EEWP Expert Workshop

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UK

Four objectives of energy policy

- Get on path to cut CO2 emission by 60% by 2050
- Maintain reliability of energy supplies
- Promote competitive markets in UK and beyond
- Ensure every home is adequately and affordably heated

UK policy framework – set out in Energy White Paper – will enable all four objectives to be met

Four top level indicators for four objectives

- **Low carbon** – Greenhouse gas and CO2 emissions
- **Reliability** – Gas and Electricity capacity margins – maximum supply and maximum demand
- **Competitiveness** – Overall competitiveness score for selected EU energy markets
- **Fuel poverty** – Number of households in fuel poverty

Linking policy and indicators (1)

Achieving our objectives means:

- Policy actions eg developing energy services: new planning guidance for renewables: Warm Front programme
- Monitoring outcomes through (a) the evaluation of policies "bottom up" and (b) indicators "top down"
- Four key indicators: 27 supporting indicators: suite of 128 background energy indicators

Indicators published alongside first annual report on Implementation of the Energy White Paper

Linking policy and indicators (2)

- Full range of indicators published alongside first annual report on implementation of EWP
- Indicators on security of supply published with annual report of Joint Energy Security of Supply Working Group
- Indicators on fuel poverty published alongside annual reports on Fuel Poverty

Commitments to reducing carbon emissions

- National goal to move towards 20% reduction below 1990 levels by 2010
- Aim for cuts of 15-25 MtC below EWP forecast (on current policies) for 2020

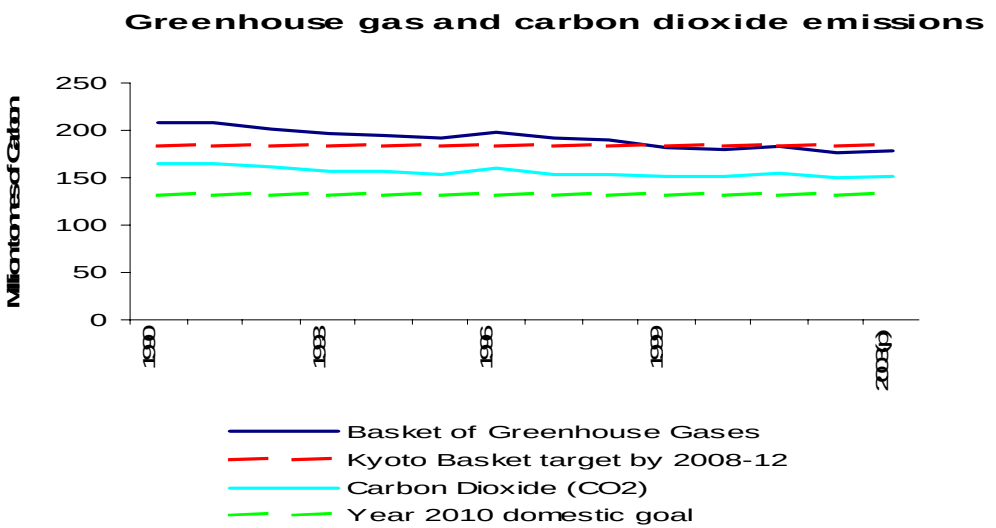
To be achieved through

- Doubling rate of energy efficiency improvement
- Energy efficiency to account for around one half cuts in Climate Change Programme and one half further 15-25 MtC needed by 2020
- Aim that renewables supply 10% electricity by 2010. And 20% by 2020

