MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
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Who decides the level of resilience for a community? And how does a community get the resilience it wants?
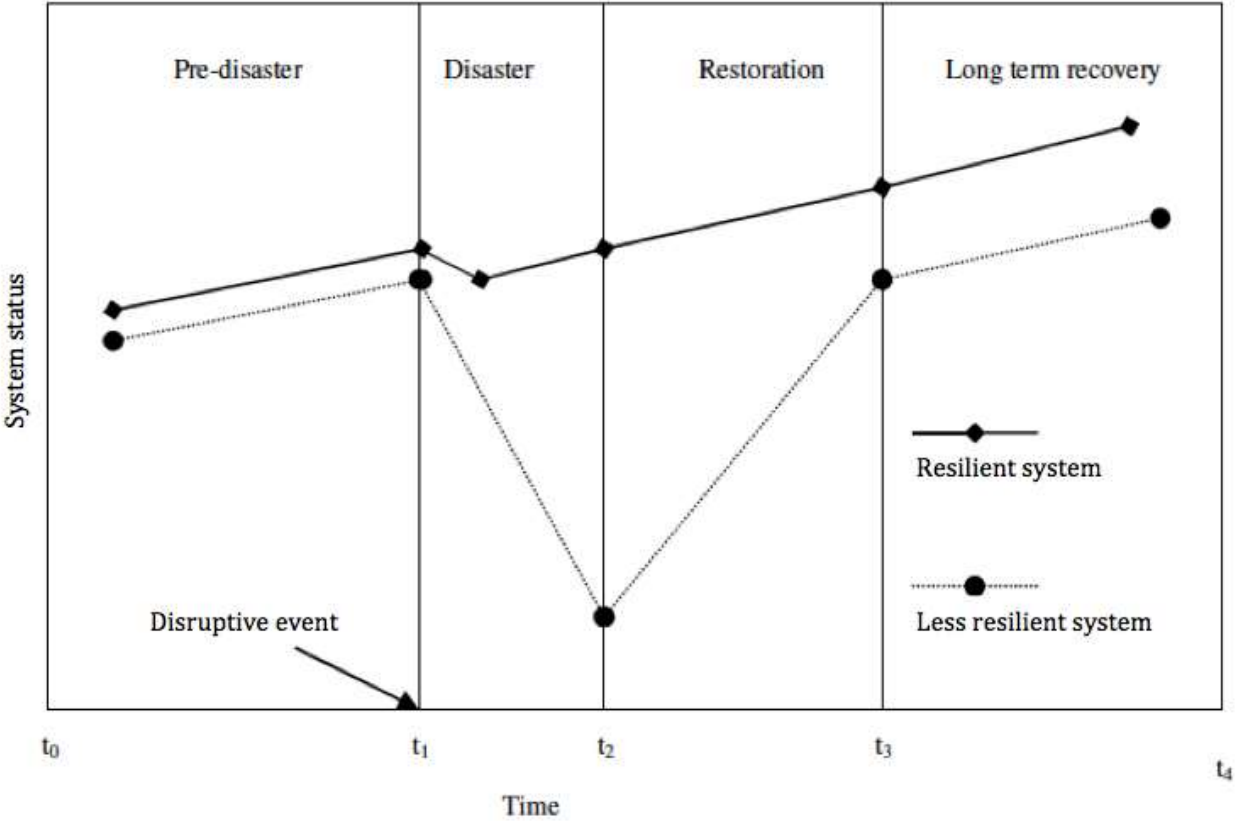
Gareth Wilson
April 2017

Outline

- Is resilience the same as reliability and security of supply?

- Are threats to infrastructure services increasing?

- What drives infrastructure owners to improve resilience?

- What is the relevance of sector legislation and governance?

- Who monitors resilience? Who is accountable? Who decides?

