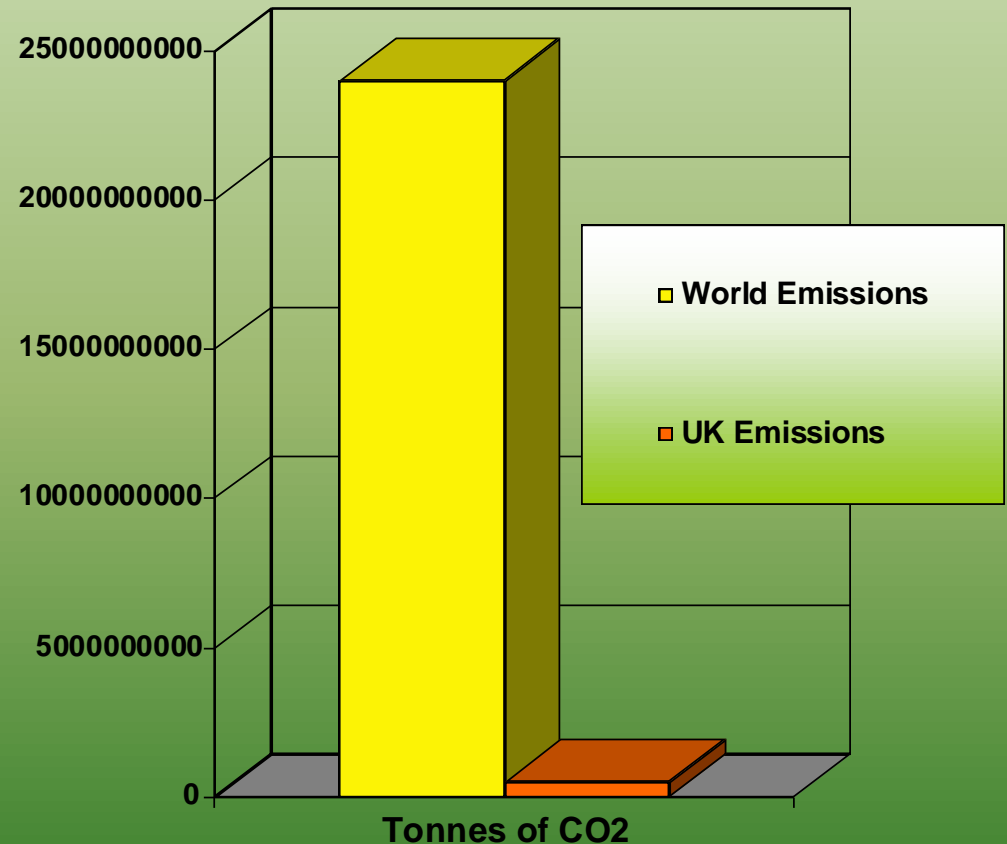


Emissions Reductions: An Economically Compelling Example

John Constable
Director of Policy and Research
October 2005

UK Emissions in Global Context

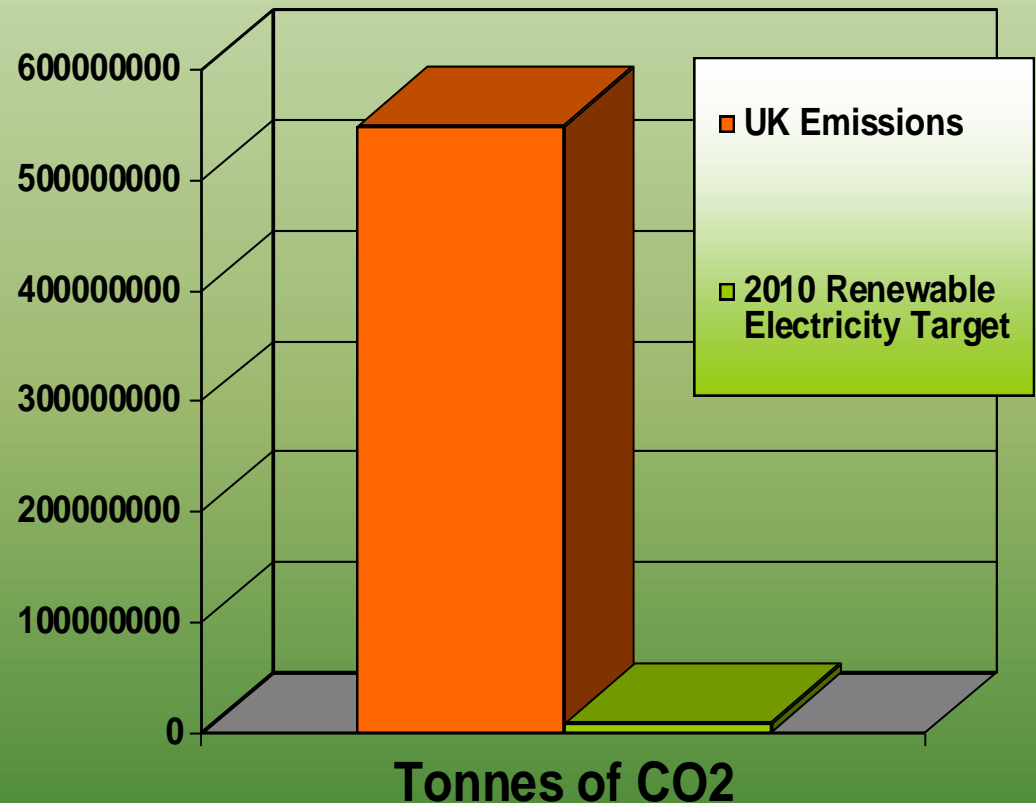
- UK: **550 million** tonnes CO₂ p.a.
- World: **24,000 million** tonnes of CO₂ p.a.
- UK's share of global emissions: **2.3%**



