

# South West Planning Seminar

**Ian Brenkley**

**Onshore Wind Development Manager  
RenewableUK**

# Agenda

- **Morning presentations**
  - Ian Brenkley, RenewableUK
  - Cheryl Hiles, Director of Sustainable Energy Delivery, RegenSW
  - Brett Spiller, Chairman, Royal Town Planning Institute SW
  - Jim Wood, Development Manager, Cornwall Light and Power
  - Indre Vaizgelaite, Small Wind Systems Manager, RenewableUK
- **Lunch and tour of Goonhilly windfarm**
- **Afternoon Panel Debate**

# Key issues

- **Climate Change**

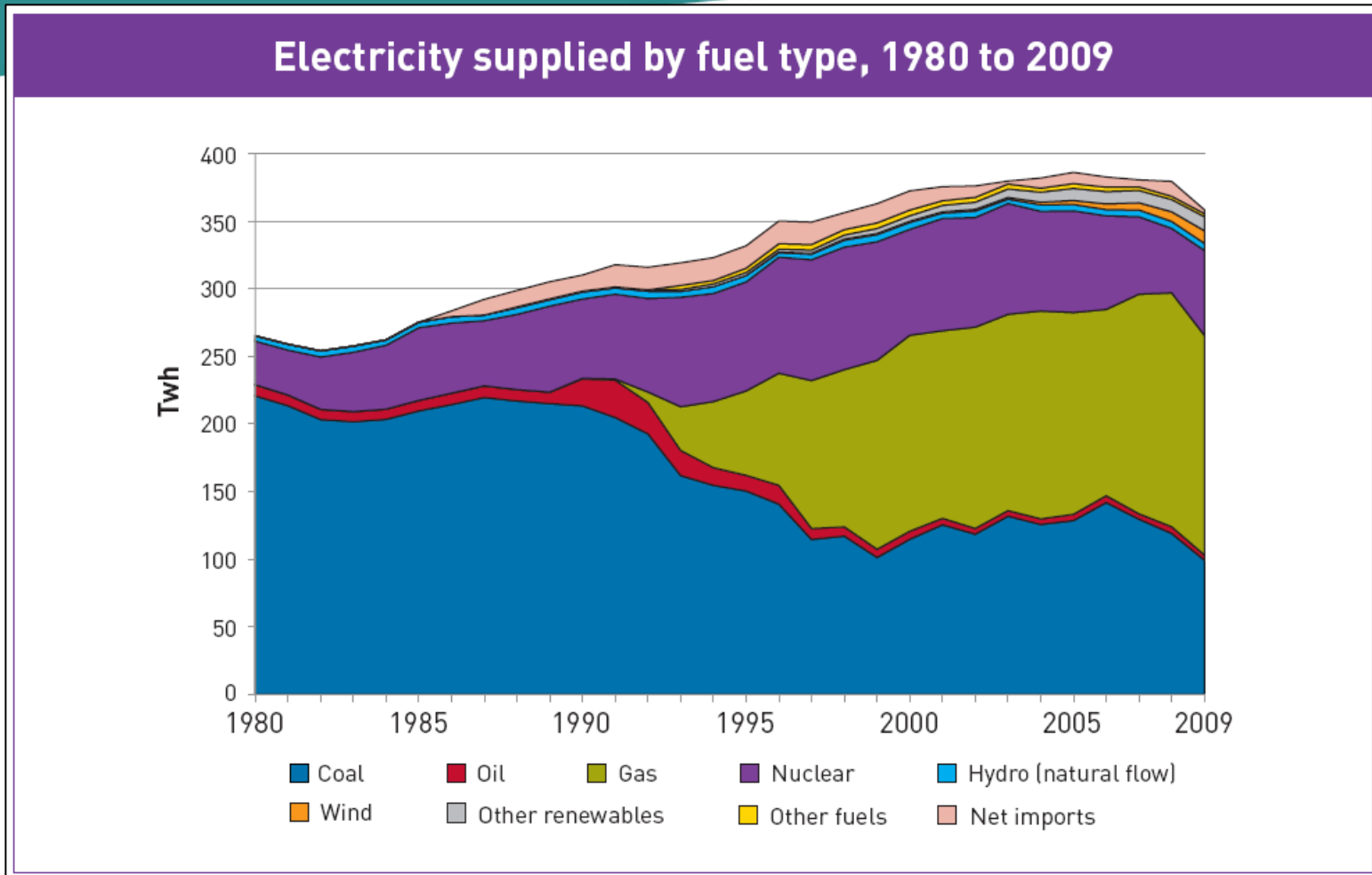
*“There is still time to avoid the worst impacts of climate change, if we take strong action now”*

(Stern Review on the economics of climate change, 2006)

