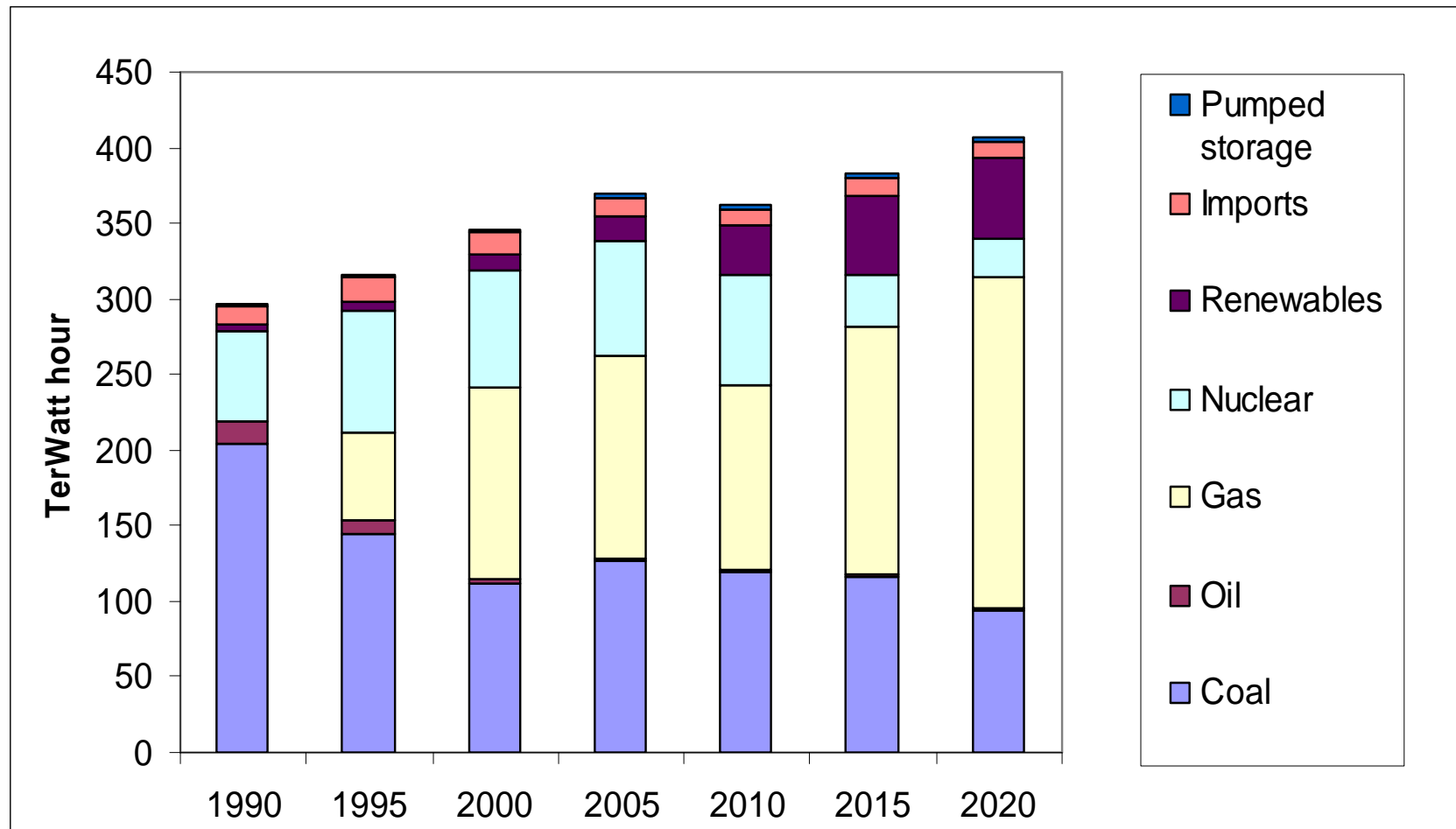


The carbon challenge: emissions



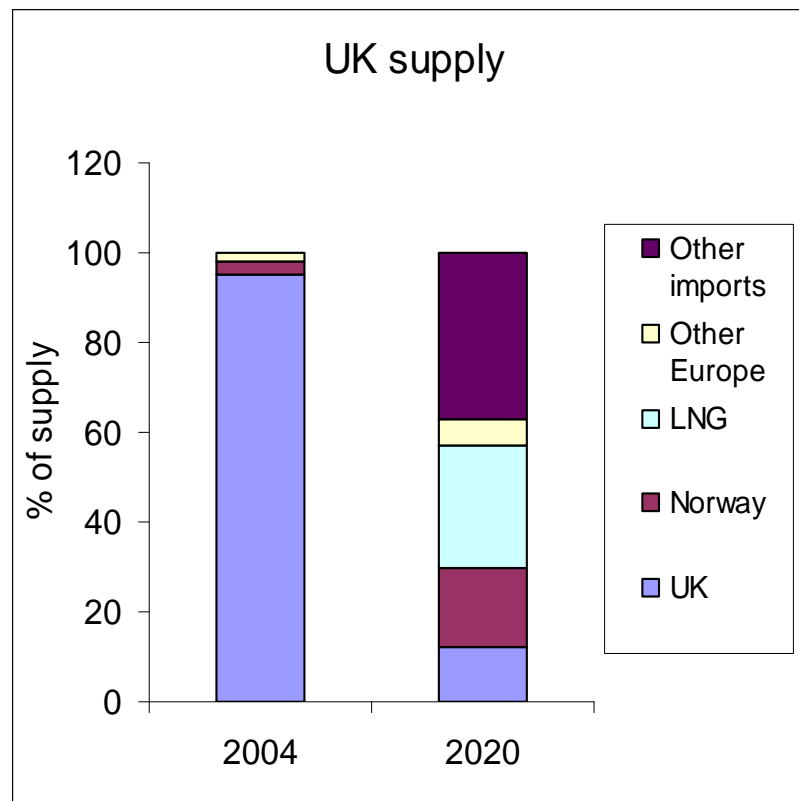


The carbon challenge: electricity





The energy security challenge: risks from increased dependence on imported gas



Wood Mackenzie, 2004

Risks:

