2007 Energy White Paper

Challenges

- Climate Change
- Clean, affordable energy

Context

- Impact of climate change –
  - reduction of CO_2
- Rising fossil fuel prices –
  - increasing reliance on imported fuel
- Concentration of resources in fewer regions of the world
- Need for new investment

Strategy: Needs

- Save energy
- Cleaner energy supplies
- Reliable energy supplies

Strategy: Key Elements

- International framework to tackle climate change
- Legally binding carbon targets
- Progressively reducing emissions
- Competitive and transparent international markets
- Encourage energy saving
- better information, incentives and regulation
- More support for low carbon technologies
- Ensure the right conditions for investment

Saving energy: business

- Mandatory cap and trade scheme
  - EU Energy Trading Scheme (ETS)
- Carbon Reduction Commitment
- apply to the largest organisations
- Energy Performance Certificate

Saving energy: households

- new homes to be zero carbon
  - Mandatory from 2016?
  - Decision later this year.
- Improve the energy efficiency of existing homes
- More informed energy choices
- Energy Performance Certificates

Saving energy: transport

- Mandatory standards for the fuel efficiency of new cars
- Inclusion of aviation in the EU ETS
- Company Car Tax and Vehicle Excise Duty favours fuel efficient vehicles

Saving energy: public sector

- Participate in Carbon Reduction Commitment scheme;
- Condition of Government funding that all new social housing comply with level 3 of the Code for Sustainable Homes;
- Large Government buildings to display Energy Rating Certificate
- Energy efficiency standards for Government procurement of goods and services

Clean energy supplies: Heat and distributed energy

- improved energy efficiency
- long-term possibilities for large scale alternatives to gas
- use of hydrogen and low carbon electricity
  - costly new infrastructure required for hydrogen
- distributed or decentralised energy
  - microgeneration,
  - district heating schemes,
  - CHP and biomass fuelled heating at community and industry scale

Clean energy supplies: Heat and distributed energy

- Encourage distributed electricity and heat generation
- Market & Licensing arrangements for distributed, low carbon supply
- Greater clarity on the terms offered to microgenerators for export to the grid;
- Information and advice to those considering distributed energy
- Ensure more efficient and speedy connection to networks

Cleaner large scale electricity generation

- Substantial investment needed in next 20 years
- Take account of cost of carbon
  - EU Emissions Trading Scheme

Renewable electricity

- Renewables 10% by 2010
- aspiration to double this by 2020
- Renewables Obligation (RO) the main mechanism.
- Lower barriers to renewables investment
  - Changes to planning planning regulations

Fossil fuel electricity generation

- carbon capture and storage
  - Not yet proven on a commercial basis
  - Commercial scale demonstration

Nuclear power

- Nuclear power currently 18% of electricity generation
- Without nuclear power carbon emissions 5 to 12% higher in 2004
- Most existing stations due to close in the next 15 years
- Government's preliminary view
  - in the public interest to give the private sector the option of investing in new nuclear power stations
  - subject to the consultation

Low carbon transport

- Increasing the fuel efficiency of vehicles and choices we make in using them
  - or of alternative transport
- longer term in innovation in vehicle design
- Progress in using cleaner fuels in the near-term and to
- Explore alternative fuels for the longer-term
- Renewable Transport Fuel Obligation
  - 5% biofuels

Renewable energy: bringing the elements together

- Electricity
  - Strengthen and modify the RO
  - Reforming the planning system
  - Removing barriers to the growth of decentralised generation
- Heat
  - Publish Biomass Strategy which
  - Identifies opportunities for use of renewables
  - Develop a more strategic approach to heat

Renewable energy: bringing the elements together

- Transport,
  - RTFO requires increasing proportion of transport fuel from renewable sources
- Establish Energy Technologies Institute
  - Devoted to the R & D into emerging low carbon technologies
    - including for transport

Security of supply

- Two main security of supply challenges:
  - Increasing reliance on imports of oil and gas
  - Need for substantial, and timely, private sector investment in
    - Gas infrastructure,
    - Power stations
    - Electricity networks.
- Maximising economic production domestic fossil fuel reserves
- Effective and transparent international energy markets
- Improving the UK's energy investment framework

Fuel poverty

- Ensure every home adequately and affordably heated
  - Warm Front programme
  - Winter Fuel Payment
  - Better targeting of existing assistance
- Need to do more

Summing up

- Strengths & Weaknesses?
  - Anything missing?
- Barriers to implementation?