

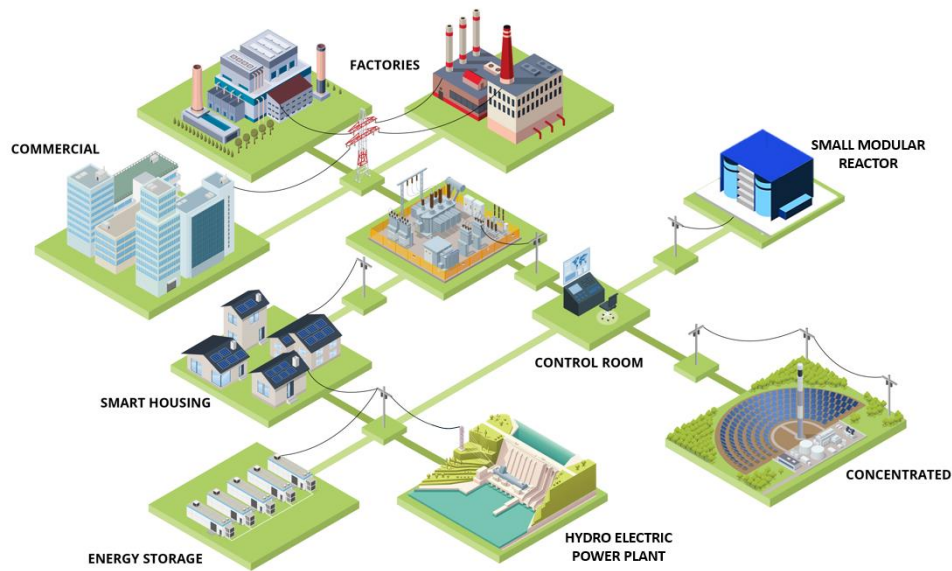
Sandia National Laboratories Handout 1: Introduction to Microgrid Resilience

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What are Microgrids?

Microgrids are localized energy systems that provide power independently or in connection with the main grid. They integrate different generation types (hydro, advanced nuclear, batteries) to ensure continuous power, especially in disaster-prone areas.



Example of the Microgrid Concept.

Why Do Microgrids Matter?

Microgrids help keep the lights on when the main grid goes down, such as during hurricanes, wildfires, or other disasters. They give communities more control over their energy.

How Microgrids Work

Normal Mode: Microgrid shares energy with the main grid.

Emergency Mode: If the grid fails, the microgrid disconnects and powers key services like hospitals or water systems using local energy.

Microgrid Benefits

- ☒ Increases reliability during disasters
- ☒ Reduces stress on large power grids
- ☒ Improves system resilience