

# Backup Generator

## Overview

- Backup generators can be purchased to help recover from storms and flooding events.
- Generators offer a limited power source.
- Backup generators have several uses:
  - Power sump pumps that remove water from basements during flooding events when installed with drainage systems
  - Power portable sump pumps which remove flood water from basements and yards after a flooding event
  - Power a structure after power loss during storm recovery
- Most generators should only be used to operate critical electrical devices and equipment.
- Small, economical, portable generators are primarily used for residential properties. Some large residential properties may require a larger, immobile generator (standby generator).
- Large immobile standby generators can be installed for larger commercial properties.
- Portable generators are designed to run on diesel, gas or propane.
- Standby generators with lower/moderate capacities can use solar energy for fuel in addition to natural gas or propane from existing lines, while larger standby generators are designed to use natural gas or propane hookups.
- Generators should only be used when the power is out.
- Some commercial properties may be eligible for FEMA funding for the installation of standby backup generators.



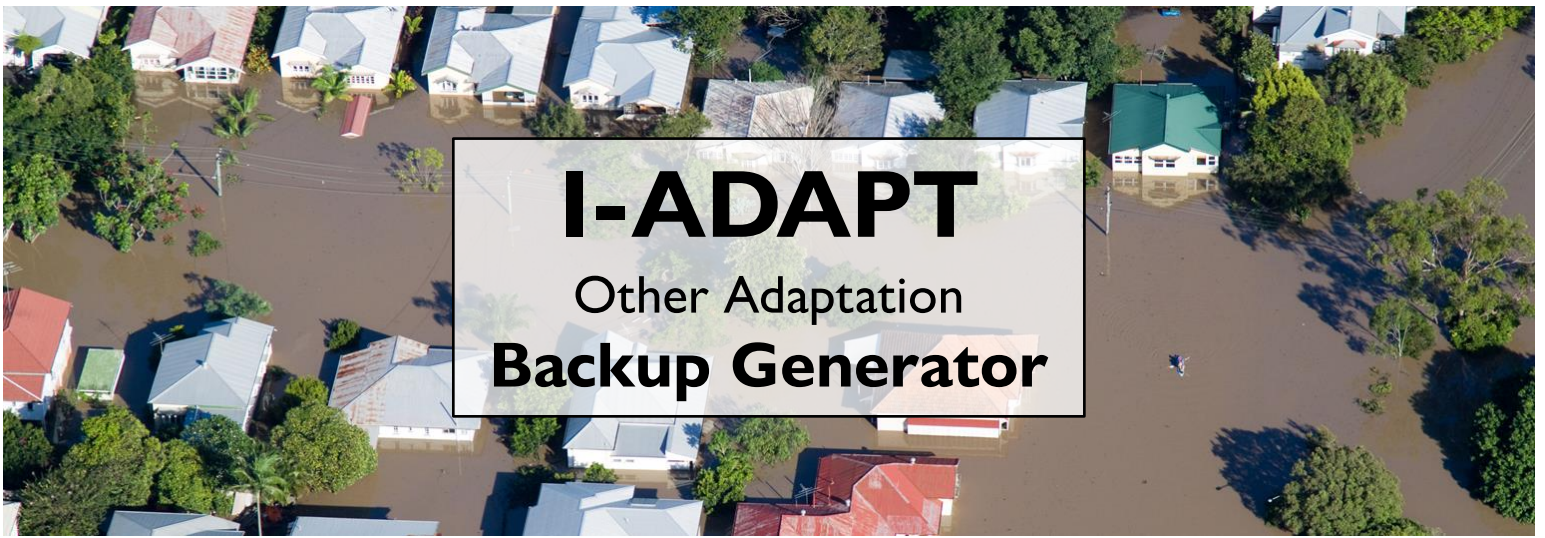
## Key Takeaways

During flood and storm events, residential and commercial structures can lose power due to high winds and/or flooding conditions.

Portable or stationary (standby) backup generators can be used to temporarily power residential and commercial properties when needed.

Portable backup generators can also be used to power sump pumps to remove water during or after flooding events.





# I-ADAPT

## Other Adaptation Backup Generator

### Estimated Costs/Benefits

\*U.S. dollars (2022), estimates are subject to change

Potential Costs		Potential Benefits	
Item	Estimate	Post-Flood Recovery Actions	Estimate
Small, portable generator	\$400-\$4,000	Flood damage recovery (professional clean-up, mold removal, replacement/repair of flood damaged items)	1 inch water \$10,800-\$53,500+
<b>OR</b>			
Standby residential generator	\$1,400-\$20,000		
Concrete pad (3'x6')	\$800-\$1,200		
Transfer switch installation	\$1,000-\$1,500		
<b>OR</b>			
Large, standby commercial generator	\$6,000-\$200,000		3 feet water \$39,800-\$185,700+
Concrete pad (6'x12')	\$1,500-\$3,000		
Transfer switch installation	\$1,200-\$3,000		
<b>ESTIMATED TOTAL COST</b>	<b>\$400-\$206,000</b>		

### Potential Funding

- [FEMA Hazard Mitigation Grant Program](#)
- [FEMA Pre-Disaster Mitigation Grant](#)

### Expected Maintenance

- Periodically check to make sure the generator is working and is not damaged.

### Additional Actions

- Keep fuel on hand to fuel the generator.

### Permitting Agencies

Contacts for permitting requirements include but are not limited to the following:

- Your city and/or county government for local flood ordinances or regulations
- Your city and/or county government for building permits

### Who to Contact

- Installation contractor
- Electrician
- Utility company (if applicable)

### Additional Resources

- [FEMA Eligibility of Generators as a Fundable Project by the Hazard Mitigation Grant Program and Pre-Disaster Mitigation Program](#)
- [FEMA: Generators](#)

Resources can also be found at <https://de.gov/iadapt>

Technical definitions and more information are located on the I-ADAPT website: <https://de.gov/iadapt>.



This information is intended to be used for planning purposes. It is not intended to substitute or take precedence over the guidance of design engineers, contractors, utility companies or regulatory agencies.

For more information, contact DNREC's Division of Climate, Coastal and Energy at [DNREC\\_IADAPT@Delaware.gov](mailto:DNREC_IADAPT@Delaware.gov)