Renewable Electricity and Emissions Reduction

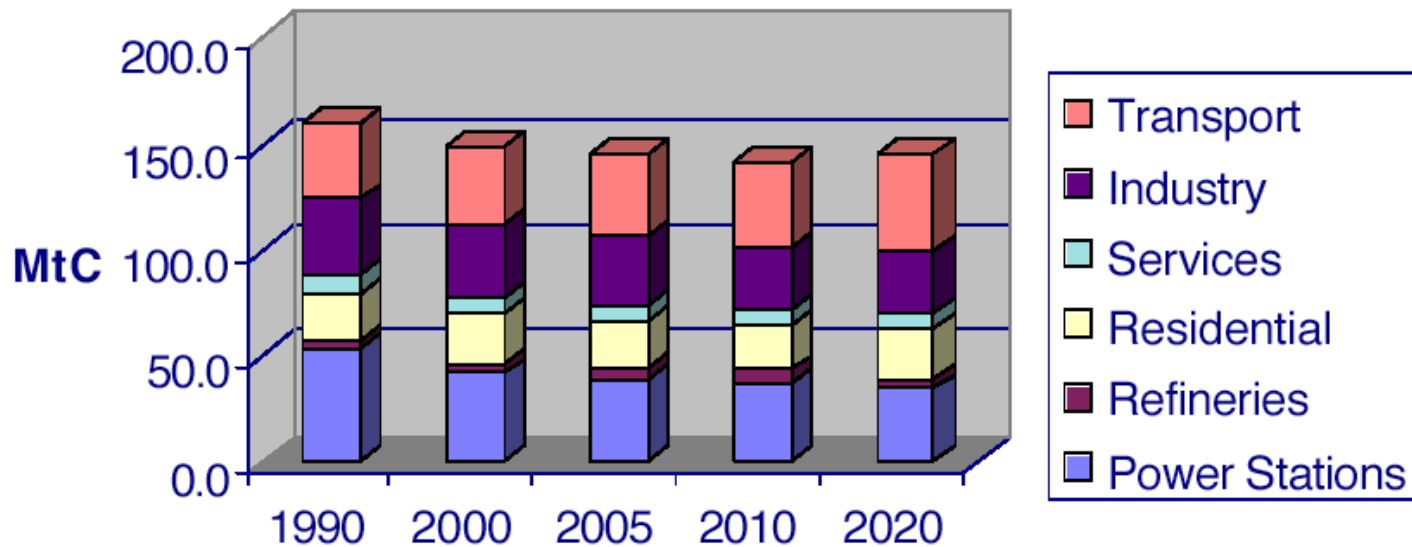
- If the 2010 Renewable Electricity target (10%, 33.6 TWh) is met:
 - 9.2 million tonnes of CO₂ saved by RO
 - 1.7% of UK emissions
 - **0.0004 of global emissions**
 - **Cost: £1 billion a year**
- “As a means of reducing carbon dioxide emissions, the Obligation is several times more expensive than other measures [...]”

