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GSHP association: annual conference and exhibition

UK Heat Policy and the Renewable Heat Incentive

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The UK's energy targets are challenging – and legally binding



- Stay within the carbon budgets set by the recent Climate Change Act, and confirmed in Budget 09
- Reduce UK greenhouse gas emissions 80% by 2050
- Source 15% of our total energy supply from renewable sources by 2020
 - *i.e. 15% of all energy used for electricity, heat and transport*

This summer the Government will publish an integrated strategy on climate change and energy



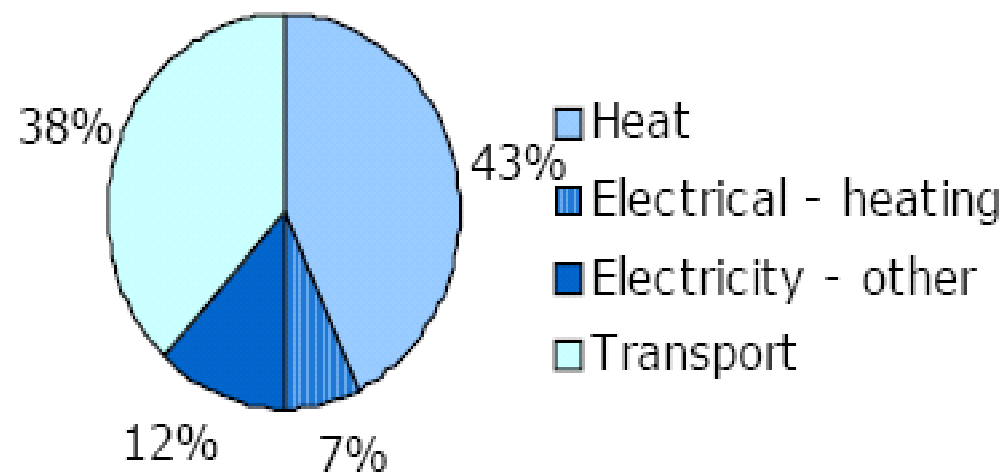
This is our response to the challenges:

- **Climate Change Act 2008** requires us to set out “policies and proposals” to meet carbon budgets to 2022.
- Our delivery ambition has increased, e.g. we need more energy from **renewables** and we need to step up household **energy efficiency**.
- These will also have **consequences beyond just climate policy** e.g. need for changes to the energy system, need to address the impact on consumers, including the fuel poor
- We need to ensure that decarbonisation is a key part of **economic recovery**, with a focus on building low carbon business and jobs.
- All of this adds up to a need to be clearer about the **strategic leadership role of Government** and the private sector

Our aim is to produce a White Paper that shows we have a coherent, comprehensive climate and energy plan

Heat is a key part of the story

Figure 1.1: UK final energy demand 2005



Source: BERR Energy Trends 2007

Heat is half the battle



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- Heat production is responsible for 49% of the final energy consumed in the UK, and 47% of the carbon emissions (2005)
 - Meeting the UK's 2020 and 2050 carbon reduction targets will require a shift to low carbon heating and cooling
 - Heat is also central to security of supply issues
 - Meeting the 2020 EU target on renewable energy will require a large contribution from renewable heat

A closer look at the 2020 EU renewables target



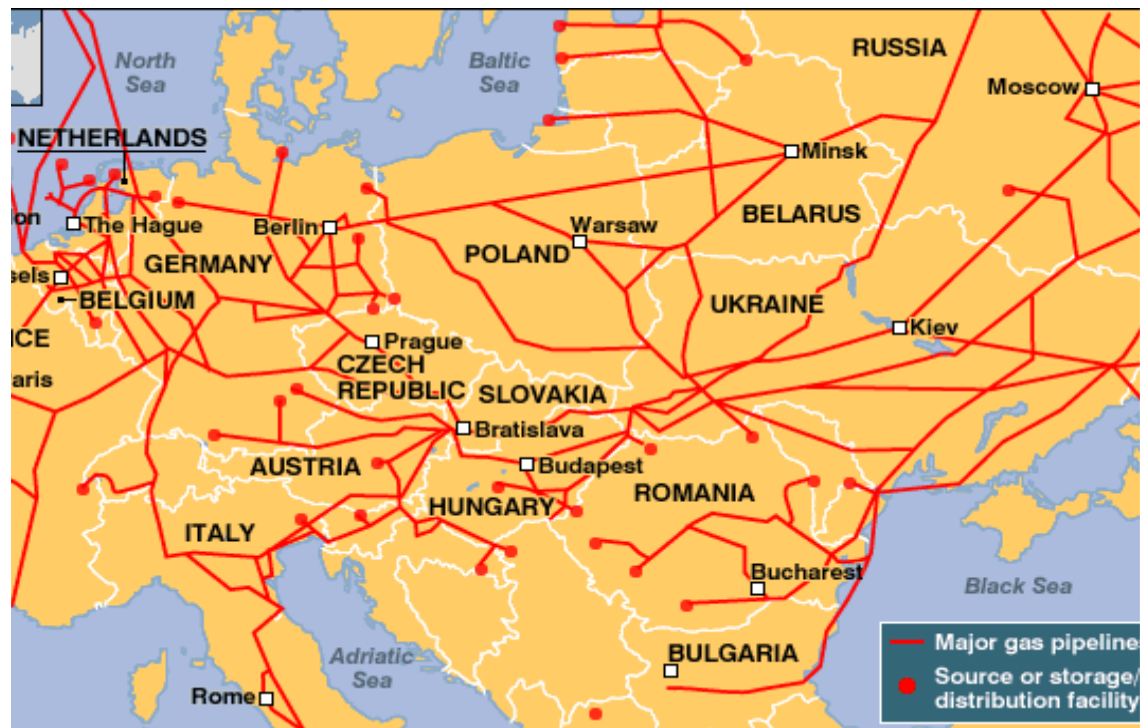
- Target agreed in 2007 for 20% of final energy demand across the EU by 2020. UK's share is 15% (from 2%)
- Consultation on the Renewable Energy Strategy (June 2008) suggested a scenario:
 - 32% of electricity from renewables (5% at present)
 - **14% heat from renewables (0.6% at present)**
 - 10% renewable transport fuels (2% at present)
- Final RES to be released in July will update scenarios

