


Ensuring Energy Security & Resilience for All



Strategies For Governors to Address the Needs of Vulnerable Communities and Individuals During Energy Emergencies



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TABLE OF CONTENTS

TABLE OF CONTENTS.....	2
INTRODUCTION.....	2
COMMUNITY-SPECIFIC ENERGY SECURITY CHALLENGES AND SOLUTIONS.....	3
• Supporting Energy Resilience for Coastal Communities.....	3
• Supporting Energy Resilience for Rural Communities.....	6
• Supporting Energy Resilience for Low-Income Individuals.....	10
• Supporting Energy Resilience for Elderly Individuals.....	13
• Supporting Energy Resilience for Individuals Affected by Chronic Illness and Disabilities:.....	17
RELEVANT RESOURCES FOR STATES AND TERRITORIES.....	21
• Federal Resources.....	21
• NGA Resources.....	21

INTRODUCTION

As states and territories face an increasing range of threats that could compromise energy reliability, coordinating the preparedness and response to energy disruptions that address the needs of all communities is critical to mitigating significant impacts. Energy emergencies –such as electrical grid outages, pipeline disruptions or fuel shortages –pose risks to all, but there are multiple populations that face distinct challenges due to their unique needs.

In this series, the National Governors Association (NGA) examines several populations that face unique risks during an energy emergency, including coastal communities, rural communities, low-income individuals, the elderly, and those affected by chronic illness and disabilities. Governors can implement solutions to address the specific needs of these key populations and better mitigate risks to protect them during energy system disruptions.

The five communities discussed in this series are not exhaustive nor mutually exclusive, and individuals who are members of multiple of the communities discussed may face compounding challenges. The objective of this paper is to highlight some of the unique challenges that some individuals may face during an energy emergency and to provide guidance for Governors to support those individuals should an energy outage occur.

COMMUNITY-SPECIFIC ENERGY SECURITY CHALLENGES AND SOLUTIONS

Supporting Energy Resilience for Coastal Communities

Coastal communities are particularly vulnerable to energy emergencies due to their proximity to natural hazards, often low elevations and, in some cases, remote geographies. Many essential components of energy systems are [located](#) in risk-prone, coastal areas, including natural gas infrastructure, electric power plants, oil and gas refineries, and renewable energy generating sites.

Coastal communities face three major, interconnected challenges in energy emergencies:

- **Increased weather threats:** Many coastal areas face [higher risks](#) for severe weather, such as hurricanes, tropical storms, tsunamis and floods. High winds and flooding can cause structural damage to energy infrastructure and hamper emergency response in those communities. Low-lying coastal areas suffer from eroding coastlines, tidal flooding and diminished wetlands, perpetuated by sea level rise. Storm surges can lead to severe flooding that compounds infrastructure damage and complicates restoration.
- **Difficult access for restoration crews and emergency responders:** Many coastal communities are more difficult to access, either because they are islanded communities with limited access routes (e.g., those on east coast barrier islands) or due to restricting geographies like coastal mountain ranges and peninsulas. As a result, restoration times may take longer during energy emergencies. This is further compounded when transportation routes are closed due to damage or debris.
- **Many coastal areas have large, dense populations.** About one third of the U.S. population lives in a coastal community, and population density in many of these communities is [increasing](#). This presents numerous challenges in an energy emergency. Given the limited access routes and dense population, it may be difficult to coordinate and execute an evacuation plan safely. Ensuring fueling and charging stations along evacuation routes have access to backup power and energy storage is crucial to support evacuations during an energy emergency.

How Governors can Support Coastal Communities

There are many actions Governors can take to prepare for and respond to energy emergencies that address the specific needs of a vulnerable, coastal community.

Governors can take action to address the challenges faced by coastal communities during energy emergencies, including:

- Developing and implementing a coastal energy emergency preparedness or resilience plan,
- Providing backup power for fueling stations along evacuation corridors,
- Bolstering coastal energy infrastructure,
- Hardening energy infrastructure to boost resilience against severe weather and eroding coastlines,
- Deploying microgrids to build resilience,
- Increasing the deployment of backup battery storage, and
- Updating, adopting and implementing building energy codes.

