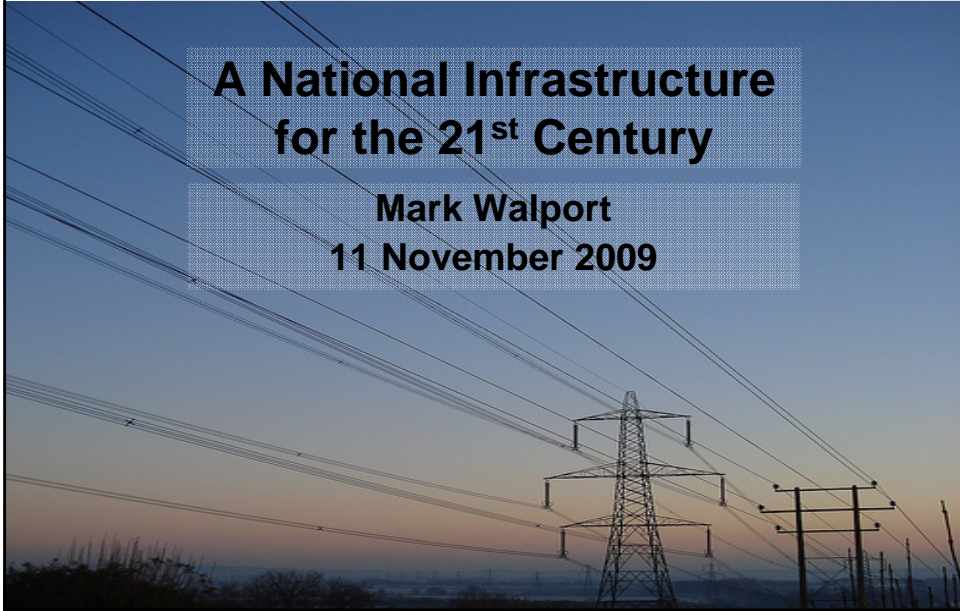


A National Infrastructure for the 21st Century

Mark Walport
11 November 2009



Infrastructure





Infrastructure Sectors

- Energy
 - electricity
 - gas
 - oil
- Transport
 - roads
 - railways
 - ports
 - airports
- ICT
 - internet
 - radio
 - satellite
 - telecoms
- Water
 - clean water
 - waste treatment



The importance of infrastructure

- supporting economic activity and growth
- attracting business to the UK
- responding to a changing world
- promoting social inclusion
- determining how we live in the future





Challenges

- ageing components
- capacity issues
- climate change
- socio-demographic change
- extreme events:
 - weather
 - terrorism
 - failure / accidents



Resilience

The ability to respond to:

- major unpredictable external events
- progressive changes in external circumstances
- evolution of elements of technology
- interaction between external and internal processes





Interdependence

Underpins all of the challenges at the level of:

- systems
- strategies
- demand

Overcoming fragmentation



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Overcoming fragmentation

Recommendation 1

- lead department
- independent stakeholder group
- clear and consistent vision for the future of the NI
- create certainty
- address short- and longer-term challenges
- attract investment to the UK



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Joined up Government

Recommendation 2

- joined up approach across Government
- prioritise the resilience and interconnectivity issues
- improve knowledge sharing
- implement the Planning Act



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Resilience and interconnectivity

Recommendation 3

- road map to enhance or maintain resilience - 2010
- identify priority and longer term actions to address:
 - points of weakness
 - vulnerabilities at the interconnections
 - safeguards and redundancy
 - conflicts between strategic and legislative frameworks
 - cross sector impacts
 - scenario planning and modelling NI systems
 - human factors



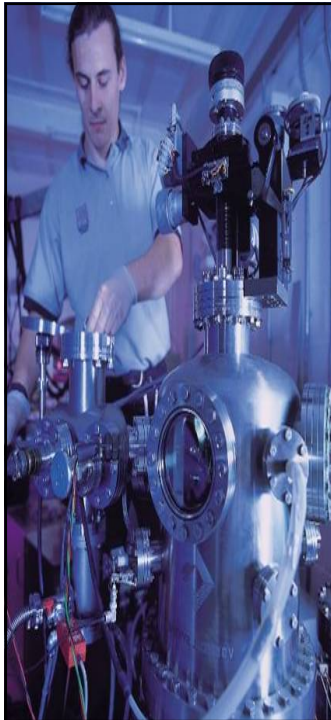
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Regulatory regimes

Recommendation 4

- ensure fit for purpose
- incentives for modernisation and innovation
- improve resilience
- stimulate innovation
- joined-up working
- consider interdependencies



Research

Recommendation 5

Core questions:

- procurement
- collaborative R&D
- barriers to deployment
- research priorities
- cross-disciplinary research on interdependencies
- scenario planning
- role of professional bodies and learned societies





Public engagement & dialogue

- value and importance
- future challenges
- investment
- resilience



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Skills

- recruitment difficulties
- retirement of workforce
- skilled technicians
- new technologies

Registered engineers

- 10% fall from 1997 to 2007
- 50% aged 55+



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