- **Energy Security of Supply**

- **Economic Growth**

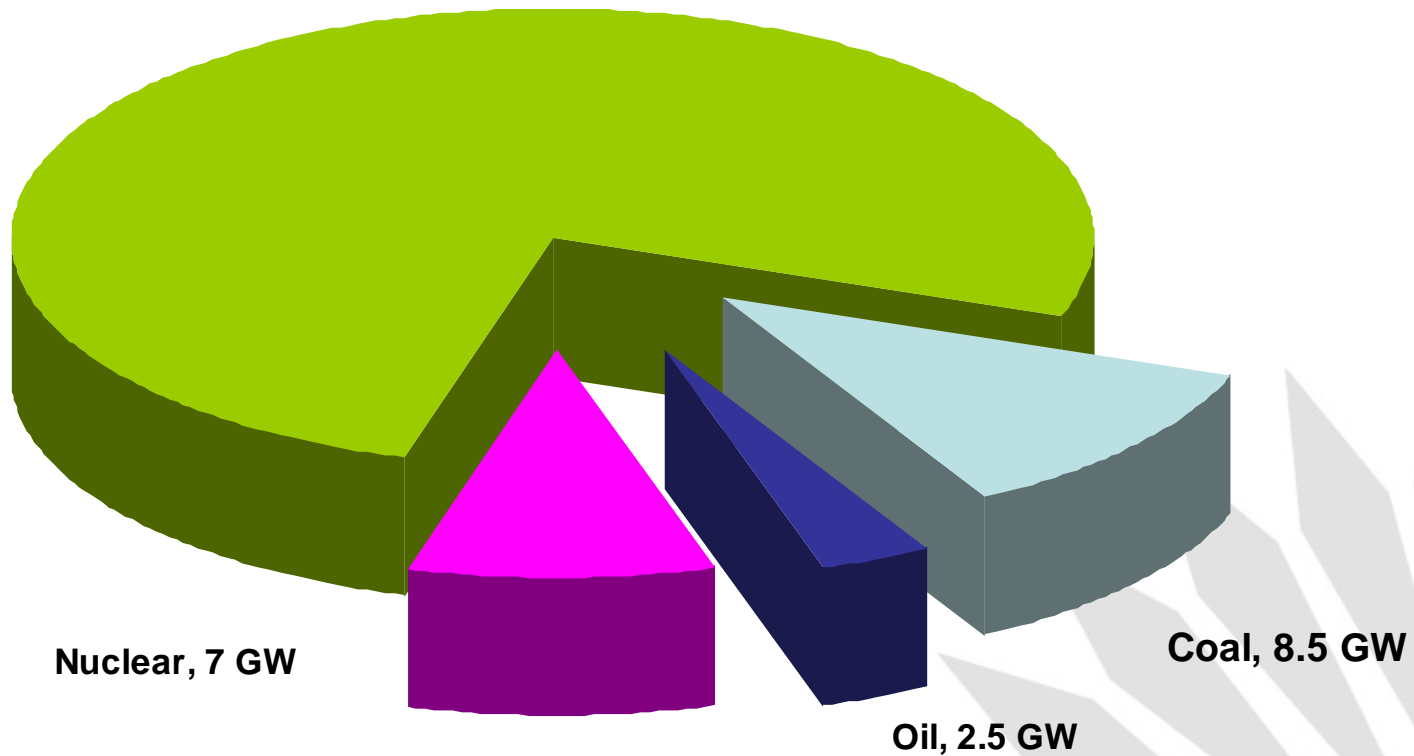
# Energy Security of Supply



Source: DECC UK Energy in Brief 2010

# UK Electricity Generation

Total ~75GW

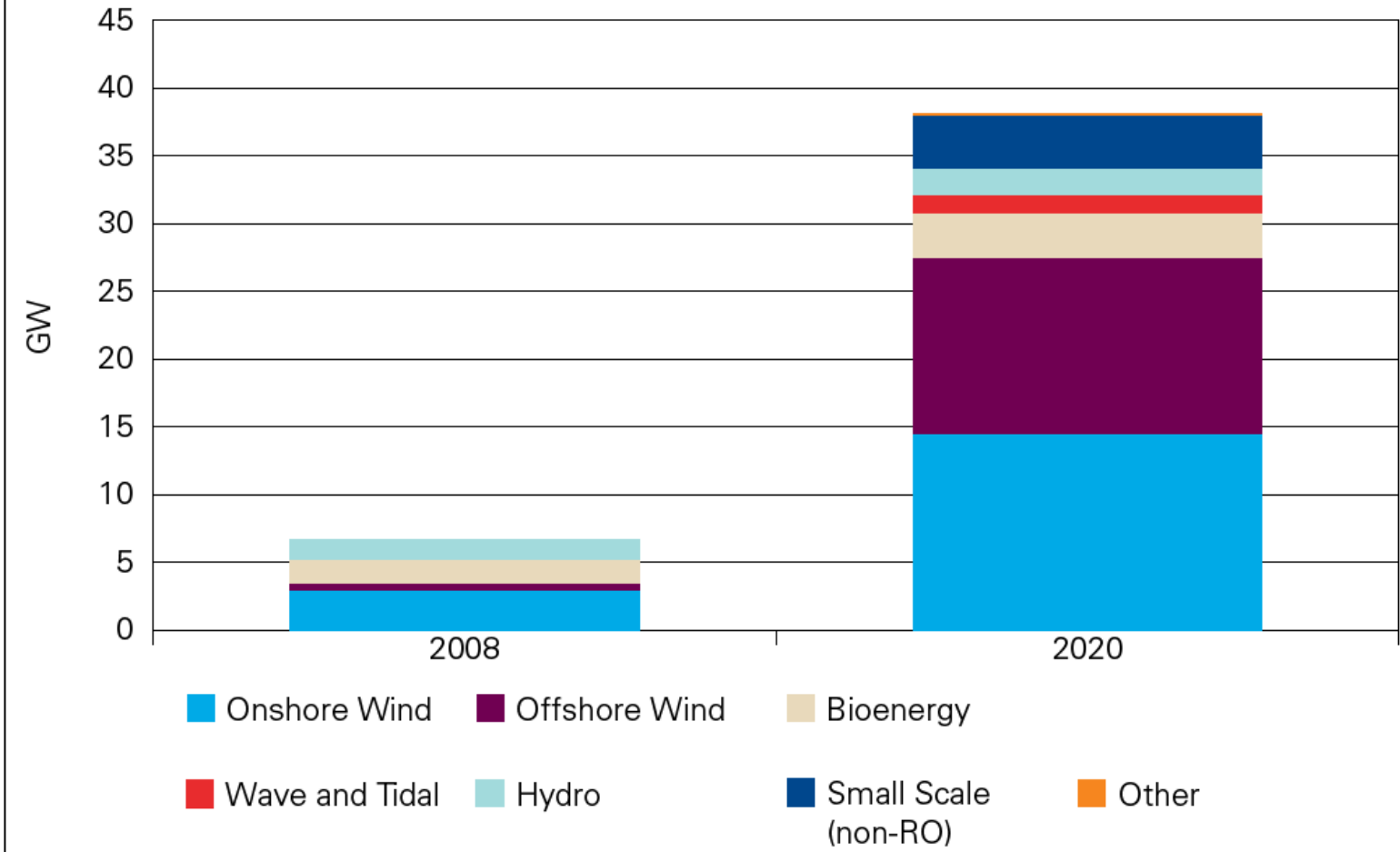


# EU & Government Targets

- **EU Renewable Energy Directive/Fuel Quality Directive 2009**
  - 20% of energy across the EU to be renewable
  - 15% of energy in the UK to be renewable
  - 10% of energy used in transport to be renewable
- **UK Renewable Energy Strategy 2009**
  - 30 - 40% electricity
  - 12% heat
  - 10% transport

