

# UK Energy Overview

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# Main themes

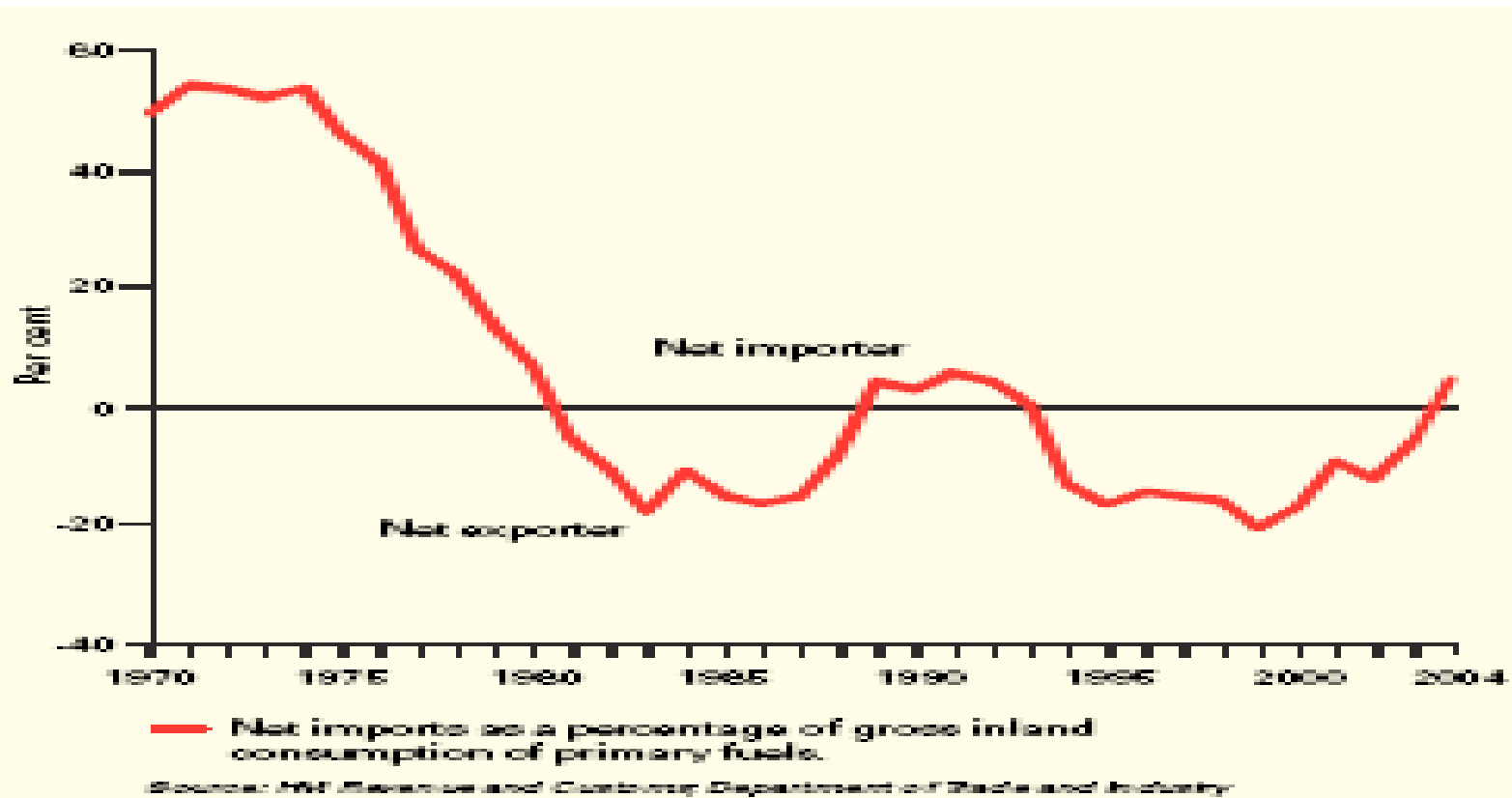
- Commitment to liberalisation and free markets
- Transition from energy surplus to increasing import requirement
- Importance of climate change in energy policy
- But key decisions (eg nuclear) not yet taken

# Energy Balance

- Net importer in 2004 – after two decades of self-sufficiency
- Import requirements likely to increase steadily: by 2020 likely to be  $\frac{3}{4}$  of TPES.
- Gas demand continues to grow

