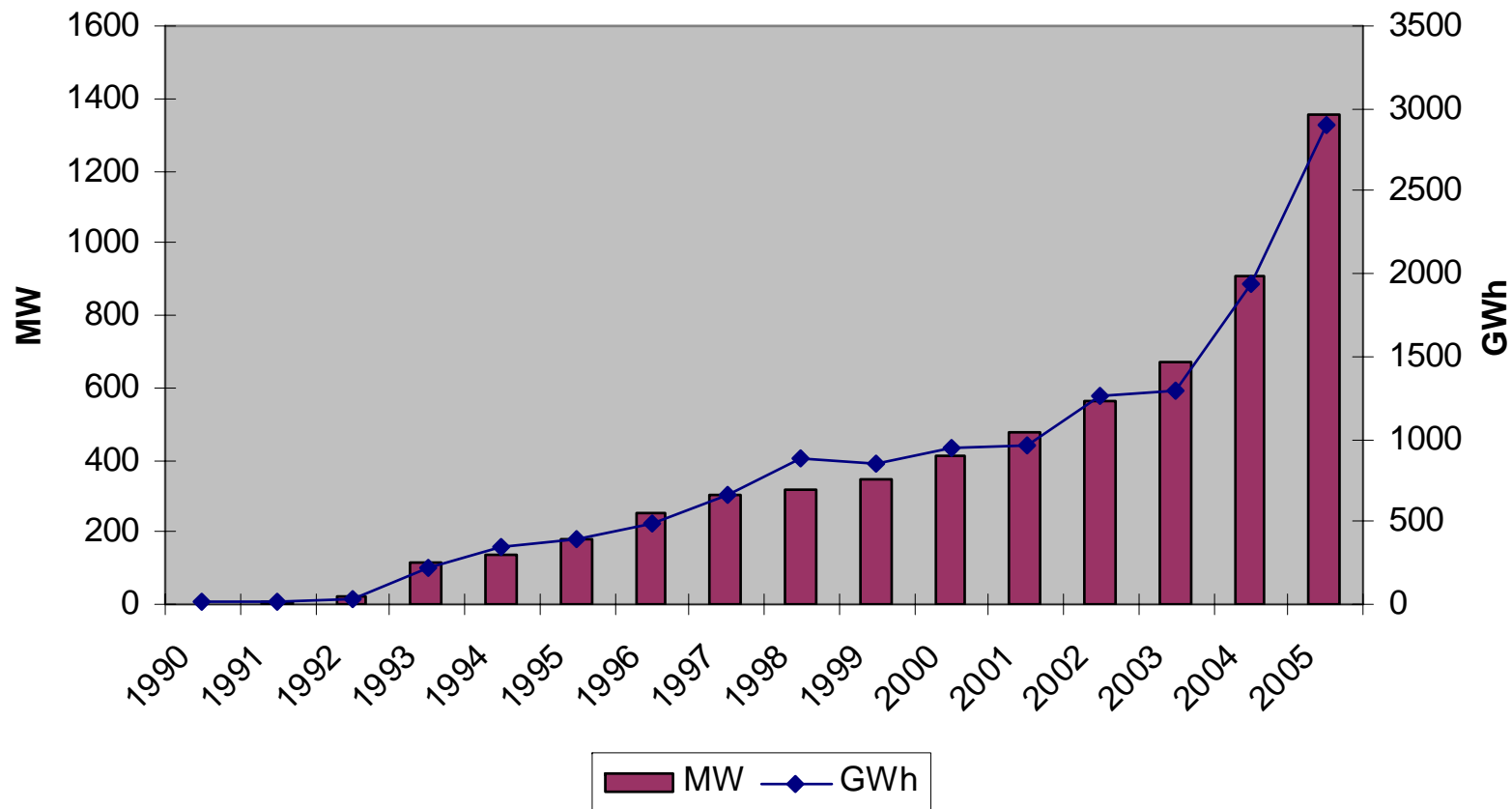


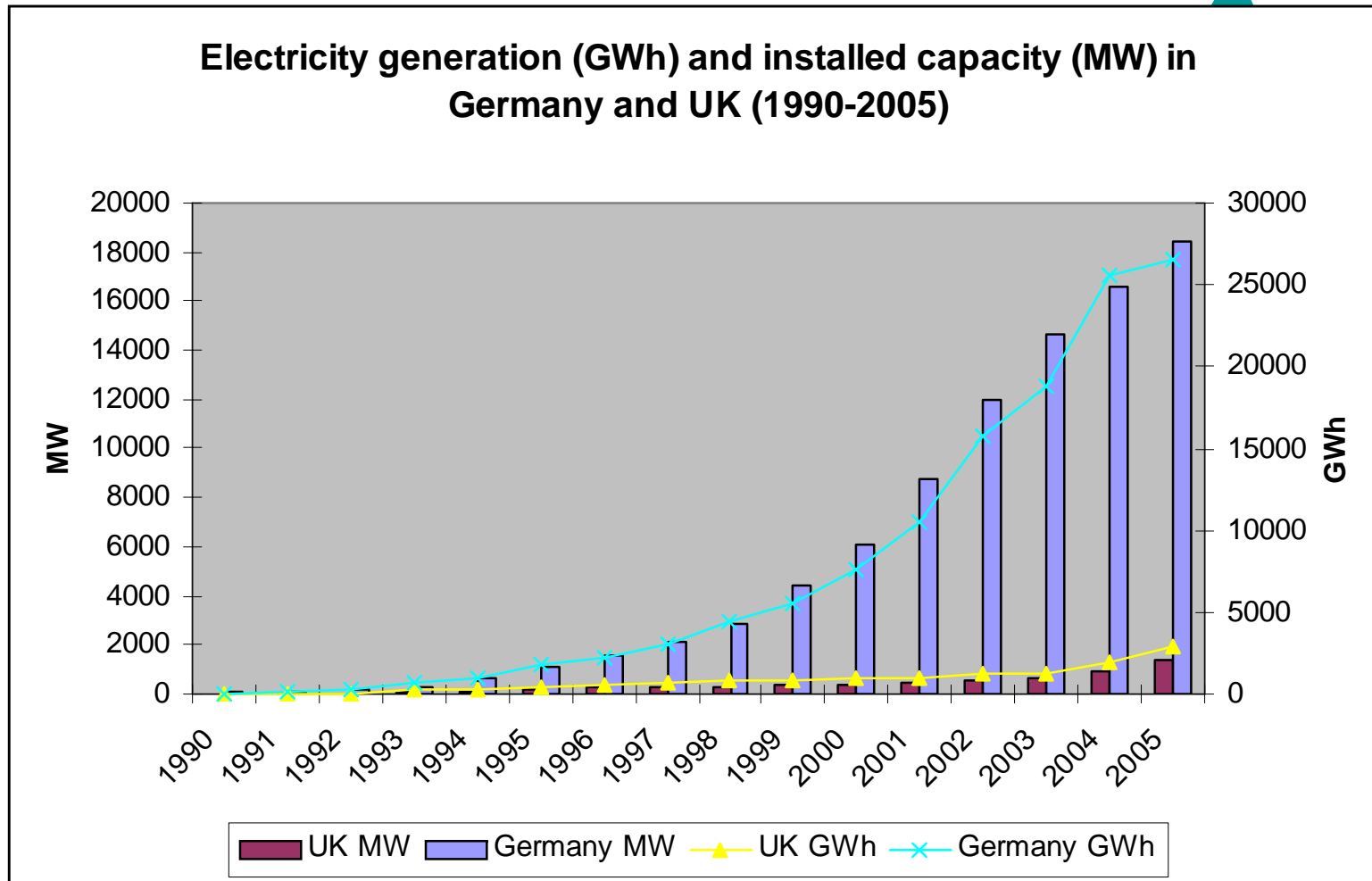
# Wind Power in the United Kingdom: A lesson how not to do?