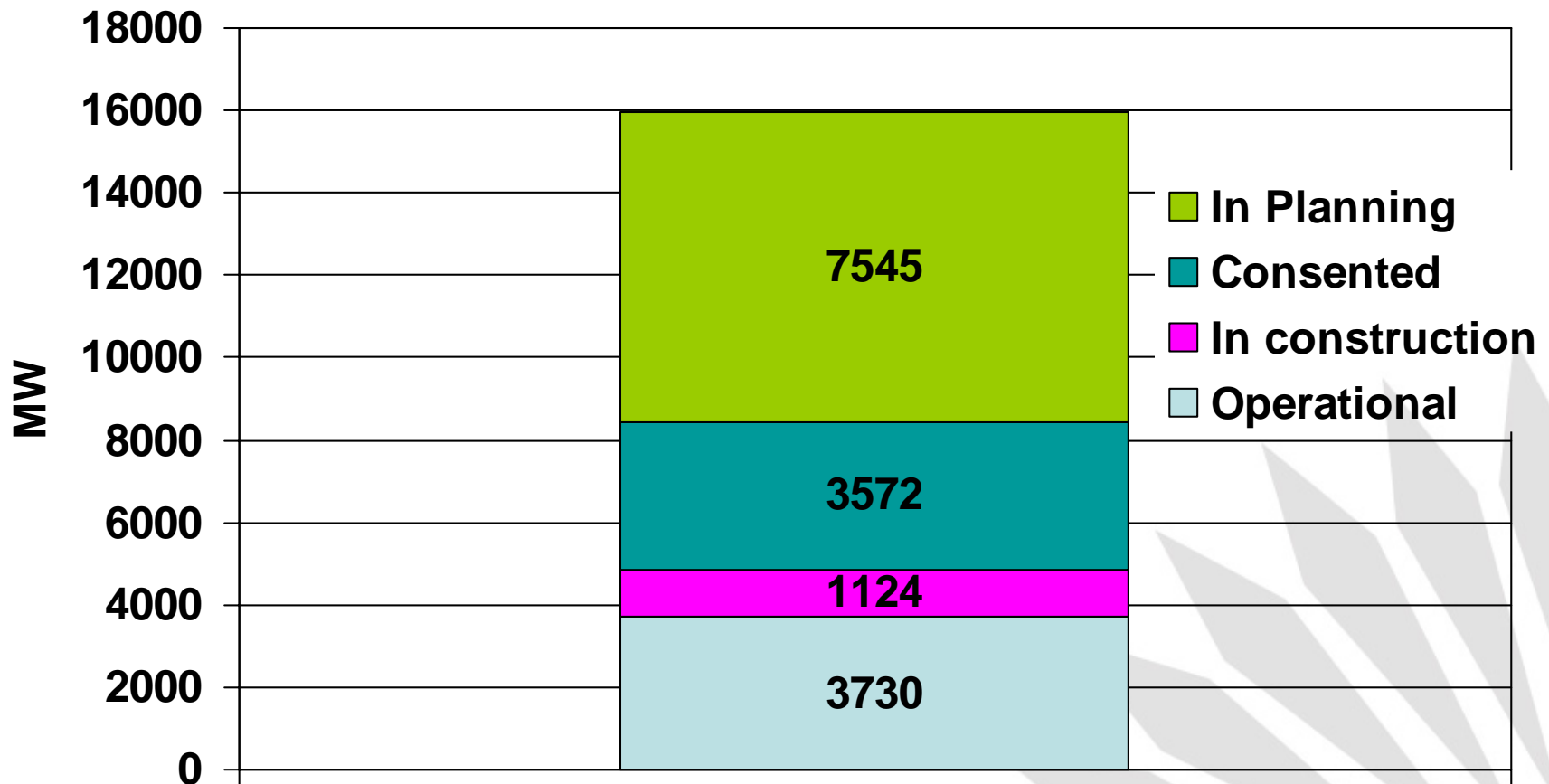
# UK Renewable Energy Strategy 2009

Renewable electricity technologies – comparison between 2008 and projected to 2020



Source: Energy Trends (June 2009) and DECC analysis based on Redpoint/Trilemma (2009) and Element/ Pöry (2009)

# Onshore Wind to Date



# Economic Opportunities for UK

- 60,000 UK jobs in manufacturing, operations & maintenance
- £60 billion of private investment
- Modern turbine puts c. £100,000 / year over its lifetime into the local economy from its construction and maintenance, and through community payments, rates and rents