Develop and Implement a Coastal Energy Emergency Preparedness or Resilience Plan. The first step to responding to an energy emergency occurs before an emergency has even begun: stakeholder engagement and planning. To respond effectively to an emergency, a comprehensive plan must be established. Before a plan can be developed, all the necessary stakeholders must be engaged. Beyond the important stakeholders that must be engaged for energy emergency planning, it is important to engage representatives from vulnerable communities in the planning process. Governors can also use those planning processes to identify needed policies, like those that allow for pre-positioned resources before an incident occurs.

Provide backup power for fueling stations along evacuation corridors. Coastal communities are often densely populated regions. In the event of a severe storm or flood, a clear and well-communicated evacuation plan that coordinates all components of emergency response is crucial. As part of this plan, Governors can make policies to ensure energy-related logistical challenges are addressed. In the case of an emergency requiring large-scale evacuations, Governors can take action to ensure that gas stations along evacuation routes have sufficient fuel supplies to meet demand and ensure all individuals under evacuation order can safely leave the affected area. Several states, including [Florida](#), [Louisiana](#), and [New York](#), implemented laws to ensure gas stations along evacuation routes and major highways have alternative fuel supply options in case of an energy emergency, such as backup generator hookups at critical fueling stations.

Bolster Coastal Energy Infrastructure. Governors can harden energy infrastructure to boost resilience against severe weather. Following back-to-back hurricanes in 2017, the **U.S. Virgin Islands** used federal funding from the Federal Emergency Management Authority (FEMA) to bury electric lines, deploy microgrids and install [composite poles](#) that can withstand winds up to 200 miles per hour. In 2023, **Connecticut** awarded its first round of [Climate Resilience Plan Project Development Grants](#), which included funding to Norwich Public Utilities to design and construct a wall to protect a substation from flooding. These approaches of fortifying infrastructure will make coastal communities more resilient against severe weather and floods and reduce the length and severity of energy emergencies.

Deploy Microgrids to Build Resilience. Many states have deployed microgrids to improve grid resilience and improve recovery times following severe weather and floods. In the Outer Banks of **North Carolina**, the [Ocracoke microgrid project](#) was completed in 2017 with support from the state. In 2019, Hurricane Dorian brought high winds and caused flooding to the North Carolina coast. Due to the microgrid, power was restored to the Ocracoke area one day earlier than on the mainland. In **Florida**, the [Babcock Ranch community](#) remained with power and water following Hurricane Ian in 2022. The planned community sits on a solar-powered microgrid (back-filled on cloudy days by a natural gas generator) that was resilient through the high-powered storm.

Increase the Deployment of Backup Battery Storage to Build Resilience. In 2018, the [California Self-Generation Incentive Program](#) (SGIP) was signed into law. SGIP offers financial incentives for residential and non-residential installation of energy storage technologies, including battery storage systems that can function during power outages. **California** Governor Newsom [reauthorized](#) nearly \$1 billion in funding for the program in 2022. The **Maine** Governor's Energy Office adopted [energy storage goals](#) requiring energy storage at critical facilities (such as emergency response facilities, hospitals and emergency shelters) as well as at residential and commercial buildings.

Update, Adopt and Implement Building and Energy Codes. Building energy codes are [minimum energy efficiency standards](#) for residential and commercial building construction. Building energy codes can incorporate requirements that increase the energy resilience of a building, including the installation of energy efficient building materials, windows and appliances, requiring on-site energy generation and storage systems for critical facilities and ensuring buildings are hardened to survive the impacts of a severe storm.