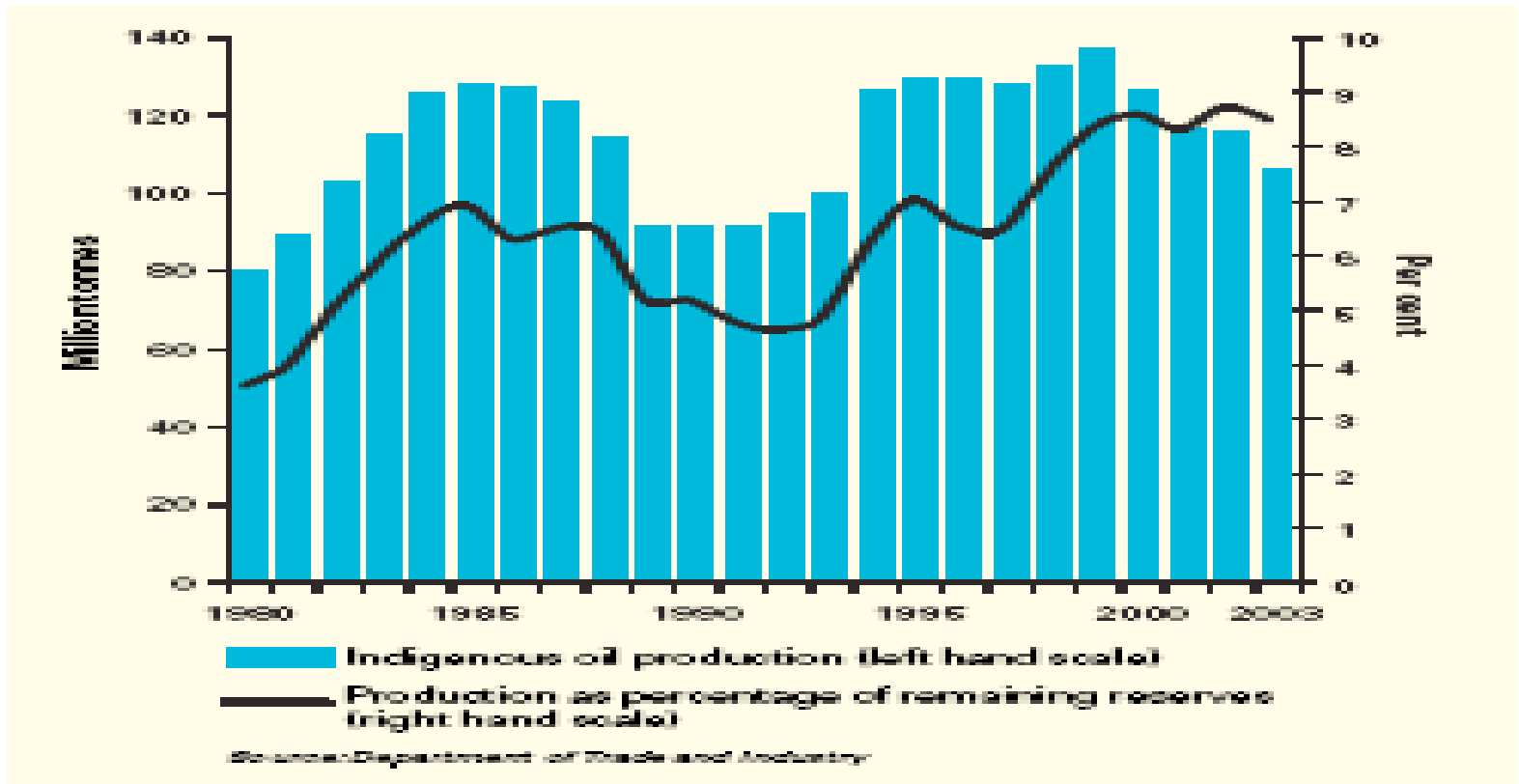
# UK energy self-sufficiency

Trade and consumption, 1970 to 2004



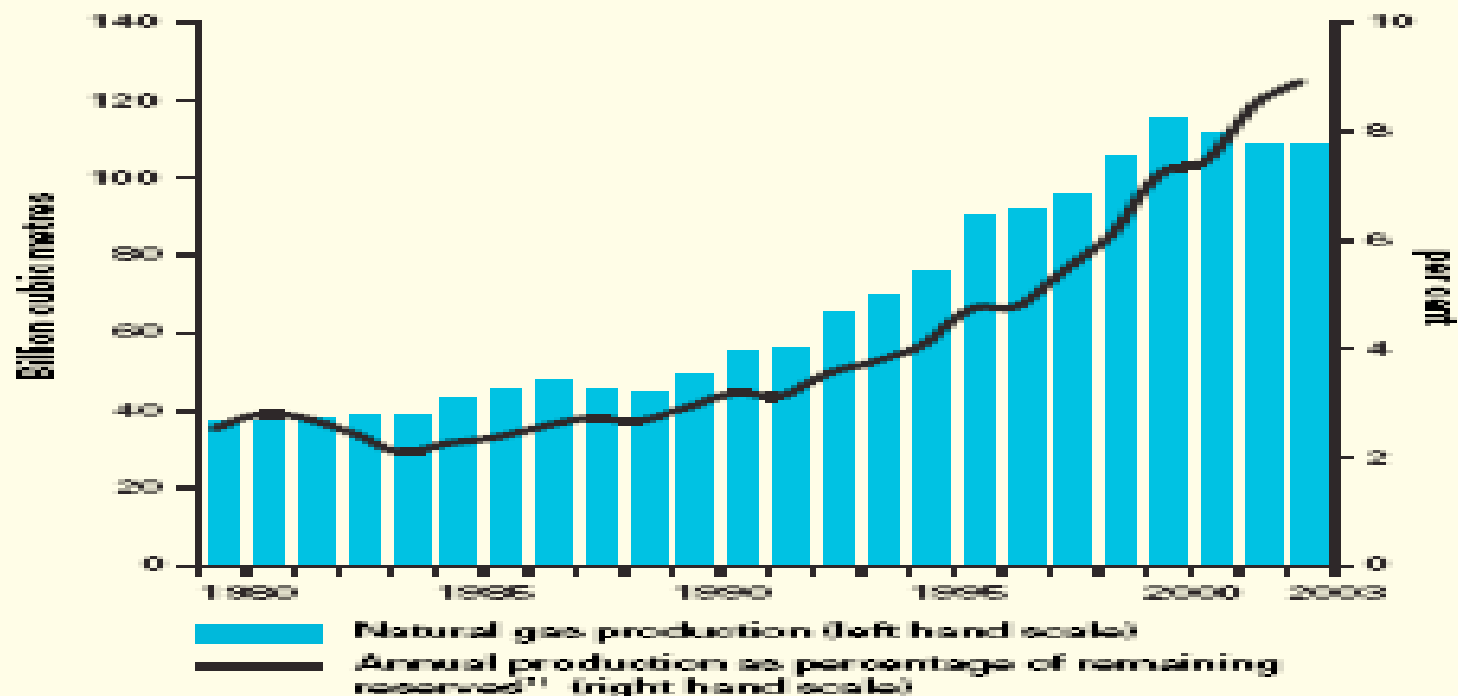
# Oil production has peaked ....

Oil production and production as a proportion of reserves, 1980 to 2003



# ... as has gas production

Gas production and production as a proportion of reserves, 1980 to 2003



(1) Figures for reserves are the sum of proven, probable and possible reserves remaining. They are the historic estimates of remaining reserves, i.e. the best estimates given at that time.

(Source: Department of Trade and Industry)

# Diversity - 2004

Energy source	TPES %	Electricity %
Oil	36	3
Gas	38	35
Coal	17	35
Nuclear	8	21
Renewables	1	3.6

# Energy Sector

- 3% of GDP
- 7% imports; 9% exports
- 35% of industrial investment



# Energy Sector Organisation

- Nearly all private (some nuclear remains public)
- Oil: BP and Shell (with Netherlands) among oil majors
- Gas: Majors plus BG internationally. Centrica in UK\*.
- Electricity: disaggregated. Dominant UK players – Scottish companies\*, EdF, EOn, RWE
- Coal: No significant UK producer, but major mining companies (Rio Tinto; BHPB; Anglo) have UK listings and/or HQs.

\* for the moment

# Energy Strategy

- Reliance on markets and market opening worldwide
- Diversification of sources
- International engagement for “good governance, and the development of stable investment and transit regimes”