Ian Brenkley

Onshore Wind Development  
Manager

RenewableUK

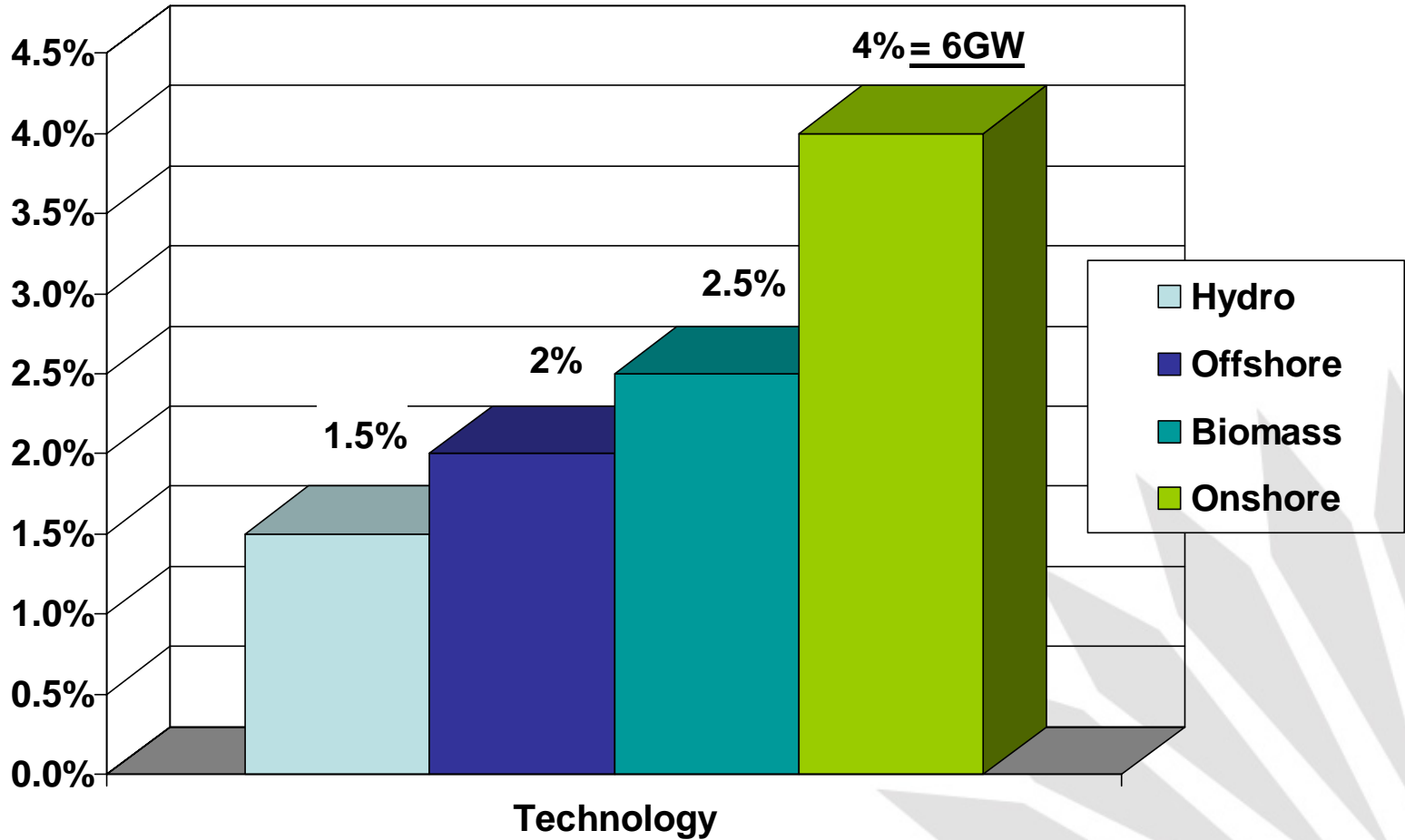
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# Panel Debate

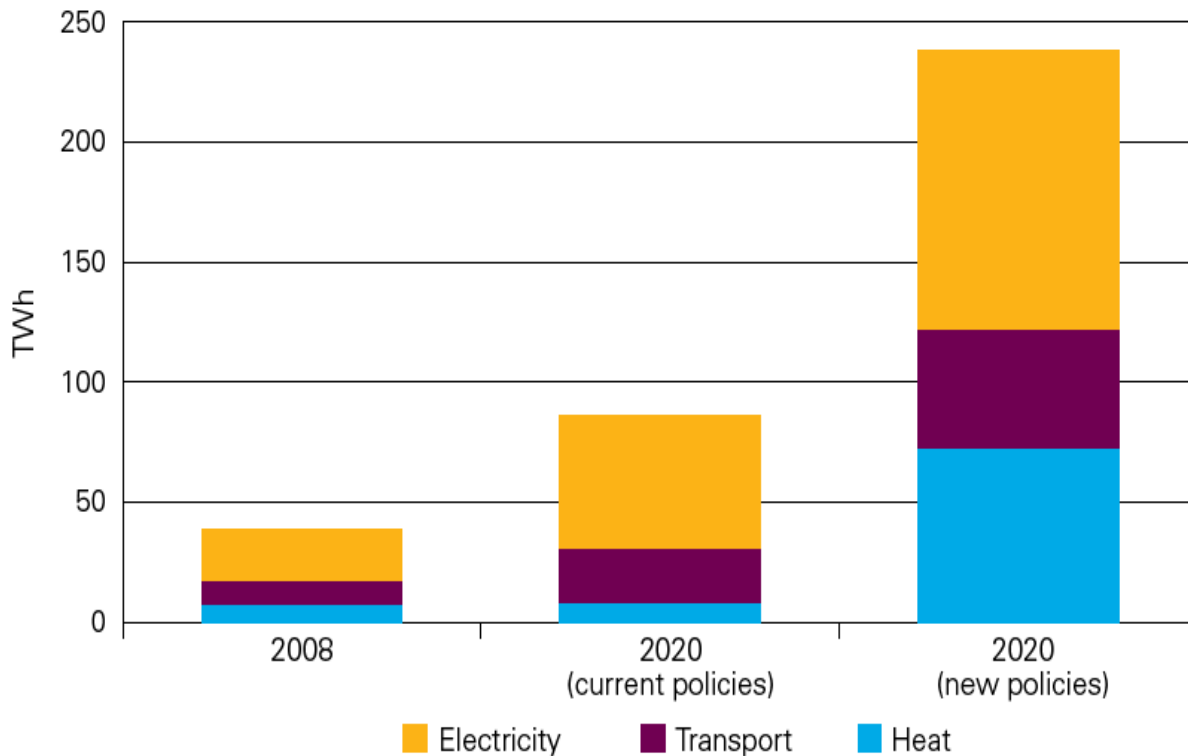
- **Adrian Boaden, Parish Councillor**
- **Adrian Lea, Head of the Natural Resources Planning Team, Cornwall Council**
- **Jim Wood, Development Manager, Cornwall Light and Power**
- **Martyn Haywood, Teaching Fellow and ADoE, CSM, University of Exeter**
- **Pam Lyne, Councillor, Cornwall Council**