Annika Sohre

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**Electricity generation and installed capacity in UK (1990-2005)**





# Phases of the Wind Energy development in UK

- Phase 1: 1975-1989  
**Research & Development & Demonstration**
- Phase 2: 1990- 1999  
**Entrance in Market**
  - 1990-1993 Support per accident & first wind farms
  - 1994-1999 Changed rules & slight extension of wind energy
- Phase 3: 2000-2005  
**Intensified extension & new uncertainties**



## Phase 1: 1975-1989

# Research & Development & Demonstration

- Oil Crisis 1973 and 1979/80
- Starting point R&D: Report of House of Commons Select Committee on Science and Technology (1977) and report for the DE by ETSU (Energy Technology Support Unit) 1977
- 1978 Institutionalisation of Wind: BWEA
- Competition Wind-Nuclear Energy

- 1979 Change of government – conservative Party with Margret Thatcher – and change in R&D philosophy
- „Front-runner“ wind energy in R&D: Report of ACORD (1982)
- Research: Focus of government and CEEB on big (MW) turbines (e.g. 3 MW turbine, Orkney) and focus on vertical-axis-turbines with bad results

## Phase 2: 1990- 1999

### Entrance in market

- 1990-1993 Support per accident & first wind farms
- 1994-1999 Changed rules & slight extension of wind energy



## Phase 2 - Entrance in market

- 1990 market liberalisation → New actors
- Non-Fossil-Fuel Obligation (NFFO): Promotion system for nuclear energy and also (per accident) for renewable energy
  - Fossil Fuel Levy
  - Tendering mechanism
  - 5 bidding rounds England & Wales (1990, 1991, 1994, 1997, 1998), 3 Scotland, 2 Northern Ireland
  - Change of rules 1994

