Heat wave.

EXTREME HEAT

Increasing insulation is key to a home's ability to resist an extreme heat event without sustaining major damage. Backup power is another essential item to maintaining temperature inside the structure and cooling system, which is important to protect vital systems from damage. Controlling moisture inside the home to prevent mold growth is also important for extremely hot and humid environments. Site and building designs are key to ensuring that the structure can remain safe to occupy.

Damage Frequency

MODERATE

Construction Practice

Use materials with high thermal resistance and design techniques to lower cooling loads.

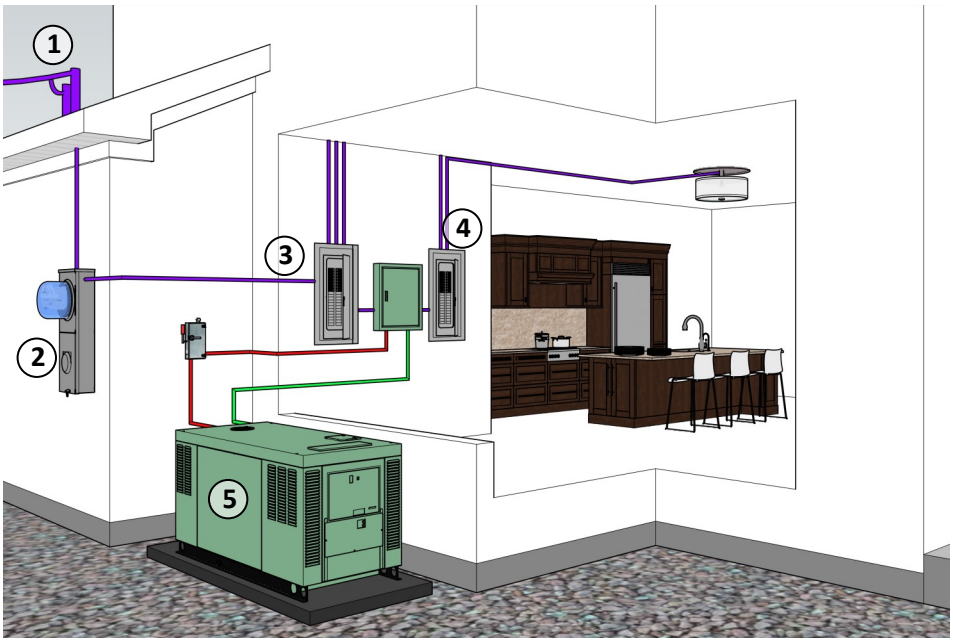
Mitigation Strategy

Increase thermal resistance of building materials, and use site and building design to boost the home's ability to remain livable during long-term exposure to extreme heat.

Cost & Benefit

Cost range to implement: $–$$$$

Benefit: Design elements increase the likelihood of a home remaining livable during an extreme heat event.



1. Power from utilities
2. Electric meter
3. Main breaker panel
4. Household backup circuit panel
5. Generator

GUIDANCE	DIFFICULTY	COST
Backup Power		
Backup generator powered by natural gas, diesel, or propane. [1,2]	Easy	$$$
Solar with battery backup. [2]	Easy	$$$
Portable battery backup or generator interface system. [2,3]	Moderate	$$
Roof Design		
Properly designed attic ventilation using nonmechanical method as first option.	Easy	$
Humidistat-triggered mechanical ventilation of attic with solar or other backup power source.	Moderate	$$$
Install thermal barrier/blanket under roofing to control attic temp and prevent shingle damage.	Moderate	$$$
Use properly designed and drained green/vegetative roof system. [4]	Complex	$$$–$$$$
Site and Home Design		
Landscaping, tree planting, or preservation plan that ensures shading of entire structure. [4]	Easy	$$–$$$$
Site home on property to minimize broad roof and wall exposure to south and southwest.	Easy	$
Design home with exterior walls that allow for thermal mass, with deep overhangs and windows set back for shading.	Easy	$$
Water Security/Drought Mitigation		
Xeriscape/natural landscape (eliminate external use of water while preserving grading, drainage, and shading). [5]	Easy	$
Incorporate wildfire protection provisions. [5]	Easy	$–$$$$
Ensure that initial well installation is deep enough to preserve viability and quality to avoid necessity of drilling new well with water table decline during extended drought conditions. [5]	Easy	$$$

RESOURCES

1. *Be Prepared for Extreme Heat.* FEMA.
2. *Power Outages and Indoor Air Quality (IAQ).* EPA.
3. *Power Outages.* USDHS.
4. *Using Green Roofs to Reduce Heat Islands.* EPA.
5. *Planning for Drought Resilience.* Fact Sheet. FEMA. September 2021.