NB: RES will outline scenarios - not a prescriptive plan. Ultimately market will decide most efficient mix of technologies.

2020 EU target is not just about Carbon

Percentage of gas consumed sourced from Russia during 2005-06 gas crisis

- Germany - 39%
- Italy - 30%
- France - 26%
- Slovakia - 103%
- Finland - 100%
- Bulgaria - 94%
- Lithuania - 84%
- Greece - 81%
- Austria - 74%



→ Security of Supply is also a factor for many EU members

The Renewable Energy Strategy will be part of the summer strategy



- The 'Renewables Obligation' provides financial support to renewable *electricity*. Has been banded from April 2009. Expect large increases of on- and off-shore wind generation.
- Renewable Transport Fuel Obligation supports renewable *transport fuels*.
- Feed-in tariffs will be introduced for small scale low carbon electricity from 2010.
- Renewable Heat Incentive from 2011.

Clear that 'business as usual' policies will not deliver renewable heat at the scale required by the 2020 target.

What do we mean by 'Renewable Heat'?



Well known renewable heat technologies include heat pumps, biomass, solar thermal, biogas, heat from waste...

- Any definitional issues need to be resolved at EU level (Renewable Energy Directive: 2009/28/EC) e.g. minimum efficiency standards and measurement of renewable output for heat pumps.
- Hard to make robust heat renewable prediction of which technologies will lead the move to more renewable heat market development up to 2020.
- Directive refers to cooling: but limited scope

The Renewable Heat Incentive



In the Energy Act 2008 provides enabling powers for the establishment of a **'Renewable Heat Incentive'** (RHI).

RHI will provide financial support to generators of renewable heat across technologies and scales.

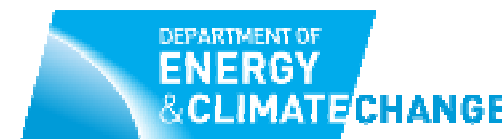
Developing the legal framework and supporting mechanisms for the RHI is a large task - no existing legislation to build on.

Funded by a levy on suppliers of fossil fuels for heat.



**We expect the RHI to be in place by April 2011.
It is intended to drive a major expansion
in the UK's renewable heat sector**

Renewable heat faces several non-financial barriers



The renewable heat sector faces a range of non-financial barriers:

- a general lack of knowledge about the technologies
- lack of robust supply chains
- constraints on the biomass sector due to air quality impacts: analysis suggests this can be managed under the right conditions.



- planning process can be difficult for renewable heat technologies
- no user-friendly scheme certifying sustainability of woody biomass
- natural resistance to change among consumers

DECC is working to overcome these barriers

Off and on the Gas Grid



- Renewable heat technologies typically more competitive for consumers without access to gas
- Some renewable heat technologies – including GSHPs, need access to land. Harder to find in urban areas
- Renewable heat technologies can also work in areas within the gas grid e.g. large industrial heat loads can use large scale ground source heat pumps
- Large heat loads get us further towards the 2020 target.

What do we want to see in 2020?



- Renewable and low carbon energy meeting a significant share of demand across heat, electricity and transport.
- Energy being used more efficiently both in the home and at work.
- A greater awareness of energy use, and real change in behaviour.
- A range of renewable heat technologies have become mainstream, including heat pumps and biomass heat. These technologies are used at all scales, from domestic to large industrial applications. The market has delivered these at least cost.
- All our energy and carbon targets have been met, and we are on track to meet our future carbon budgets.

Who in Government does heat policy?



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- Department of Energy and Climate Change (DECC) formed last October
 - Development of the RHI being taken forward by DECC's Renewables Financial Incentives team: Jo Greasley is leading on the RHI.
 - Distributed Energy and Heat team leads on broader heat issues - Hergen Hays is head of team