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Waste, ethics and new build

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Introduction

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- This paper focuses on social and ethical issues – all of which matter more for nuclear decisions than for other power technologies. Nuclear *is* special, but needs to become *ordinary*, *not* special
- But social and ethical issues are in practice deeply bound up with economic and regulatory issues
- No significant coverage here of opinion polls, which generally are 'knee jerks' as well as offering a poor guide to how decisions are made
- However, work by Pidgeon and others shows that UK public response depends heavily on framing of issue: if nuclear presented as stand-alone technology, a majority opposes: if as part of a climate change strategy, including renewables etc., a majority is in favour.
- Focus here (mainly) on waste

CoRWM and waste

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- Committee on Radioactive Waste Management - neither wholly expert nor wholly lay - set up by as an independent committee by UK Government in 2003 to recommend way forward for legacy waste
- Had a wide-ranging engagement programme with the public and stakeholders involving extensive deliberation, including Citizens' Panels, which developed sophisticated understanding of the issues
- CoRWM used best available science but was *not* expert-led; combined maximum public and stakeholder input with expert assessment of option performance. Used formal multi-criteria analysis *and* holistic assessment, the latter using ethical and environmental principles

CoRWM (2)

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- CoRWM met (and argued) in public, published everything, and established substantial trust – stakeholders from British Energy to Greenpeace remained engaged throughout, and all agree that the process was legitimate
- CoRWM's recommendations:
    - geological disposal the right long-term option;
    - robust interim storage vital;
    - siting must involve willing communities and partnerships, with a community right to withdraw up to a pre-determined point

‘Social’ issues – safety, security, proliferation, ethics

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- These issues are not always in neat and separate compartments: waste transport a major issue, combining elements of all the above
- The fundamental issue is trust/mistrust: in the UK, extent of public and much stakeholder mistrust of Government/nuclear industry is substantial and well-founded
- Relatively limited public concern with security, despite 9/11 and its aftermath
- Proliferation not a front-of-mind public issue
- Exception, where security and proliferation come together, concerns reprocessing/plutonium separation, where there is legitimate anxiety: UK Government now assumes no reprocessing if there is new build

Waste transport

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- Acceptance (or indifference to) existing waste transport, which is mainly of spent fuel
- Very strong opposition to new and ‘unnecessary’ transport
- *Also* very strong opposition to leaving waste (e.g. from decommissioning) at existing reactor sites
- For most people the resolution was in terms of accepting one-off transport movements from reactor sites to centralised facilities

Ethics

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- Explicit ethical analysis well established in European waste debates

- Ethics not a subjective, personal issue; nor exists in a watertight, rarefied domain, separate from technical issues, e.g. many criteria in formal MCA derive from explicitly ethical stances, and ethical dilemmas may be resolved by reference to technical data

- Main issues were
  - intra-generational equity (geographical burden distribution)
  - inter-generational equity (how to take account of future generations' interests when waste is hazardous for very long future periods)
  - differences in ethical framework as between legacy waste and new build waste

Intra-generational equity

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- Given that all management methods for waste involve some risk, communities which manage waste accept a burden
- Virtually universal acceptance that nation-states which use nuclear power should manage wastes within their own borders
- Within nation-states, arguments can be used to suggest that concentration of waste in one place (unlikely to have benefited especially from earlier nuclear power) is unethical
- Such arguments can be over-ridden by the argument that long-term safety is best achieved with waste concentration, and it suggests ethical arguments that
    - no community should be coerced into accepting waste
    - any willing community must be able to negotiate the terms of acceptance so that it is better off after waste is received than before

Inter-generational equity

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- The core issue in the debate between indefinite storage and geological disposal
- The ‘justice’ principle is partially reflected in the polluter pays principle and suggests early disposal so as to avoid burdening future generations
- The ‘liberty’ principle suggests allowing future generations maximum freedom to make their own decisions, and suggests long-term storage
- Resolution between these principles depends on the technical issue of confidence in long-term safety of geological disposal – with high confidence, the justice principle ‘wins’
- Importance of comparing long-term safety of disposal with long-term safety of storage – doubts about long-term institutional/political stability favours disposal
- Need to recognise strong public feeling that disposal is ‘out-of-sight-out-of-mind’ (often with a conviction that it’s a ‘quick fix’ to allow new build). Widespread public support for monitoring and retrievability

Legacy waste and new build waste

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- CoRWM always clear that *technical* issues involved in new build waste are essentially the same as for legacy waste – same facilities appropriate
- But *ethics and politics* of deliberate creation of new build waste are different from politics/ethics surrounding legacy wastes. In new build case, there can be choice not to create further wastes, whereas legacy wastes must be managed
- This opens up further comparative ethical issues about new build wastes, especially the ethics of *not* building new nuclear power. Much depends on views about consequences of not building nuclear power for climate change
- UK Government's 2006 nuclear consultation ruled invalid because misleading on costs and wastes – on wastes, Government had emphasised CoRWM's views about technical issues, ignoring the ethical/political differences
- Government's new nuclear consultation (23 May 2007) explicitly discusses ethical issues – waste will be a major battleground in the debate.

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Conclusions

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- Explicit consideration of ethical issues important in new build debates as well as legacy waste debates
- A condition for acceptance of new build in the UK may be explicit abandonment of reprocessing (irrespective of its probably poor economic status relative to once-through cycle)
- Deliberative processes tend to yield strong public support for geological disposal of legacy wastes
- However the issue of legitimacy of creating new wastes requires new debate – now opened by UK Government – on comparative ethics of creation of new, long-lasting wastes *versus* rejection of new build, where the ethical balance depends on views about the long-term consequences of climate change and the role of nuclear power in mitigating it.

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