Nuclear power in Britain since Chernobyl:
A roller coaster ride

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Outline

• 1987-2006 events
• The 2003 White Paper
• The 2006 Energy Review
1987

• Construction of Sizewell B approved by government after 8 years of consideration
• Inquiry inspector estimates Sizewell B has only a 1 in 40 chance of not being the cheapest option
• Inquiry into second of ‘family of ten’ PWR units opened
1989-90

• Nuclear plants cannot be privatised
• Magnox and AGRs operating costs double the wholesale electricity price
• Consumers must pay a £1bn subsidy to keep the nuclear company solvent
• Family of ten became family of four and then just one orphan, Sizewell B
1995-96

• Sizewell B complete and operating well
• AGRs now more than covering their operating costs from proceeds of sale of electricity
• Subsidy removed
• AGRs and Sizewell privatised in British Energy for only a small fraction of their cost
• Losses with Magnoxes reduced but still not privatisable
1998-99

- Share price of British Energy more than doubled
- British Energy expanding into Canada and USA
- BNFL buys Westinghouse nuclear, ABB nuclear and is prepared for privatisation
- But BNFL’s reputation damaged by falsification of QC report for MOX to Japan
2002-03

- Fall in UK electricity price causes collapse of British Energy
- BNFL loses £3.4bn in only 2002-03 and privatisation plans abandoned
- BNFL to lose all its assets and will have to bid as contractor to operate them
- Nuclear Decommissioning Authority to own all the UK civil nuclear sites except those owned by British Energy
- BNFL to be broken up into 2 main divisions, Westinghouse (reactors and fuel), BNG (site operator)
2002-03

• Government review of energy policy finds: ‘Although nuclear power produces no carbon dioxide, its current economics make new nuclear build an unattractive option and there are important issues of nuclear waste to be resolved. Against this background, we conclude it is right to concentrate our efforts on energy efficiency and renewables. We do not, therefore, propose to support new nuclear build now. But we will keep the option open.’

• ‘Keep the option open’ inserted by Blair
2005-06

- British Energy rescued at huge cost to taxpayers (~£10bn) with effectively 65% public ownership
- Relaunched company makes large profits and share price increases by factor of 2.5
- Plans to re-privatise British Energy announced and will be ‘fast tracked’ in September 2006
- But fundamentals of business look bad - O&M costs up 35%, several plants to be closed in 5-10 years, will UK wholesale price stay high?
2005-06

- Westinghouse sold for £3bn in Jan 2006, much more than expected
- BNG sale delayed and BNG expected to be broken up
- Privatisation of UKAEA planned but little progress
- Privatisation of BNFL’s 33% stake in Urenco also planned but may be blocked by German and Dutch owners
- NDA’s estimate of UK decommissioning costs rose from £50bn to >£70bn in 2 years
2006 Energy Review

- New energy policy review announced in Nov 2005
- Seen as a fix by Blair to allow new nuclear orders
- Closed process led to publication of review in July
- Little information published on the assumptions:

The nuclear cost figure is based on various studies together with industry feedback, and construction cost data from the project currently under implementation to add a new nuclear plant in Finland. Waste recycling costs are estimated under the assumption that future waste would be disposed of geologically together with legacy waste. The underlying assumption on decommissioning costs used is higher than estimates provided by vendors.
'Any new nuclear power stations would be proposed, developed, constructed and operated by the private sector, who would also meet full decommissioning costs and their full share of long-term waste management costs. The Government does not take a view on the future relative costs of different generating technologies. It is for the private sector to make these judgements, within the market framework established by Government. The actual costs and economics of new nuclear will depend on, amongst other things, the contracts into which developers enter, and their cost of capital for financing the project.'
The Annex

‘Government intends to create a policy framework under which developers will be able to make proposals for new nuclear build’ including a ‘statement of need’.

Draft statement of need

‘The Government believes that nuclear has to play a role in the future UK generating mix because of its contribution to increased diversity of energy supplies and its role as a source of low carbon generation. The Government believes that the evidence gathered during the Energy Review and the associated public consultation supports such a view.’
Blair

'We're about to move to a situation of importing energy. We have to at least replace our nuclear power stations. These decisions have to be taken now. [Or] 15 years down the line we have got high energy prices and real problems.'
Some questions to be answered

• Can the inquiry process be ‘streamlined’ or is it back to ‘decide-announce-defend’?
• Will EDF be willing to build plants without subsidies and full cost guarantees?
• Would subsidies violate EU state-aid laws?
• Where can the plants be sited?
• What technology is to be used?
• Can the programme be launched while Labour Party/Blair is still in office?
• Will a fall in fossil fuel prices remove the economic case for nuclear?