- Dialogue to “increase transparency, diversity and liquidity of the world oil market and to improve the investment climate in key producing countries”
- Cooperation on oil security via IEA

# LNG

- Grain: 4.4 bcm under construction  
potential for additional 7.5 bcm in 2009
  - Milford Haven -Dragon: 6-9 bcm by 2012
    - South Hook: 10 – 20 bcm by 2010
- [ cf import requirement of c 55- 80 bcm in 2010;  
pipeline projects include Interconnector  
expansion; Langeled; FLAGS; and Dutch  
Interconnector - total c 60 bcm]

# Nuclear

- c 20% of electricity
- Most due to retire by c 2020 (Torness 2023; Sizewell B 2035)
- Limited flexibility for lifetime extension of AGR technology
- Long lead time for new plant

# New nuclear

- Not ruled out in principle
- But major issues: waste management; liabilities etc
- White Paper needed
- Decision this Parliament

# Renewables

- Strong commitment and support via ROs etc
- Target/aspirations: 10% of electricity by 2010; 15% by 2015; aim at 20% by 2020
- Expectation targets will be missed
- High cost and practical problems

# Russia

- UK imports oil (and coal), via world markets
- Possible future gas source
- Investment and transit issues

- Major players:

BP/TNK (a “high point”?) c \$8bn investment

Shell (Sakhalin – now with Gazprom; Salymskoe etc)

# UK Objectives

- Engagement in dialogue/institutions (EU; Kyoto; WTO)
- Transit – Energy Charter Treaty
- Investment stability
- Inward investment in UK
- Climate change technology