

The Future of Critical National Infrastructure – The View to 2015

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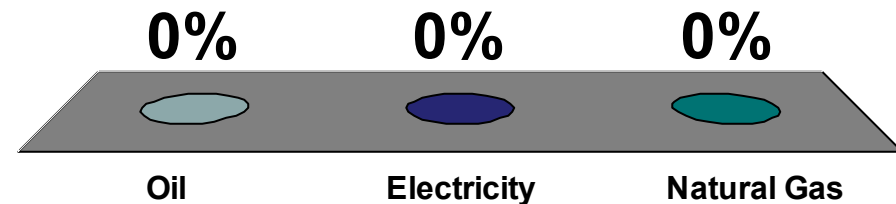
Security and Resilience in Practice

- CNI - Focus on delivery of essential services
- Energy Sector
 - Geographically dispersed assets connected by systems and networks
 - Interdependencies
 - Private sector owners and operators
- Safe, secure, clean and affordable energy supplies

In terms of final energy consumption, which energy type was used most in the UK in 2009?



1. Oil
2. Electricity
3. Natural Gas



UK Final Energy Consumption 2009

■ Oil	44%
■ Gas	34%
■ Electricity	19%

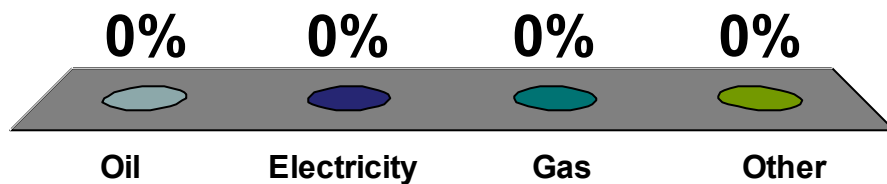
Risks and Challenges

- Cutting emissions of greenhouse gases
- Re-building our energy infrastructure
- Declining indigenous oil and gas production
- Need for continuing investment in exploration and production
- Refining and marketing – high volume, low margin business
- Oil stocking

In which part of the energy sector do you think there are the most pressing challenges to improve the resilience of energy supplies?



1. Oil
2. Electricity
3. Gas
4. Other



Gas

- Winter 09/10
 - Coldest winter for 30 years
 - Interruptions in Norwegian supplies
 - Gas supplies maintained
 - Increased gas storage capacity
 - Reform of EU energy markets
 - Global gas availability
- Uncertain future
 - Demand
 - Supply
 - High Impact / Low probability events

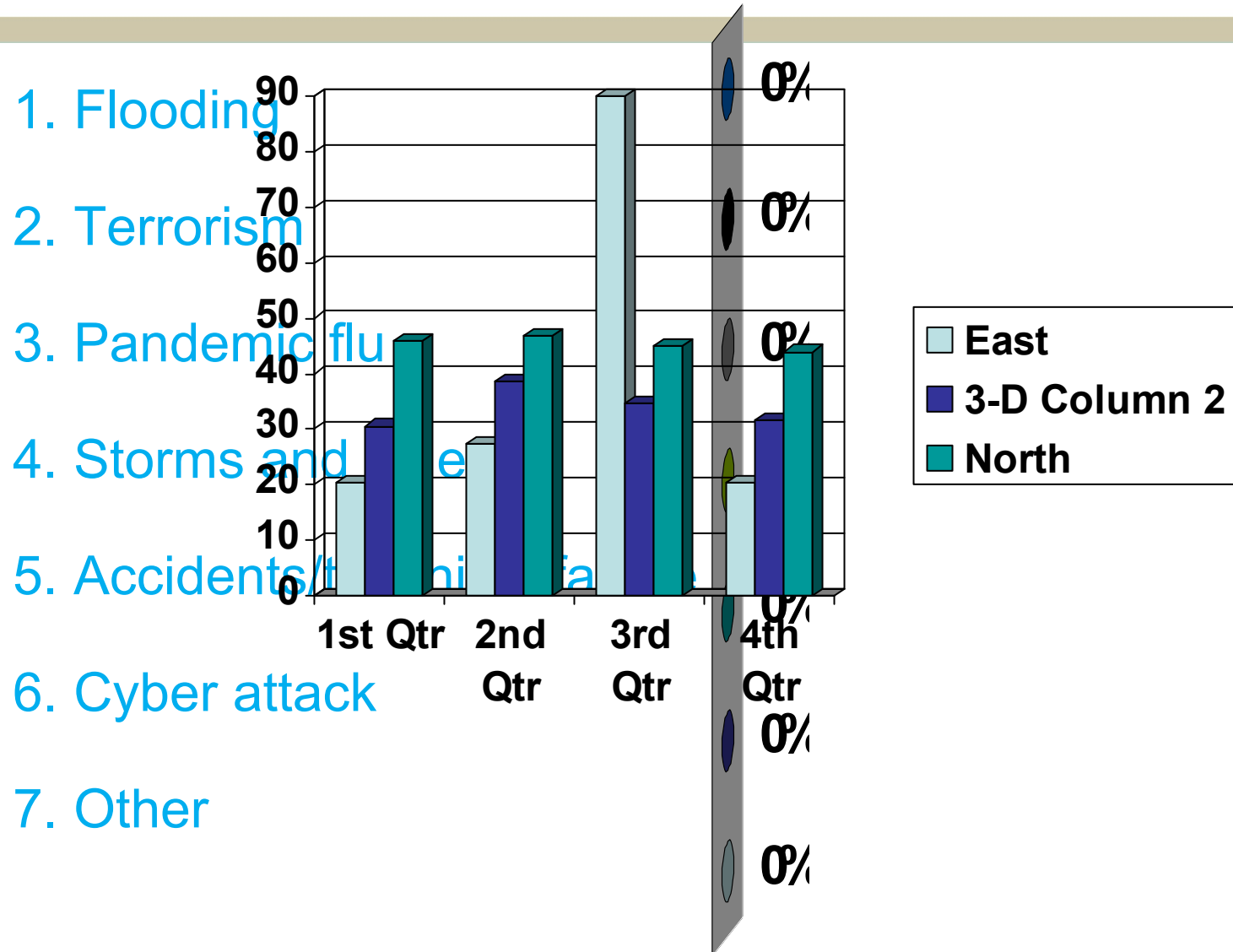
Electricity

- Electricity reliability
- Risk of nationwide loss of electricity
- Black Start
- Electricity Act
- Energy Emergencies Executive Committee (E3C)
- Severe solar weather

Energy Resilience - risks

- Severe weather
 - Storms and gales
 - Flooding
- Pandemic flu
- Cyber security

What do you think is the most critical risk to energy supplies over next 5 years?



Priorities over next 5 years

- Security and resilience of energy infrastructure
- Crisis management capabilities
- Interdependencies - resilient assets and networks required for delivery of essential services