

**SUS17**

## **SECURING MICROGRIDS: CHALLENGES, STRATEGIES, AND BEST PRACTICES**

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### **Abstract**

A microgrid is a localized electricity distribution network comprising users with access to local renewable and other energy sources. While typically connected to a utility grid, it can also operate independently. The utility grid is vital to national economy, security, and resident welfare. However, connecting microgrids to wider networks through utility substations exposes them to significant cyber threats. The objective of this paper is to provide a comprehensive analysis of security challenges and strategies in microgrids, emphasizing best practices. Additionally, it introduces insights into AI assistant attacks and defenses. By addressing these issues, stakeholders can ensure that microgrid systems remain secure and reliable in the face of emerging cyber threats.

### **Conference Track**

Sustainability Issues in Decision Making