

# The Energy-Resilient City

Learn about the different ways a city can incorporate resilience:

## MANUFACTURING

Built with a highly-efficient building envelope, efficient equipment, and a state-of-the-art building energy management system.

## SCHOOL

Solar panels and a tightly insulated building envelope keep air conditioning running to keep students safe during a summer power outage.

## UNIVERSITY

Uses a renewable microgrid system combining a solar PV structure with battery storage, which can disconnect from the traditional grid and operate autonomously during outage events.

## HOSPITAL

A combined heat and power system provides low-cost energy for critical lifesaving equipment during a winter storm power outage.

## GROCERY STORE

A tightly insulated building envelope and highly efficient refrigeration equipment reduces the size of required backup generators, allowing the store to preserve inventory at a lower cost during a power outage following a hurricane.

## COMMUNITY CENTER

Constructed for passive survivability with highly insulated concrete walls, window-shades that block direct summer sunlight, and a light-colored, reflective roof. During a summer time power outage, the community center stays cool enough to provide a place for residents to gather as well as a base for community services and local response.

## OFFICE BUILDING

During a heat wave that threatens to strain the electrical grid, it can participate in electric utility demand response, receiving a payment for temporarily reducing its demand on the grid while maintaining essential operations.

## APARTMENT BUILDING

Features triple-paned windows, heavy insulation, and passive solar heating, and uses efficient electric heat pumps instead of gas heating. During a blizzard, residents are protected from the costs of natural gas price spikes. During a power outage, it can stay warm enough to keep residents safe for the duration of the event.