– National Audit Office (Feb. 2005)



DTI Projections for CO₂ by Sector up to 2020

UK CO₂ direct emissions by sector



- From Adrian Gault, Director, Strategy Development, Energy Strategy Unit, DTI, 03.06.04

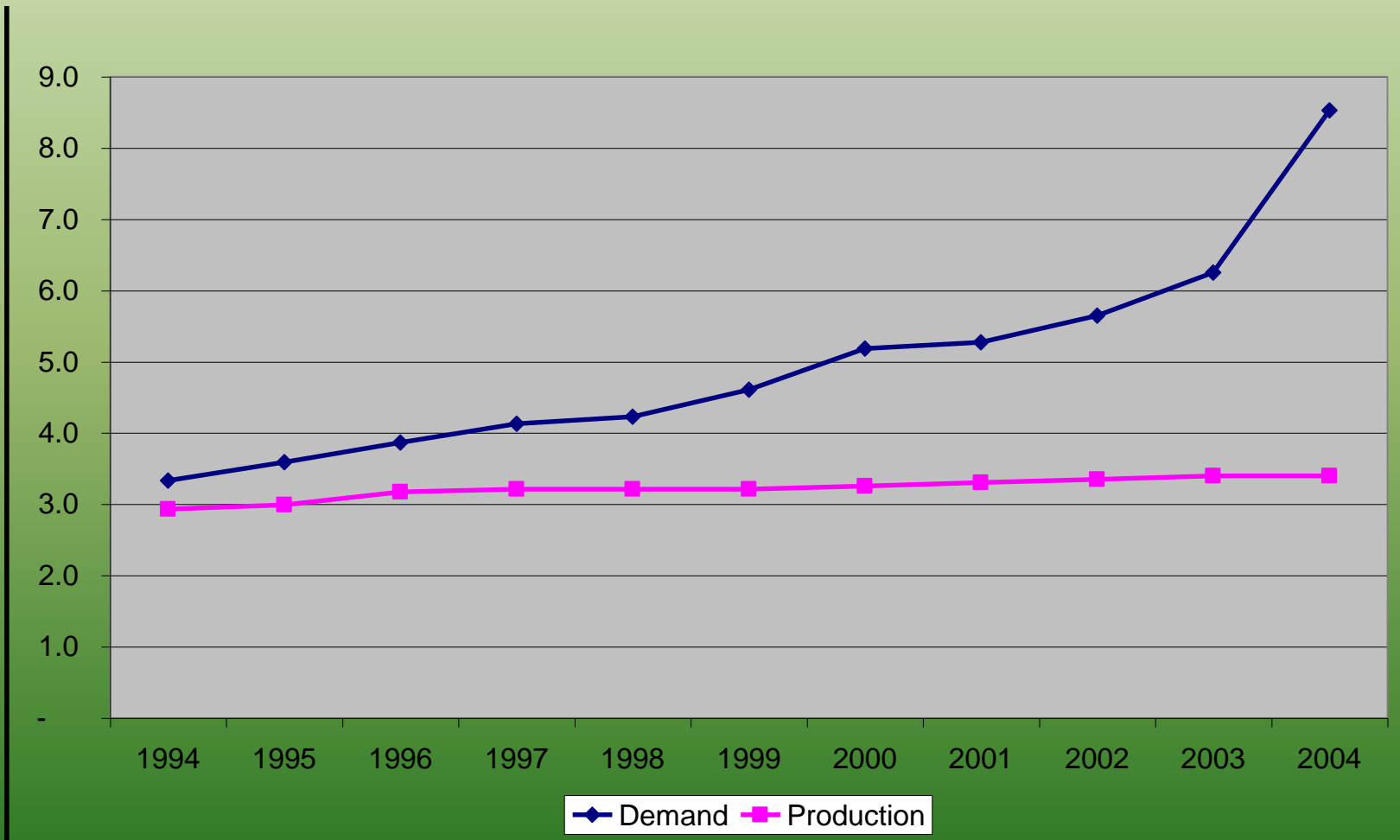
Growth in the Developing World

- Over half of the world's cement is currently consumed in China
- Chinese economy growing at over 8% p.a. (4 x core EU states)
 - China's GDP is 1/5 of Eurozone, and could overtake it in 30 years