# 10% Electricity by 2010 – how did we do?



# UK Renewable Energy Strategy 2009

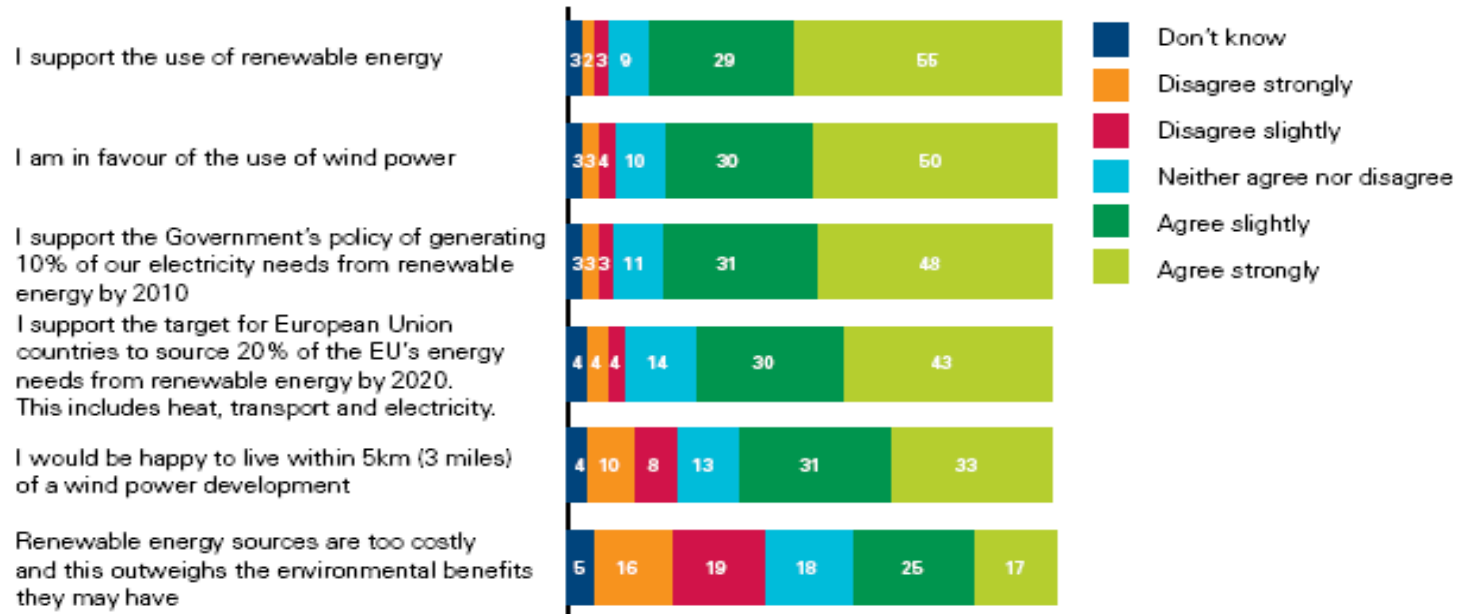
The size of the challenge – a potential scenario to reach 15% renewable energy by 2020



- 15% renewable energy by 2020
  - 30-40% electricity
  - 12% heat
  - 10% transport

Source: Energy Trends June 2009 and DECC internal analysis

# Is wind power popular?



Source: BERR Renewable Energy Attitudes Research, May 2008

# Availability

- The percentage of time a wind farm is technically available to produce electricity.
- Like a car wind turbines have to be serviced.
- The availability of a wind farm is between 95%-98%

# Capacity

- The percentage of energy produced compared to the theoretical maximum
- In reality the wind does not blow at full capacity all the time and the turbines have to be maintained
- The average Capacity Factor in the UK is around 30%, therefore on average it generates 30% of its maximum power
- A normal wind farm will produce electricity for 80% of the year.

