

National Infrastructure Commission - Resilience Study Scoping Consultation

Citizens Advice submission
April 2019



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Introduction

The resilience of the infrastructure of the country, in terms of utility supplies such as water and energy, is vital for consumers to be able to conduct their daily lives effectively and efficiently. Any loss of an essential service can have negative financial and social impacts for an individual or business which differs dependent upon circumstances. Consumers with vulnerabilities, such as ill-health or being in fuel poverty, have much higher negative consequences from outages as they are much less able to independently respond to a crisis. It is therefore crucial that infrastructure companies that are tasked with maintaining our essential services not only ensure security of supply but also have measures in place so that the higher impact of loss of supply on those with vulnerabilities is adequately addressed. Contingency and emergency response plans to manage outages need to be robust, well-thought through, and involve relevant multiple agencies to ensure coverage. Provision within these plans has to prioritise those least able to help themselves.

In the increasingly interdependent world of smart technologies, where one utility service may need to work in combination with another, there will be an increasing risk to resilience of the system. Adequate planning by infrastructure companies will need to account for these increased risks in areas such as cyber security, technical data failings, and also consider any knock-on effects where one essential service fails and impacts others (for example, broadband failures impacting electricity flexibility and Demand Side Response mechanisms).

The infrastructure companies, regulators and policy makers must learn the lessons from major recent incidents, such as the Beast from the East cold-weather event in 2018 and the Lancaster floods in 2015, to formulate robust and socially inclusive contingency plans. Regulators will need to ensure that those emergency plans are fully implemented and prove effective, when the need arises.

Q1: What are the key questions that the next National Infrastructure Assessment should answer about resilience?

Are infrastructure companies focussing appropriately on security of supply?

Building resilient infrastructure and ensuring security of supply is of tremendous importance, however, such improvements come at a cost to the consumer. As such, consumers should be consulted upon the price that they would be willing to pay to ensure a higher degree of security. We are aware that consumers can value security of supply differently dependent upon their circumstances and the consequent financial and social impacts an outage can have. For instance, the Electricity North West research report¹ on the 'Value of Lost Load' (a measure designed to capture the average value a consumer would pay to avoid an electricity outage) showed how various demographic and environmental factors affected valuations. The report showed how the standard VoLL measure had under-represented certain groups, particularly those with vulnerabilities or who were fuel poor.

Research in the water industry has shown similar differences in willingness to pay for security of supply with those with vulnerabilities more likely to place a higher value on security².

Examples of different viewpoints were highlighted from consumers:

- Who have never experienced outages versus consumers that have experienced frequent or long outages.
- From urban versus rural locations.
- Who were fuel poor versus those who were not.
- Who had disabilities versus those who did not.
- Of different genders and age profiles.

We understand that many network companies have recognised the importance of capturing the views of its varying consumer demographic groups but we

¹ Electricity North West, September 2018, [The Value of Lost Load](#).

² Impact Utilities Report, February 2018, commissioned for South Staffordshire Water for the 2019 Price Control, [Willingness-to-pay research to support PR19](#).

would reiterate the importance of capturing all relevant views of consumers, particularly from those with vulnerabilities, or on low income. There should also be a clear methodology for reconciling the trade-offs of differing consumer views that will need to be made to reach decisions on planning and paying for security of supply.

Are infrastructure companies adequately prepared for larger scale incidents?

In general, utility companies respond well to service outages. But the 2018 'Beast from the East' cold-weather snap followed by a rapid thaw revealed that numbers of water companies were ill-prepared for the event. Ofwat's report³ on the water companies' actions noted several specific failings. We think that it is, therefore, vital that all infrastructure companies have:

- Robust and effective plans for handling eventualities affecting supply.
- Up-to-date data collection on:
 - Where incidents have occurred and the timeline for resolution of issues.
 - Consumers with vulnerabilities, including the type of support that may be needed, and how to achieve that support.
 - Stakeholders that can support consumers, for instance, local councils, charities, and other agencies with pre-planned mechanisms for action.
- Excellent communication systems to ensure that all consumers and stakeholders have clear and accurate information on problems, emergency resources, and timings.
- Adequate communications access so that all consumers can reach the infrastructure company to report problems and seek help.
- Pre-planned coordination responses with other agencies and infrastructure companies to share resources, where applicable.