Also CHP target and need for cleaner vehicles and fuels

Key indicator for low carbon economy

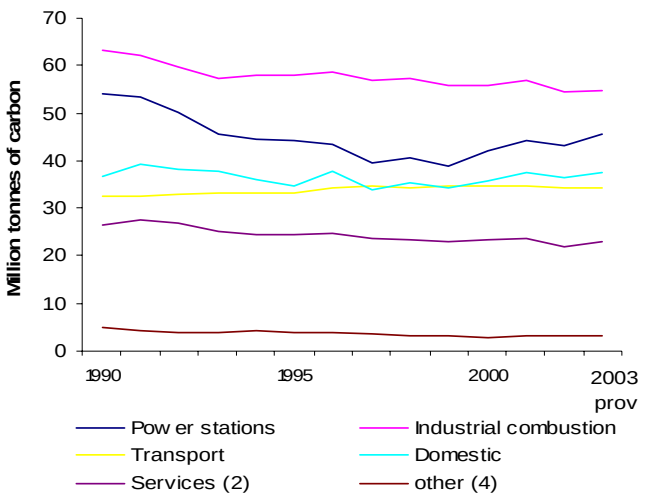
1. Greenhouse gas and CO2 emissions



Supporting indicators on carbon

1.1 CO2 emissions by sector

Chart 1.1 Carbon Dioxide emissions by sector



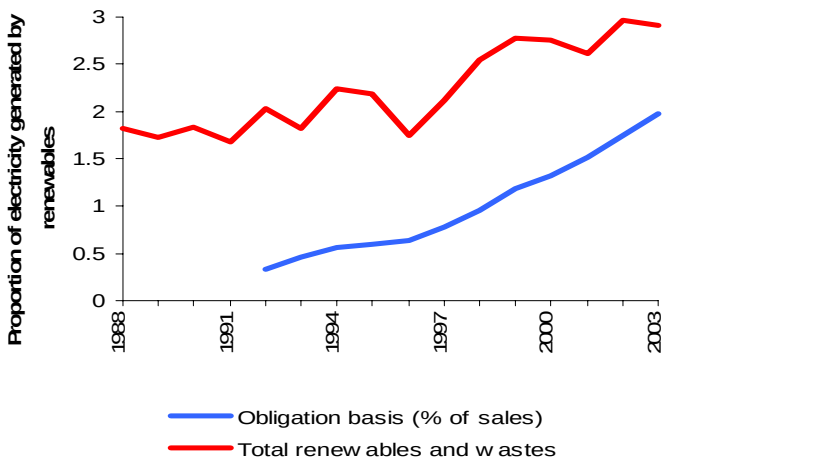
1.3 Carbon intensity

1.11 Average new car CO2 emissions

Support indicators on fuel use

1.6 Proportion of electricity generated by renewables

Chart 3.6:
Proportion of electricity generated by renewables
1988 to 2002



Source: Department of Trade and Industry

* 2003 data are broad estimates based only on provisional increases in capacity and large scale hydro generation.

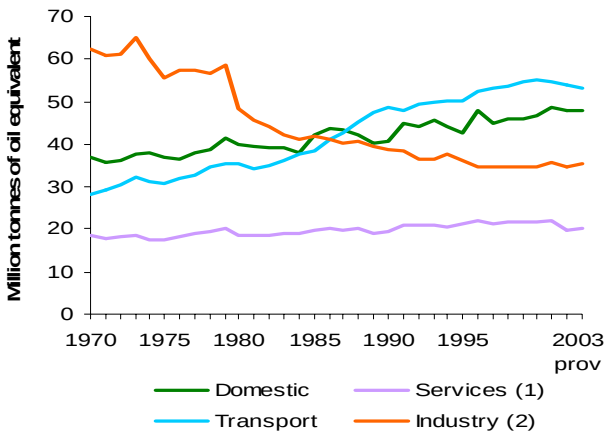
1.5 Shares of fuels contributing to energy supply