Supporting Energy Resilience for Rural Communities

In the United States, approximately [one in every six households](#) is considered rural; however, there is no single definition of rural. Each rural community is unique and faces different challenges to energy resilience. Even though both would be considered rural, a farming community in Missouri may face different energy challenges compared to a small fishing village in Maine. Rural communities can be particularly vulnerable to energy emergencies due to multiple factors:

- **Rural communities can be geographically isolated.** Rural households are spread across approximately 72% of the United States' landmass. So many small communities spread across vast stretches of the country present acute challenges for energy policy makers. The greater distance between households and communities necessitates more energy distribution infrastructure. The distance between communities or individual residences creates a higher probability that infrastructure could be impacted by adverse weather or other disruptions. The remote nature of many rural communities may make it more difficult for restoration crews to reach affected infrastructure.
- **Rural communities can be particularly vulnerable to disasters due to smaller populations that render a smaller tax base to support local governmental functions.** Rural households already spend a [disproportionate amount](#) of their resources on energy, with an estimated median energy burden of 4.4% of income, compared to the national median of 3.3%.
- **Housing stock in rural communities may be less resilient.** While rural households are more likely than urban households to occupy a single-family home, in some rural areas of the country, more than 15% of these homes are [manufactured](#), as compared to 3% of urban housing stock. Manufactured homes provide a more affordable alternative to traditional housing stock but are often less energy efficient and more prone to damage during a storm. Furthermore, older housing stock among rural communities pose barriers to weatherization efforts. Collectively, these issues may reduce the ability of rural residences to maintain a safe temperature in the event of a prolonged energy outage. These inefficiencies may also lead to [higher average energy bills](#) which can stress household budgets and prevent investment in home energy upgrades. Beyond their inefficiencies, manufactured homes themselves are particularly [susceptible to damage](#) from certain weather events such as hurricanes, floods, tornados and high winds.

- **Rural communities' lower density may place them further down the line in repair and reconnection workflows after a disaster.** [Mutual aid and storm response](#) at the utility level tends to flow from the largest to smallest units of the electric grid. As such, power plants, transmission lines, substations, essential services (hospitals, police, fire departments, etc.), and larger service areas may be prioritized over individual homes, particularly those spread out across a large area.
- **Relatively small populations in rural jurisdictions may impact those communities' ability to prepare for and secure emergency preparedness and response resources.** To increase emergency preparedness, [rural electric cooperatives](#) play a key role in organizing mutual aid agreements with other utilities to support power restoration efforts for low-density geographic regions where the costs of infrastructure and of providing service are high and the revenues are relatively low.

How Governors Can Support Rural Populations

Governors can take action to address the challenges faced by rural communities during energy emergencies, including:

- Supporting and building partnerships with local stakeholders in rural communities;
- Hardening critical infrastructure to build resilience;
- Deploying distributed energy resources for energy resilience;
- Updating, adopting and implementing the most recent building and energy codes; and
- Developing and implementing energy emergency response and preparedness plans that consider rural communities.

Support and Build Partnerships with Local Stakeholders in Rural Communities. Each community faces a unique set of challenges and circumstances. Governors can play a key role in building capacity and partnerships with local authorities, rural utilities and community members. In addition, Governors can promote policies that incentivize rural communities to invest in and operate backup generation and microgrids. Community engagement and education can help combat misinformation or misleading and predatory tactics. Education on weatherization or cybersecurity, for example, can build household-level energy security, and effective community engagement can build institutional trust and help inform state and territory-level decisionmakers on the needs of residents.

Harden Critical Infrastructure to Build Resilience. Improving energy resilience can be accomplished through the hardening of critical energy infrastructure. Physical improvements to energy infrastructure can include elevating substations above flood prone areas or using more wind resistant materials in electrical poles. These actions can increase the resilience of assets and deter energy outages but can be capital intensive. Without grant funding for grid hardening, these retrofit costs will eventually be passed on to the ratepayers, which may strengthen infrastructure but could also exacerbate the rural energy burden. It is important for Governors to weigh the costs and benefits of pursuing broad systemwide retrofits to identify those solutions that will be most impactful.