- Political
- Insufficient investment
- Ineffective markets
- New infrastructure
- Long supply chains



Developing a credible international carbon framework

- Climate change – needs to be tackled internationally.
- European Union **Emissions Trading Scheme**:
 - Creates **carbon price** - strong incentive for more energy efficiency and investments that help reduce carbon emissions
 - But need to **improve the scheme's** effectiveness



Reducing the demand for fossil fuels: changing consumer behaviour

- Raise **energy efficiency standards** for new homes, cars, appliances in the UK, and for tighter vehicle emission standards for the EU auto industry
- Consulting on options to **drive carbon savings from large scale commercial users** (e.g. supermarkets using a new UK cap and trading scheme)
- Encourage **household energy saving** by incentivising energy suppliers and better billing information for consumers
- **Government to lead** by example
- **Key fact:** *If every UK household installed 3 energy efficient light bulbs it would save enough energy in a year to supply all UK street lighting*



Reducing the demand for fossil fuels: transport, micro-generation and distributed power

- UK will depend on fossil fuels for vast majority of our **transport & heat** in medium term (oil >90%, gas >70%)
 - Transport innovation strategy
 - Increase use of biofuels in road transport
- Encouraging **microgeneration, distributed energy and Combined Heat and Power**
 - Planning
 - Requiring energy suppliers to buy back surplus electricity
 - Fundamental review of the barriers and incentives to distributed energy including Combined Heat and Power
- **Key fact:** *10% biofuels obligation is equivalent to taking 2 million cars off the road*
- **Key fact:** *Huge potential for localised energy: by 2050 household sector could be net exporter of electricity*



Reducing the demand for fossil fuels: a new generation of cleaner fossil fuel power plants

- **Need up to 25GW of new capacity** over next 15-20 years
 - around third of today's existing capacity.
- **Opportunity:**
 - low carbon investments provide carbon savings for 20-40 years;
- **Risk:**
 - each new unabated fossil fuel plant locks in higher carbon emissions for 20-40 years



Encouraging low carbon investment: reducing uncertainty and sending a clear signal

- **Set out Government's position on:**
 - Carbon price and EU ETS
 - Nuclear new build
 - Renewables and the Renewables Obligation
- Improve energy **market information**
- Improve **planning process** for all large scale electricity projects



Encouraging low carbon investment: nuclear

- Clear Government statement on national need for nuclear power (i.e. EPACT 2005)
- **Pre-licensing**
- Strategic **site assessment**
- But **for private sector** to initiate, fund, build and operate any new plants.
- Developers to make secure arrangements for **decommissioning** and (full share of) waste costs
- **Key fact:** *If we don't replace nuclear plants, UK will generate 8 mtc more of CO₂ by 2020.*



Encouraging low carbon investment: Renewables and Cleaner Coal

- **Renewables:**
 - Strengthen Renewables Obligation towards 20%
 - Consult on restructuring to encourage new technologies
 - New funding through Environmental Transformation Fund
 - Remove obstacles to Carbon Capture and Storage, biomass and distributed generation.
- **Coal production and cleaner coal**
 - Coal Forum scheduled to meet
 - Further examine cost effectiveness of carbon capture and storage demonstration – PBR statement
 - Significant opportunity for collaboration with the US



Enhancing UK's Security of Supply

International action

- Promote open, transparent and competitive markets
- Strengthen international contingency arrangements

Action at home

- Improve North Sea investment framework
- Use less energy
- Improve investment framework for energy infrastructure including a streamlined planning process
- Better energy market information
- Consult on options for improving gas security of supply



The impact: carbon savings

- Annual carbon savings of 19-25 MtC in 2020¹
 - 6-9 MtC from energy efficiency
 - At least 8 MtC from EU ETS
 - 2-3 MtC from transport measures
 - 1-3 MtC from cleaner electricity
 - 2-3 MtC from tighter building regulations

¹ numbers do not sum exactly due to rounding



The impact: improved Energy Security

- Our measures reduce projected 2020 gas consumption by 11 – 17% by:
 - Reducing energy use
 - Encouraging low carbon electricity generation
- And improve the framework for investment to deliver timely investment of the right type.



The impact: tackling high prices

- Global risk of high energy prices
- We are responding by:
 - Promoting competitive markets here and abroad
 - Helping the market work better
 - Encouraging energy efficiency to lower bills
- Fuel poverty
 - Need to better target existing support; and
 - work with energy companies and others to keep under active review effectiveness of current measures



Next Steps

- **Consultations**, including:
 - Energy saving on households
 - Emissions reductions from commercial and public sectors
 - Planning for household microgeneration
 - Gas security of supply
 - Policy framework for nuclear new build
 - Changes to the Renewables Obligation
 - Planning (gas, large scale electricity)
- **Coal Forum**
- **Distributed Generation**: Foresight and HMG/OFGEM studies
- **Energy White Paper** around turn of year



For More Information...

- www.dti.gov.uk/energy/review
- www.britainusa.org