1.7 CHP capacity for electricity generation

Support indicators on energy efficiency

1.2 Final energy consumption by sector

Chart E11.2:
Final energy consumption by sector, 1970 to 2003



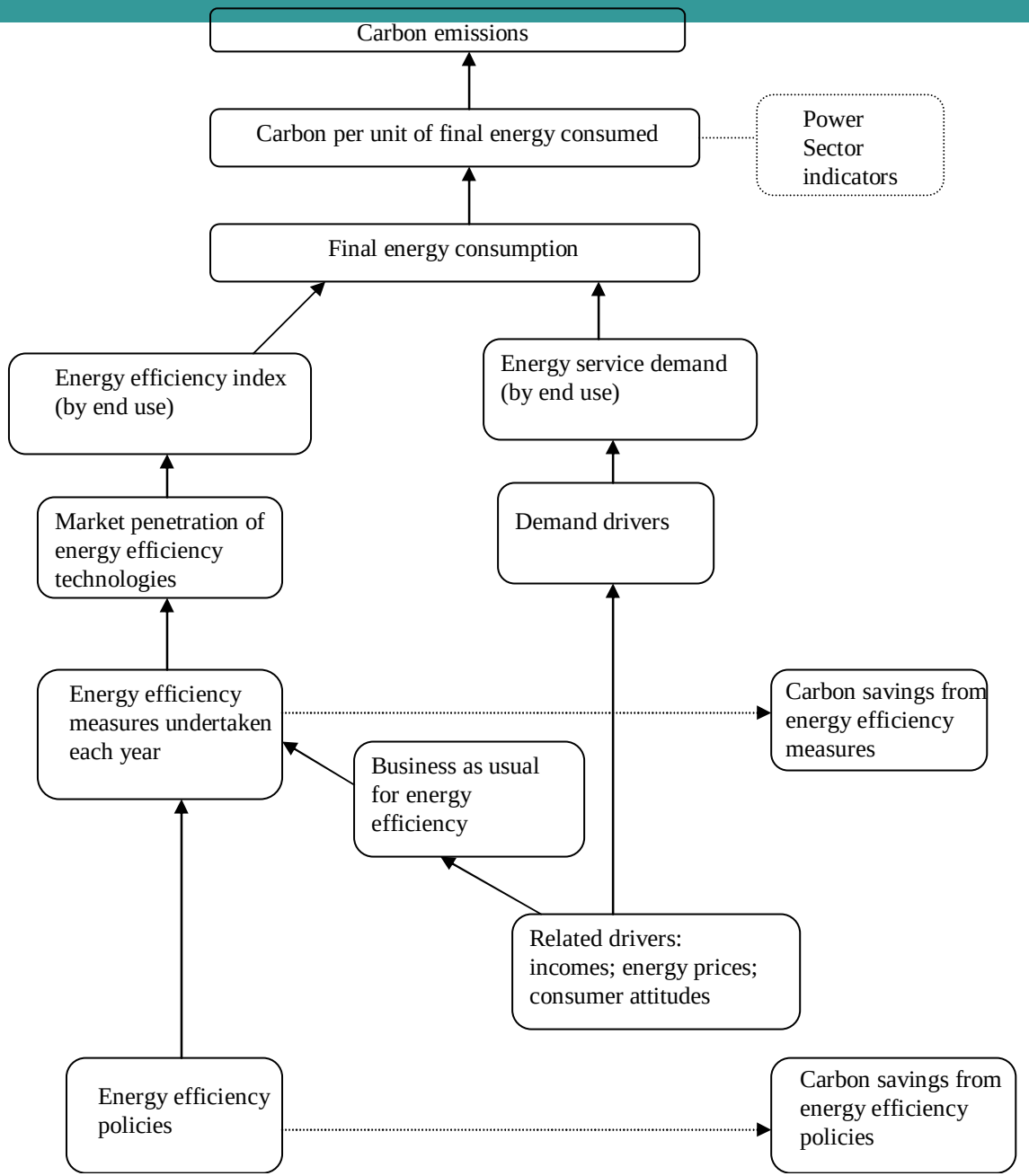
(1) Services include the commercial sector, public administration and agriculture.
(2) Industry incudes construction.

Source: Department of Trade and Industry

1.4 Energy ratio in G7 countries
1.8/1.9 Energy ratio and energy intensity by sector over time
1.10 Specific energy consumption for households

Suite of key, supporting and background indicators:

- Have partial hierarchical structure eg energy ratio is supported by sector intensities, sector intensities are sometimes further subdivided – decomposition analysis – that explains changes in highest level indicators eg carbon emissions but explanation is incomplete
- Provide information to support policy development. Key issues are evaluating the impact of programmes and quantifying their impact
- Now looking to develop more complete hierarchical framework to better link bottom up policy evaluation and the indicators


Carbon emissions
Carbon per unit of final energy consumed
Power Sector indicators
Final energy consumption
Energy efficiency index (by end use)
Energy service demand (by end use)
Market penetration of energy efficiency technologies
Demand drivers
Energy efficiency measures undertaken each year
Carbon savings from energy efficiency measures
Business as usual for energy efficiency
Related drivers: incomes; energy prices; consumer attitudes
Energy efficiency policies
Carbon savings from energy efficiency policies

Implementing the hierarchy

- Some elements already well covered eg total carbon emissions, final energy consumption by end use
- Work underway on energy efficiency indices and energy services demand
- Policy commitments relate to different levels of hierarchy
- Propose to extend same approach to industrial services and transport sectors

Conclusion

- High level indicators are key part of communicating UK sustainable energy strategy and progress with its implementation
- Suite of supporting and background indicators helps us to evaluate policies and understand the evolution of top level indicators
- Developing indicators of energy efficiency and energy service demand to better understand trends in energy use
- Hierarchical set of indicators will better link trends in top line carbon emissions, energy efficiency and bottom up policy evaluations