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Disaster resilient power systems in the Pacific

Featured Speaker
Shifting upstream: risk & resilience-based investment planning

Tongatapu: map of projected maximum flood exposure height (2080)
Scaling up resilience investments and ensuring build back better

Left: Cyclone Gita Recovery Project in Tonga. Following partial implementation of a resilient Energy Roadmap, only 5% of upgraded power grids in Tongatapu and 'Eua were damaged following TC Gita, compared to around 45% of non-upgraded sections.

KEY BUILD BACK BETTER OPPORTUNITIES:

- Distributed energy
- Microgrid technologies
- Energy efficiency
- Resilient transmission and distribution systems
- Relocatable and flexible systems
- Resilient standards
- Systems dependencies
- Control, Monitoring, and Modeling Systems
- Power sector capacity building
Managing residual risks through anticipatory action: 
Energy Sector Case Study Assessment of Tonga’s Anticipatory Action Potential

Anticipatory action requires a combination of forecasts that can be operationalized, clear plans and procedures for action, finance, and coordination and delivery arrangements.

Recommendations for Tonga:

• Utilize impact-based forecasting to take earlier action to prepare the power grid for disaster events.

• Undertake further analysis of historic damage patterns and forward-looking risk assessments to better forecast impacts.

• Develop Standard Operating Procedures (SOPs) for sector anticipatory action and response, coordinated across the full range of power sector stakeholders.

• Strengthen preparedness arrangements for faster recovery (e.g., stockpiling resources, community training, contingency funds).