

# Microgrids for disaster preparedness & recovery

**Speaker name**

**Title**

**Title**

**Event**

**Date**

**Location**



International  
Electrotechnical  
Commission

# IEC White papers

- Each year, the IEC publishes at least one White Paper and/or Technology Report
- In-depth research and recommendations on key technology trends in the electro-technology market
- This year, topics were AI and grid stability in a future of distributed power



Download from IEC website:  
<https://www.iec.ch/whitepaper/>

# Scope of White paper

- **Consider the complex challenges involved in preparing for, and recovering from, major electricity outages.**
- **Provide best-practice methods for**
  - **Planning & assessing a facility's response to major disasters,**
  - **Recovering from disasters,**
  - **The use of microgrids to improve resilience of electricity supply.**
- **Overview of the benefits microgrids can provide to industry ... as well as the key challenges that need to be addressed before wide-scale implementation.**

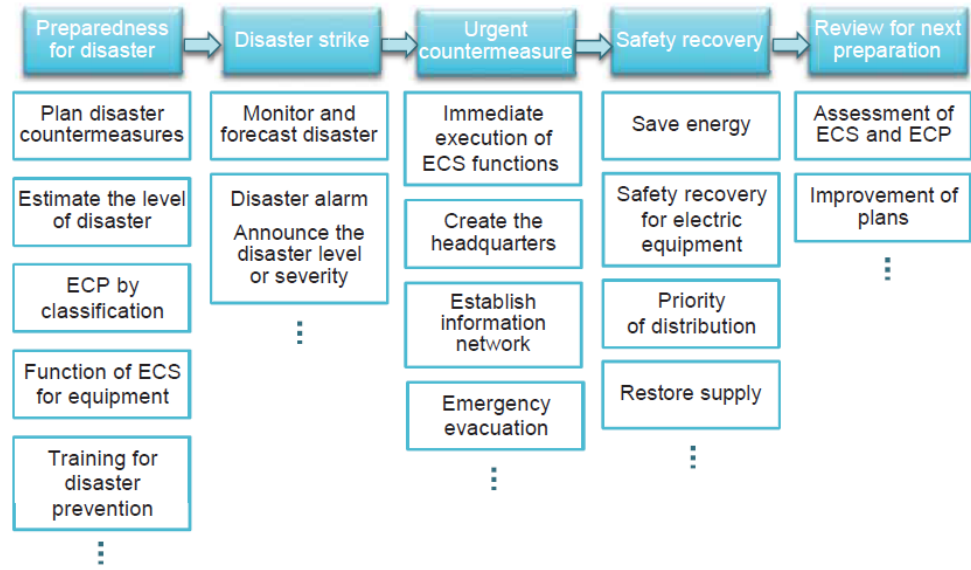
# Types of disasters considered

- **Case studies on natural disasters**
  - **Earthquakes (Japan)**
  - **Hurricanes (USA)**
  - **Tsunamis (Japan)**
  - **Floods (Thailand)**
  - **Fire (Australia)**
- **And also of cascading failure (Italy)**
- **Detailed focus on electrical facilities after the Great East Japan Earthquake**



# Tools to mitigate risks

- Quality of planning
- Continuity planning
  - BCP
  - ECP



## Markets for electricity continuity systems:

- Macro level i.e. government
- Businesses
- Consumer market i.e. home energy management systems

# How the IEC can help

The IEC takes a three-prong approach with regard to disaster risk assessment and impact mitigation:

1. Help increase disaster resilience of infrastructure through built in safety mechanisms.
2. When disaster strikes, IEC work facilitates recovery.
3. The four IEC Conformity Assessment Systems provide the verification and certification that systems and devices perform as they should.



# Benefits of microgrids

- **Microgrids are inherently suitable for maintaining electricity provision during or after a disaster**
- **Microgrids are a way of coordinating the growing number of sites with local on-site generation**
- **Offer a new way to power rural or remote communities**



# Recommendations for the industry

- **Develop electricity continuity plans**
- **Consider microgrids as a broader electricity system asset**
- **Design microgrids to contain a significant amount of renewable generation**
- **Design microgrids and related technologies around ‘plug and play’ principles**





# Recommendations for the regulators

- Encourage the development of electricity continuity planning and systems
- Consider the integration of energy supply and supporting utilities
- Remove barriers and consider incentives for demand-side measures



# Get involved

- **Make your needs heard and adopt and use International Standards for quality national infrastructure**
- **Do not reinvent the wheel: use existing certification protocols**



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- Order a copy or download a PDF file:  
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**Thank you!**

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