How is resilience in electricity supply likely to be affected by increased Demand Side Response, and what are the timelines for these changes?

Resilience to supply in electricity may be positively affected by increased Demand Side Response by consumers. Our own research⁴, however, points to the likelihood of relatively modest uptake of such schemes in the near term by domestic consumers. There will be a need for policy makers to enable higher

³ Ofwat, 19 June 2018: ['Out in the cold: Water companies' response to the 'Beast from the East'](#)

⁴ Citizens Advice, July 2017, ['The Value of Time of Use Tariffs in Great Britain'](#).

uptake through encouragement of simple time of use tariffs, smart technologies, coupled with adequate consumer protections to provide confidence in the system.

Are agencies beyond infrastructure companies adequately resourced to be able to assist with supply events? Are these stakeholders and groups fully included in planning?

In an outage event, local support agencies can play a vital role in giving practical help and advice to people experiencing supply problems. These agencies can include councils, third sector organisations, and local community and religious groups. Recent central and local government cutbacks have impacted these agencies in terms of resourcing and it may be suitable to look to how centralised contingency planning budgets could help to support these groups. In addition, infrastructure companies should be including these stakeholder agencies within their own emergency response planning to widen coverage and target those most in need during an outage scenario.

Q2: On the basis of your response to question 1, what issues should be prioritised in the resilience study?

We have addressed these issues within Q1.

Q3: Are there specific (e.g. policy, knowledge, data sharing or other) barriers to addressing resilience emerging from cross-sectoral interdependencies?

Increasing risks in data resilience and control through cross-sectoral interdependencies

There is likely to be increased bundling of utility products and services for consumers provided through one company. In addition, consumers will be reliant upon multiple types of service to run their homes and businesses, such as using broadband or other communications to run electrical and smart devices. Infrastructure planning will need to consider the knock-on effects of the failing of one service and how it can impact other utility supplies.

Localised flexibility and Demand Side Response in the electricity market should assist with localised resilience for supply. However, there may be increased risks in terms of consumer data security, especially with the interoperable nature of the technologies. Cyber security breaches or technical failure may negatively impact resilience to the system. There will need to be strong policy and planning, and effective implementation of plans to protect consumers' data from these risks and the consequent effects upon resilience of utility supply.

Data sharing for the Priority Services Register (PSR)

Citizens Advice has undertaken research⁵ into energy companies' practices when identifying and recording information on people with vulnerabilities for energy company PSRs. At present, each infrastructure company maintains its own PSR for those needing extra support and has a separate registration system. It would be more effective if infrastructure companies could share data on those requiring extra support and agree a common framework for identifying and recording that data. We are aware that there is an effort by water and energy companies⁶ to proceed in this direction for shared data but that there is more work which needs to be done.

Planning for cross-sectoral interdependencies

The Lancaster floods caused major infrastructure failings in supply of electricity and broadband, mobile coverage, and the ability to receive communications, including radio⁷. It will be important to address the impact of multiple infrastructure outages and how infrastructure companies and wider agencies respond to protect consumers, particularly those with vulnerabilities, from such wide-scale failings.

⁵ Citizens Advice, January 2018, ['9 million people are missing out on support with their energy supply'](#).

⁶ Ofgem, Ofwat and UKRN, November 2018, ['Making better use of data to identify consumers in vulnerable situations: A follow-up report'](#).

⁷ Lancaster University, ['Living without electricity: One city's experience coping with loss of power'](#).

Q4: Are there any examples in which barriers to resilience issues, arising from sectoral interdependencies or other causes, have been addressed or overcome?

No response provided.

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Published April 2019

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Registered charity number 279057.