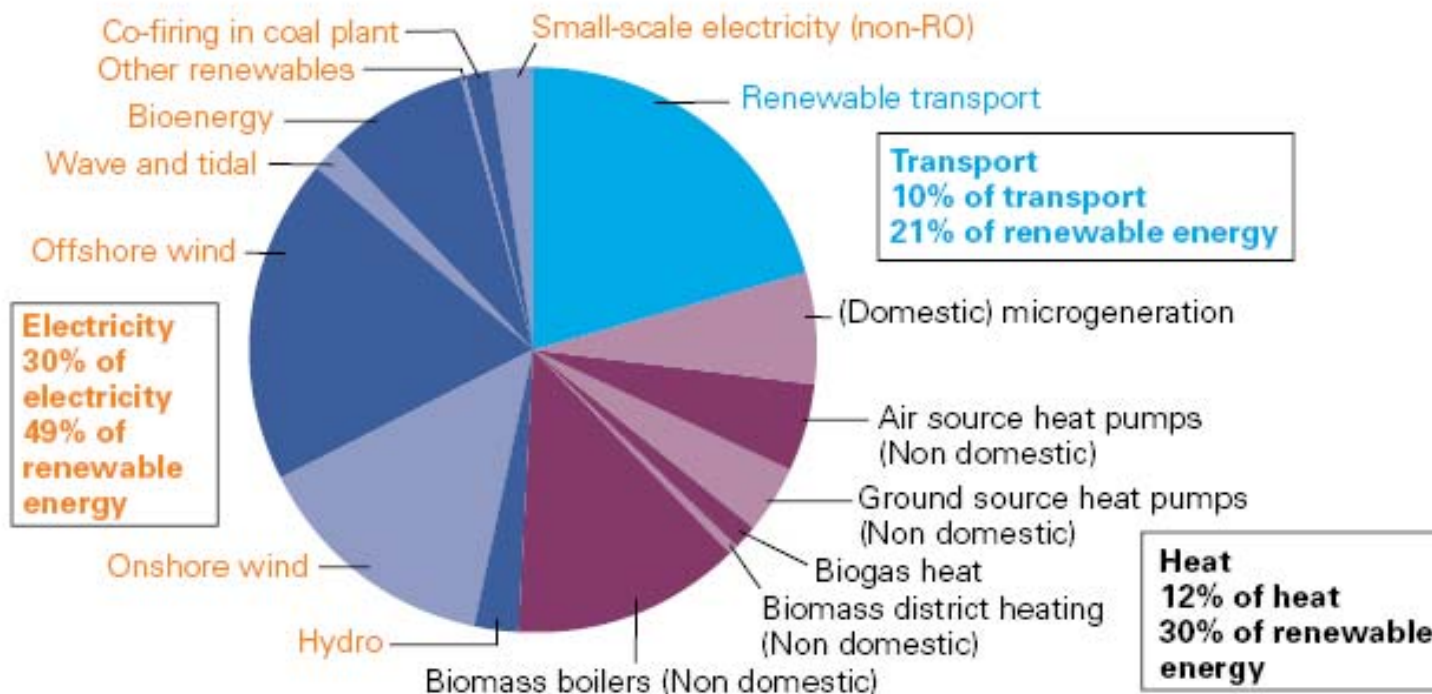
# Efficiency

- Energy output (electricity) expressed as a percentage of the energy input (wind)
- As the energy in (wind) is free, non polluting and will never run out, efficiency is irrelevant and not a good performance measure for wind power
- This is extremely important for a fuel based conventional power station such as coal which may burn **20,000 tonnes** of coal each day and have an efficiency of around 37 %

# 2020: Potential breakdown

Chart 2:

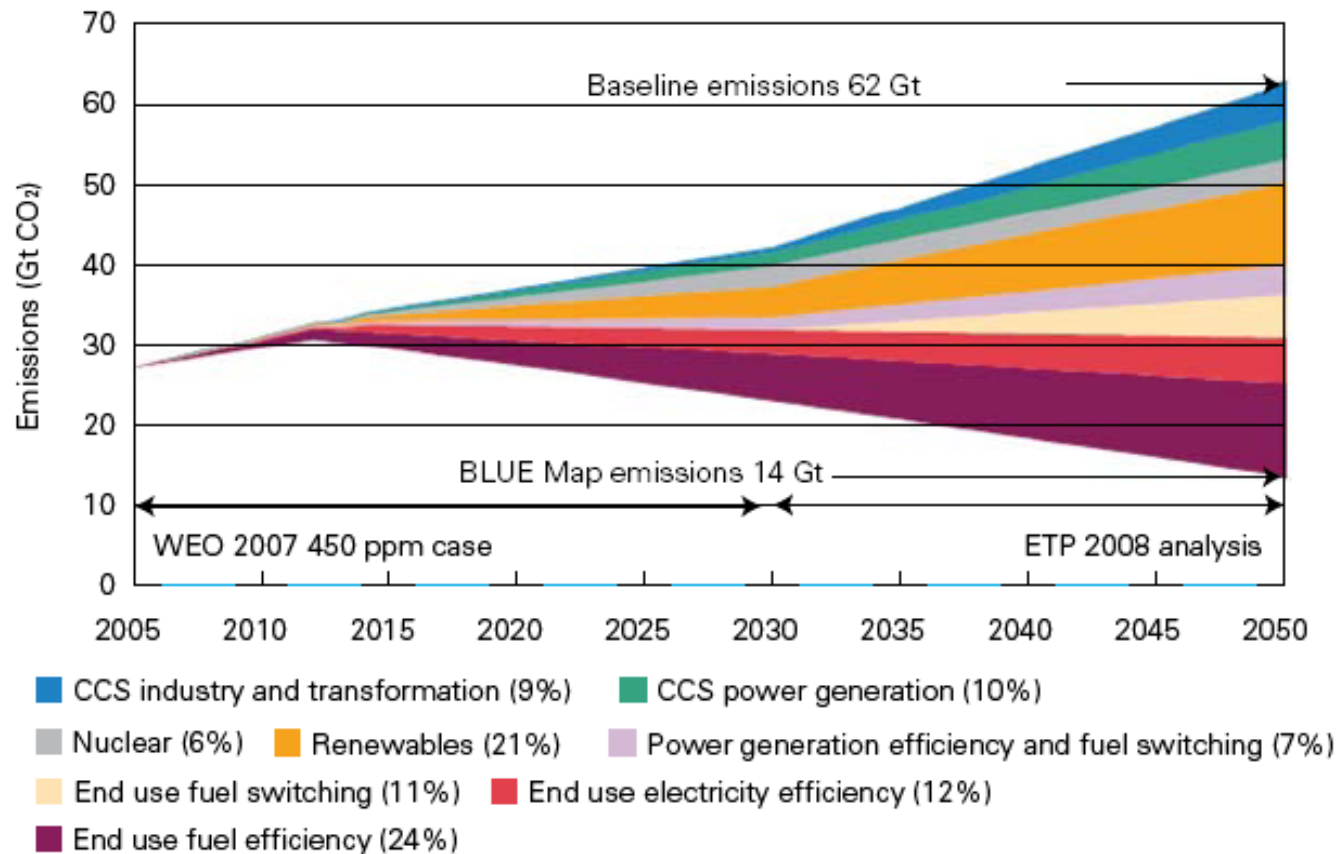
Illustrative mix of technologies in lead scenario, 2020 (TWh)



Source: DECC analysis based on Redpoint/Trilemma (2009), Element/Pöyry (2009) and Nera (2009) and DfT internal analysis

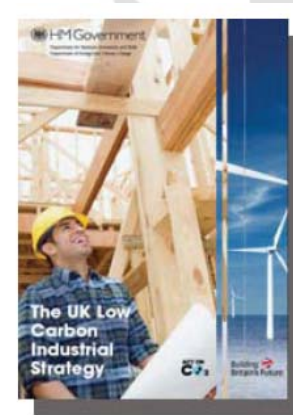
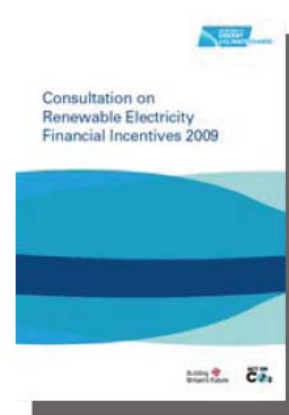
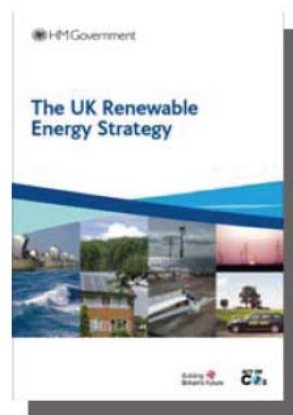
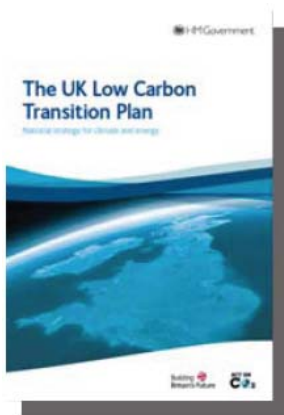
# Carbon Reduction

**Chart 1.1:**  
**Contribution of global emission reduction options 2005-2050<sup>7</sup>**



# Driving Change: EU Energy Policy

- European Council 2007 agreed a common strategy for energy security and climate change
- EC Directive 2009 requires that 15% of the UK's total energy use should be supplied by renewables by 2020
- The UK is fully committed to meeting this target



# 2020: Summary

- 15% of all energy from renewables (EU target)
- Renewable heat & transport starting at low base
- 30 - 40% renewable electricity by 2020
- Wind energy needs to deliver the lions share