Some states have chosen to use their [Grid Resilience State and Tribal Formula Grants](#) under the Bipartisan Infrastructure Law to provide grid hardening grants to small and rural communities. For example, [Colorado's Grid Hardening for Small and Rural Communities Grant Program](#) supports rural electric cooperatives and municipal utilities in funding critical grid resilience projects.

Deploy Distributed Energy Resources for Energy Resilience. Governors can focus on increasing the availability of and deploying system improvements around key nodes of communication and management such as hospitals, emergency operation buildings and emergency shelters. These upgrades can include onsite backup storage, either through dispatchable fuel sources, batteries or the deployment of microgrids, powered through renewable energy sources. These investments can also be considerable. However, focusing on key nodes of the energy and response sectors will pay dividends for resilience at a fraction of the cost of systemwide infrastructure hardening.

Governors and other state policy makers can also create support for community solar projects in rural communities. The U.S. Department of Energy defines [community solar](#) as any solar project or purchasing program, within a geographic area, in which the benefits of a solar project flow to multiple customers such as individuals, businesses, nonprofits, and other groups. In 2020, approximately one third of states had policies enabling community solar projects. These projects vary state-by-state but could help to bolster rural power generation to support critical energy functions during an emergency while also helping mitigate high rural energy prices during normal operation.

Update, Adopt and Implement the Most Recent Building Energy Codes.

Building energy codes are minimum energy efficiency standards for residential and commercial building construction. Building energy codes can incorporate requirements for building technologies and materials that increase the energy resilience of a building, including the installation of energy efficient wall insulation or windows, on-site energy generation and storage systems, demand response and efficient appliances, and building energy management systems. These standards can reduce the impacts of severe weather, manage energy demand and provide emergency power during an energy disruption or disconnection from the grid. Governors can encourage and/or require the adoption of the most recent building energy codes and ensure the inclusion of considerations for boosting energy resilience.

Develop and Implement Energy Emergency Response and Preparedness Plan that Consider Rural Communities.

In the face of natural or man-made threats to energy resilience, the smooth continuity of local and state emergency operations is key to managing the crisis and speeding recovery. Governors can take the lead in disaster preparedness planning and coordination. Prior to natural or man-made energy stressor events, Governors can align state, county and municipal level response planning. Understanding where and how state-level assistance will manifest allows county and local level officials to better deploy their limited resources. This planning need not only reside in the public sector. Governors have a unique ability to convene private, public and non-profit stakeholders together. Governors can work directly with local leaders and utilities to build pre-crisis relationships, plan/facilitate mutual aid agreements and emergency operations, as well as exercise these plans to ensure key stakeholders are on the same page.

Supporting Energy Resilience for Low-Income Individuals

During blue-sky days, families with limited incomes regularly face energy challenges. On average, they pay a [larger portion of their income](#) towards home energy costs than the rest of the population –about 14% of income versus just 3% for households living above the 200% poverty threshold. Low-income communities can be particularly vulnerable to energy emergencies:

- Research shows that, on average, low-income communities are both [more likely to experience an outage and face longer restoration times](#).
- Low-income individuals may have fewer resources to respond to energy emergencies. Individuals with lower incomes may be unable to afford a backup generator or maintain reserve household supplies to endure a long-term outage. Preparation for a major storm and energy outage can include stocking up on food, water, flashlights, batteries, medical supplies and first aid equipment, and other items; these items can [cost hundreds or thousands of dollars](#).
- Individuals who are reliant on social services, such as food banks, homeless shelters or public transport, are left particularly at-risk when an energy emergency shuts these services or limits travel options to these services.
- Low-income individuals may have limited ability to evacuate during an emergency due to financial constraints. [Emergency evacuation](#) can cost a family more than \$1,000 and could be costlier if they then need to secure private lodging. These individuals may not be able to afford the travel expenses, a hotel or short-term rental or the lost wages associated with evacuating.
- Low-income individuals are more likely to live in [older, un-weatherized homes](#) or buildings and are more likely to defer maintenance due to budget constraints or competing priorities. Homes with inadequate insulation or weatherproofing can reach dangerous temperatures more quickly in a prolonged outage during extreme hot or cold conditions.