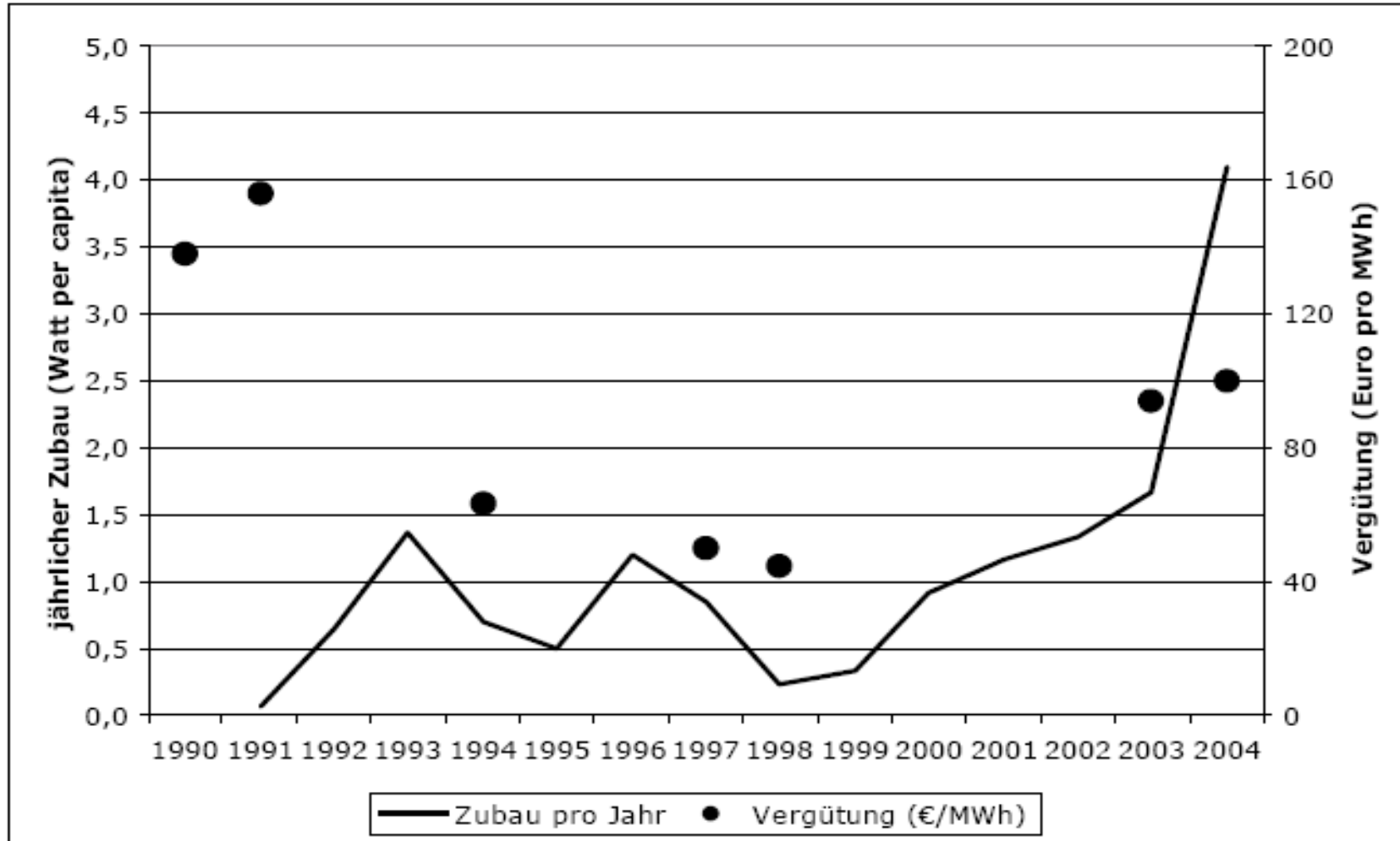
## Phase 2 - Entrance in market



- Kyoto Protocol (UK 12,5 % until 2010)
- Change of government – New Labour 1997
  - Clear targets for renewable energies (10 % 2010)
  - Review of renewable energy policy

## Effects of NFFO

- Beginning of slight development of Wind
- But...***
- Discontinuous promotion → discontinuous installation rate



- Beginning of slight development of Wind
- But...**
- Discontinuous promotion → discontinuous installation rate
  - Complex
  - Too risky and expensive for small developers
  - Short promotion period, low bidding prices, no surcharge for non-compliance of contracts → uneconomic (strategic) bids, run for the best locations, bad planning
- Anti-Wind-Protests, approval-difficulties
- Only 258,5 MW of the contracted 1.153,7 MW Wind Project Capacity realised until 2005