China & Electricity

- UK generates 390 TWh
 - From 78.5 GW (Sizewell B = 1 GW)
- China generated (2003) 1,800 TWh
 - From 356 GW
- In 2020 China will need 11,000 TWh
 - From 2,400 GW
 - (Zhang Guobao, vice-minister of the National Development and Reform Commission, quoted in the *China Daily*, 19.10.04)
- 2004-2005 China building ca. 140 power stations (160 – 240 GW)

China's Oil Demand

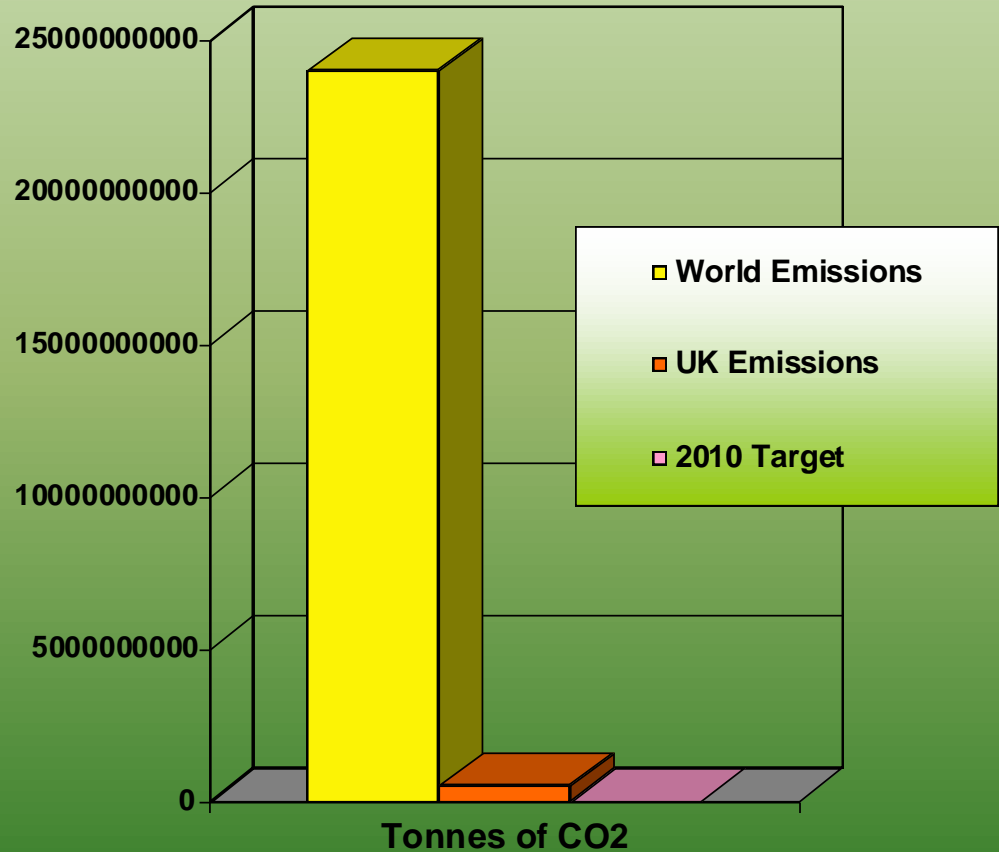


What Can the UK Do?

- Quantitative contribution? No.
- ZERO carbon UK would have no effect on climate change
- Qualitative contribution? Perhaps...
- **Economically Compelling Example**

On track to impress China?

- Renewables Obligation costs **ca. £1 billion** p.a., and saves:
 - 1.6% of UK emissions
 - 0.0004 of global emissions



Realistic Priorities

- General agreement on goal of tackling climate change, but...
- If you want to reduce emissions
 - 1. Security
 - 2. Reliability
 - 3. **Economics**
- Stress on quality makes *domestic* as important as industrial

Changing Emphases needed for Economically Compelling Example

- Security and reliability of supply
 - Team workers needed
- Value for money
 - UK can't afford to do **everything**
- Enhance demand-side management
 - Domestic and community renewables
 - Buildings responsible for 47% of UK CO₂
- Export potential

Cost-effective Large-scale CO₂ Reduction

- Carbon Capture and Sequestration
 - Enhanced Oil Recovery:
Extends life of N. Sea fields
 - Japan is now looking to CCS
for its principal emissions
reduction
- Efficiency and energy saving
- Firm generating renewables

Community and Domestic Renewables



Quality Tests

- A stable environmental policy enhances national well-being and competitiveness
- Renewables correctly applied are
 - Locally rewarding
 - Nationally beneficial
 - Globally marketable