- My problem statement and some questions

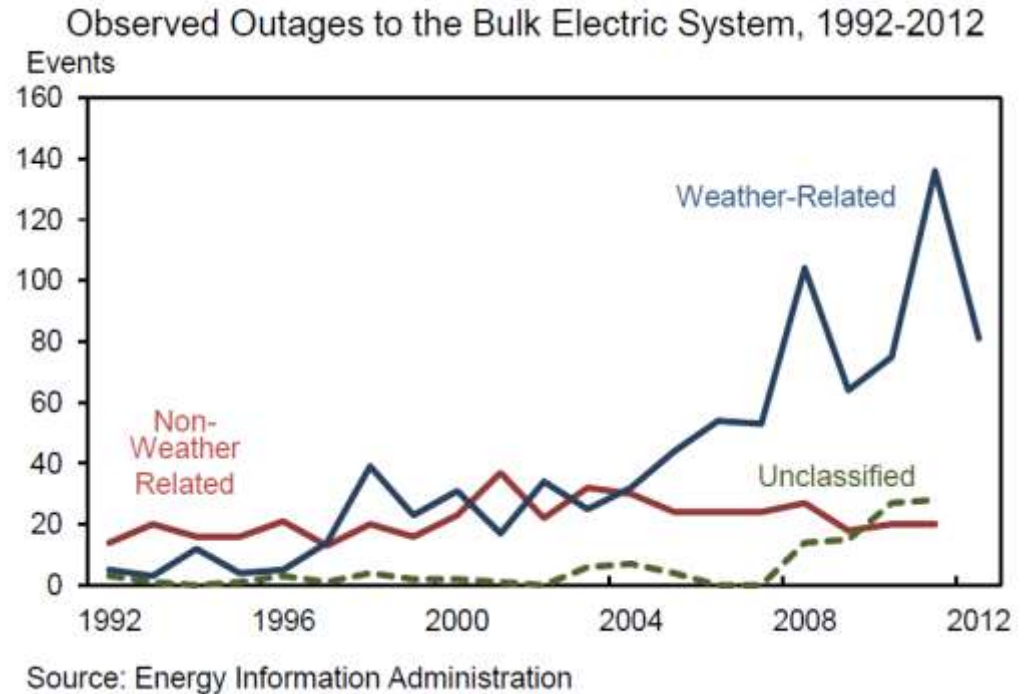# Reliability, security and resilience

(from Mayunga)

1. Robustness
2. Resourcefulness
3. Rapid Recovery
4. Adaptability
   (Stephen Flynn)

The ability to anticipate, absorb, adapt to, and/or rapidly recover from a potentially disruptive event.
(US National Infrastructure Advisory Council)

Will threats to resilience increase in the future?

- Natural hazards

- Adversarial threats (e.g. cyber)

- Complexity and mass-scale automation

Observed Outages to the Bulk Electric System, 1992-2012

Source: Energy Information Administration

What drives resilience improvement?

Resilience practices are often woven into the business functions, operations, and culture of the electricity sector.

Many practices are so ingrained in the operations and culture of the industry that many within the industry do not label them as resilience, and many outside the industry are unaware of the extensive resources expended to minimize all-hazard risks.

National Infrastructure Advisory Council

- But what drives and maintains resilience practices and culture?

- Is it the pursuit of profits, or regulatory compliance?

- And are the commercial and regulatory drivers strong enough, given the significant public benefits of resilience?

What legislation promotes resilience?

- Electricity Act
  - Safety and power quality

- Electricity Industry Act
  - Competition, reliability and efficient operation of markets for long term benefits of consumers

- Commerce Act (Part 4)
  - Outcomes consistent with those in competitive markets … such that regulated suppliers have incentives … to provide services at a quality that reflects consumer demands …

- Civil Defence and Emergency Management Act
  - improve and promote the sustainable management of hazards
  - encourage and enable communities to achieve acceptable levels of risk
  - provide for planning and preparation for emergencies and for response and recovery
  - require local authorities to co-ordinate […] planning, programmes, and activities […] across the areas of reduction, readiness, response, and recovery, and encourage co-operation and joint action […]
  - encourage the co-ordination of emergency management, planning, and activities

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My problem statement

Communities have limited means of assessing, or being assured of, the resilience of their critical infrastructure

- The CDEM Act requires every lifeline utility to "ensure it is able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency"
- But each utility is free to decide for itself what this duty means
- Is "fullest possible extent" an objective performance standard?

- Mechanisms for reporting or communicating emergency service level targets or service restoration targets are underdeveloped
- Frameworks and processes for aligning and coordinating resilience planning across lifeline utilities are underdeveloped

- Who can communities hold to account for poor resilience, or poorly coordinated resilience improvement activities?