# Completion rates for NFFO contracts

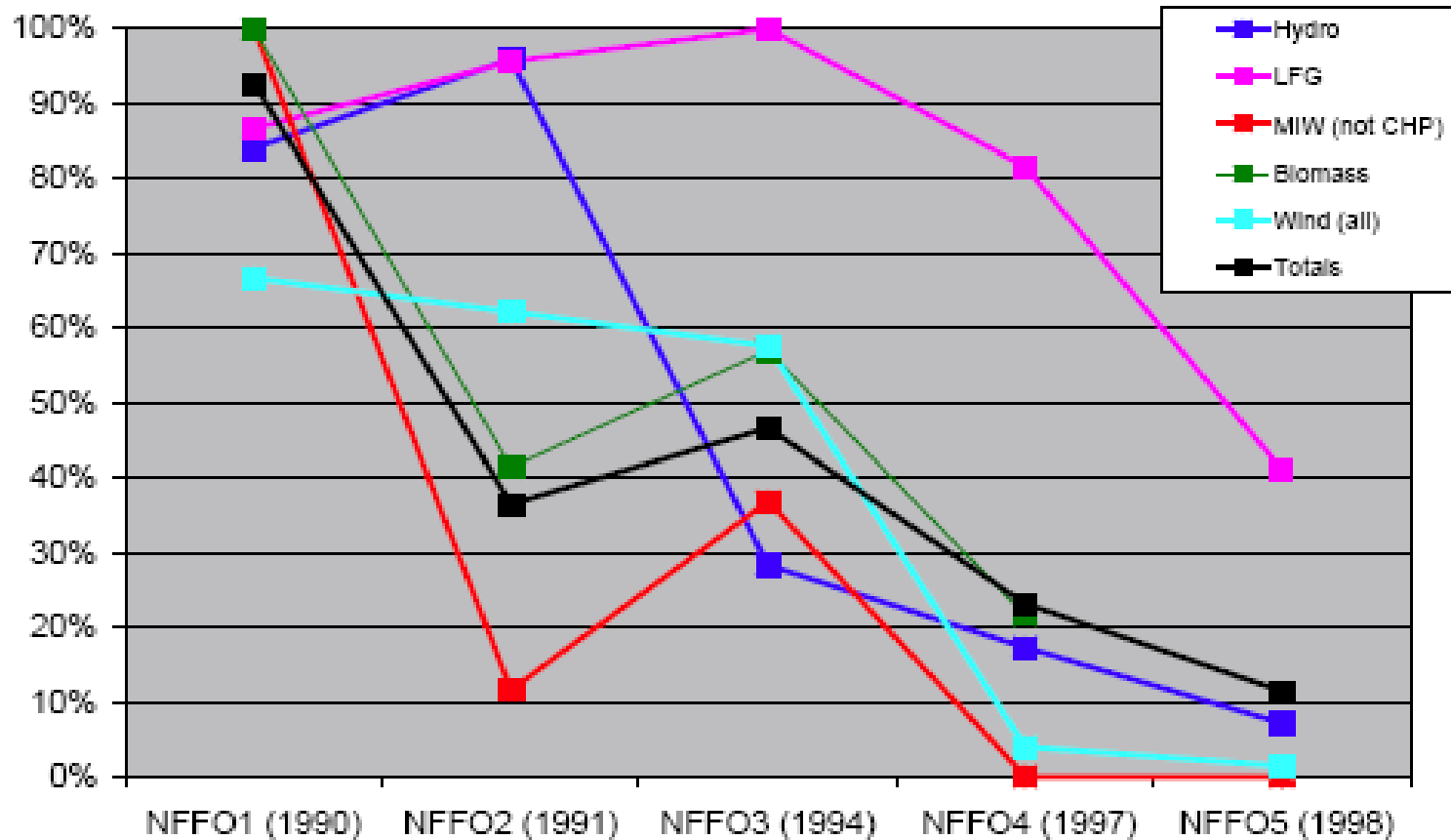


Fig. 1. Overall completion rates for NFFO contracts in 2003. Hartnell (2003).