How Governors can Support Low-income Individuals

Governors can take action to address the challenges faced by low-income communities during energy emergencies, including:

- Expanding access to weatherization assistance funding to improve resilience and efficiency in low- and moderate-income communities;
- Establishing task forces or working groups to address the energy challenges of low-income individuals;
- Updating, adopting and implementing the most recent building energy codes;

- Subsidizing the deployment of backup battery storage in low-income communities to build resilience;
- Coordinating ample strategically-located emergency cooling centers for relief from energy emergencies during extreme heat events;
- Ensuring energy emergency preparedness and response plans address the needs of vulnerable populations; and
- Verifying that evacuation plans consider the needs of low-income populations.

Before an energy emergency occurs, Governors can fund improvements to infrastructure in low-income communities, establish communication and outreach plans for emergencies, and improve evacuation plans to meet the needs of low-income communities.

Expand Access to Weatherization Assistance Funding to Improve Resilience and Efficiency in Low- and Moderate-Income Communities.

Each state and territory administer a [weatherization assistance program](#), supported by federal funding from the U.S. Departments of Energy (DOE) and Health and Human Services (HHS). Weatherization programs fund updates to dwellings for low-income individuals that can significantly reduce utility costs and can also keep individuals safer during energy emergencies. A weatherized home is better insulated and hardened against water and air leaks, which assists in better protecting the home immediately during a power outage, as well as in the long-term from water/wind damage, which have additional health consequences. A well-insulated house stays cooler for longer in the summer and warmer for longer in the winter, [reducing overall energy costs](#) and providing safer shelter during a prolonged outage. DOE and HHS eligibility requirements allow for funding to weatherize households at or below 200% of federal poverty guidelines or for individuals receiving Supplemental Security Income or Aid to Families with Dependent Children funding. States can expand eligibility beyond the federal baseline. [Several states](#) grant eligibility to individuals who fall at 60% of the state median income; **Connecticut, Maryland, Massachusetts, Minnesota, Montana, New Hampshire, New York, Virginia** and **Wisconsin** are among the states that have done so.

Establish Task Forces or Working Groups to Address the Energy Challenges of Low-Income Individuals.

Governors can convene and support multi-sector stakeholders in task forces or working groups focused on developing, studying, or implementing a specific policy objective. It is important to ensure that the experiences, voices, concerns and insights of all communities are incorporated into emergency planning. An interagency working group could be established to address the challenges faced by

low-income individuals during energy emergencies. In 2023, **Alaska** Governor Mike Dunleavy issued an administrative order to establish the [Alaska Energy Security Task Force](#). The task force completed a comprehensive statewide energy report on strategies to meet Alaska's goal of energy affordability, reliability, and resilience for all Alaskans.

Update, Adopt and Implement the Most Recent Building Energy Codes.

Building energy codes are minimum energy efficiency standards for residential and commercial building construction. Building energy codes can incorporate requirements for building technologies and materials that increase the energy resilience of a building, including the installation of energy efficient wall insulation or windows, on-site energy generation and storage systems, demand response and efficient appliances, and building energy management systems. These standards can reduce the impacts of severe weather, manage energy demand, and provide emergency power during an energy disruption or disconnection from the grid. Governors can encourage and/or require the adoption of the most recent building energy codes and ensure the inclusion of considerations for boosting energy resilience.

Subsidize the Deployment of Backup Battery Storage in Low-Income Communities to Build Resilience.

Backup generation and battery storage can keep essential services running for communities and/or individual households during energy outages. In recent years, the [costs of deploying](#) battery storage and backup generation systems have decreased, making them more accessible. To aid in the proliferation of these resources, Governors can establish programs that provide low-income households with additional tools to endure energy emergencies, such as backup generators. The **California** [Self-Generation Incentive Program](#) (SGIP) offers rebates for residential and non-residential customers that can lower the cost of installing energy storage technologies to almost, if not completely, free for low-income individuals and provides up to 10 years of maintenance free of cost.