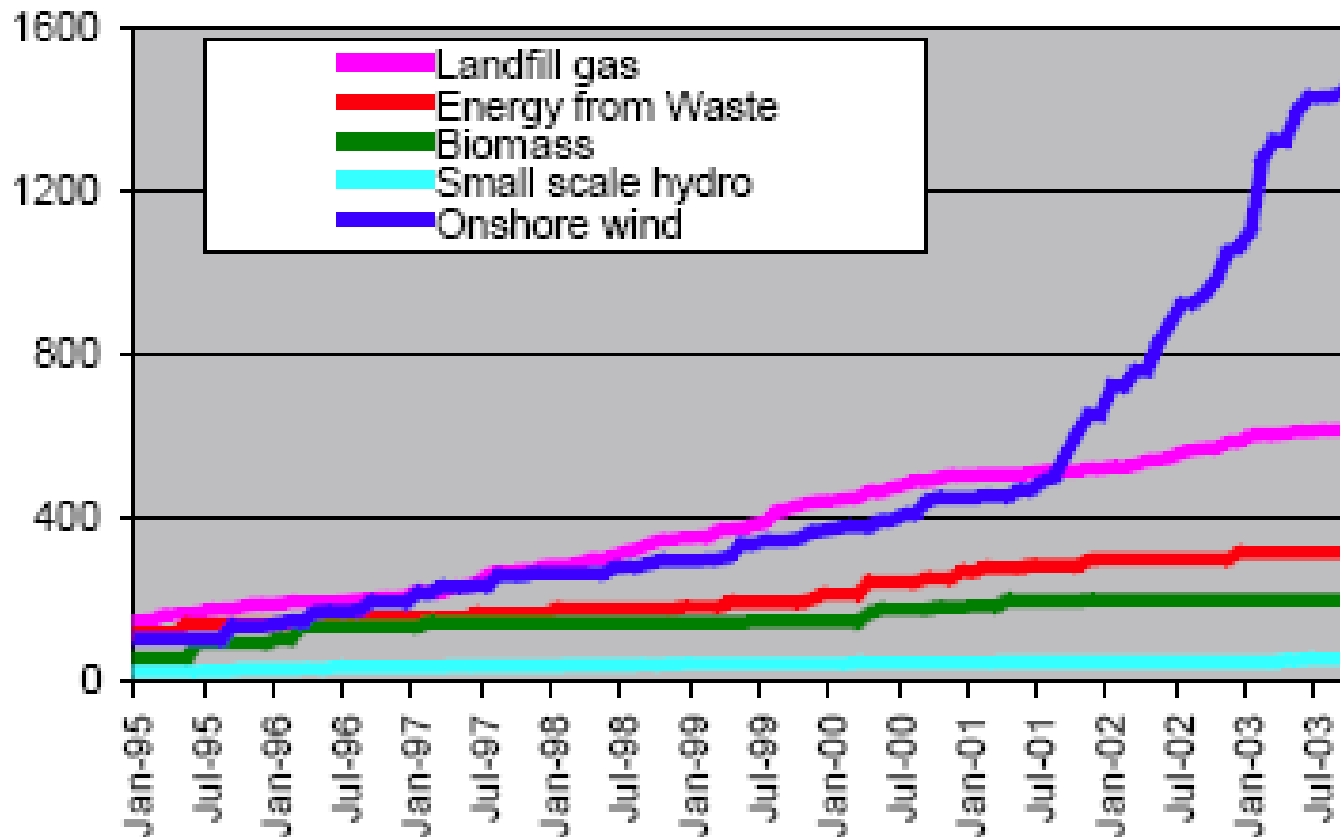
## Phase 3: 2000-2005

Intensified extension & new  
uncertainties

- Utility Act and NETA (later BETTA for hole UK) → supporting big Companies
- Renewables Obligation (England & Wales 2002, Scotland 2002 and Northern Ireland 2005):
  - Quota system
  - Renewable Obligation Certificates
  - Buy Out → Recycle Value
  - Intensified extension of wind energy



# Cumulative MW granted planning permission



## Phase 3 – Intensified extension & new uncertainties

### ***But...***

- High risks, only near-market technologies, only big (foreign) companies, high costs
- Still protests

## Phase 3 – Intensified extension & new uncertainties

- Climate Change Levy, exemption of renewable energies
- Offshore: Tendering for offshore, R&D, strategic framework, improved approval conditions
- Public Planning Statement (PPS 22) → improved approval conditions for wind onshore
- Energy strategy „Our common future“ (2003) → new uncertainties
- Report Carbon Trust 2006: Call for change of renewable policy framework
- Review 2006: no change of support mechanism, confirmation of relevance of renewable energies, but also of nuclear energy

## Current status of Wind Energy in UK



	<b>Windprojects Onshore</b>	<b>Installed Capacity Onshore</b>	<b>Windprojects Offshore</b>	<b>Installed Capacity Offshore</b>
<b>England</b>	52	262.92 MW	4	243.80 MW
<b>Nordirland</b>	12	106.60 MW		
<b>Schottland</b>	37	878.04 MW		
<b>Wales</b>	25	301.20 MW	1	60.00 MW
	<b>126</b>	<b>1,548.76 MW</b>	<b>5</b>	<b>303.80 MW</b>

# Main Findings of Wind Energy Development in UK



- Main problems: Anti-Wind-Protests and approval-difficulties, missing consistent and stable policy framework
- Reasons – or a lesson how not to do it
  - Market based ideology → Focus of the government on competition in renewable energy policies (stop of R&D with privatisation; market mechanisms NFFO and RO)
  - Focus on unsuccessful big wind projects in R&D stage
  - Wind turbines mainly built by big (foreign) companies, as a result of the market based promotion systems → Lack of involvement of local population / Protests

# Main Findings of Wind Energy Development in UK



- Lack of clear reliable commitment of the government to renewable energies and long-time goals
- Lack of clear standards in planning policies
- Inconsistent policies: promotion of renewable undermined by other policies (Market regulation NETA, white paper etc.)

... still a lesson how not to do?



Thank you for your attention!