Ensure Energy Emergency Preparedness and Response Plans Address the Needs of Vulnerable Populations.

When an energy emergency occurs, Governors can implement strategies to address the needs of vulnerable, low-income communities through the execution of the state's or territory's Emergency Operations Plan. Governors can develop clear messaging campaigns that emphasize the importance of preparing for inevitable energy emergencies; detail assistance options through state, local or nonprofit programs; and identify key mechanisms to communicate through, including telecommunications, key community leaders, social

media and other emergency outreach mechanisms, such as Integrated Public Alert and Warning Systems (IPAWS).

States and territories also complete annual State Energy Security Plans (SESPs) as a condition of certain energy funding through the Infrastructure Investment and Jobs Act. In these plans, states and territories broadly assess the current security status of the energy system and establish plans to further secure energy infrastructure against physical and cybersecurity threats. In these plans, states can incorporate vulnerable populations into SESP, including in considerations for emergency preparedness and response, risk assessments, and community impact sections.

In addition, states and territories can implement [utility cut-off protections](#) during summer and winter seasons as well as during periods of extreme cold or heat. These protections can have pre-defined eligibility criteria, such as age, health and poverty status. **Iowa**, for example, has [protections](#) for gas and electric service for customers enrolled in or applying for the Low-Income Home Energy Assistance Program (LIHEAP) to use when temperatures fall below 20 degrees between November 1 through March 31.

Verify that evacuation and state emergency response plans explicitly consider the needs of low-income populations. This includes providing transportation for carless individuals; providing food, water and other emergency supplies at shelters; and providing enough public shelters with back-up generation. Research has found that most major cities lack robust [evacuation plans for carless individuals](#). Governors can ensure state emergency evacuation plans factor in transportation for carless individuals, as well as encourage localities to do the same.

Supporting Energy Resilience for Elderly Individuals

The elderly, generally considered to be those [65 or older](#), can be particularly vulnerable during energy emergencies, facing the following challenges:

- On average, elderly individuals with health complications are more at risk in extreme temperatures. This threat can be [exacerbated](#) during prolonged power outages when indoor temperatures may be unsafe.
- Elderly individuals more often rely on [mobility assistive devices](#), such as powered wheelchairs and elevators, than the rest of the population. A power outage can limit the use of these devices.
- Due to medical and mobility challenges, elderly populations tend to face more difficulties evacuating during emergencies than the general population, either due to needed mobility assistance or the medical resources they require. As a result, it may be necessary to prioritize evacuation assistance, restoration, shelters or shelter-in-place support for those who cannot easily evacuate.
- Elderly individuals may also require access to at-home nursing and other support services that may not be as readily available during an energy emergency, which could have negative health outcomes should the emergency persist.
- Residents living in nursing homes or senior-living communities face challenges similar to those in hospitals during a power outage. A loss of energy could result in older populations losing access to space heating and cooling. It could also jeopardize the safety of medical devices requiring electricity and medications requiring refrigeration in addition to limiting the use of mobility devices. Evacuating larger facilities poses logistical and resource challenges to emergency managers. While large hospitals are required to have onsite backup generation, the same requirements may not be in place for nursing and senior-living homes or other types of medical facilities.

How Governors Can Support Elderly Populations

As Governors plan for energy emergencies and related hazards, there are multiple steps they can take to understand and address the needs of elderly populations, including:

- Facilitating safe sheltering in place;
- Deploying generators and backup generation to support assisted living, nursing and senior living communities;
- Increasing the deployment of backup battery storage to power necessary devices; and,
- Ensuring the needs of elderly populations are addressed in emergency response, hazard mitigation and communications plans.

Facilitating Shelter in Place. In certain cases, it is easier and safer for the elderly to shelter-in-place during an energy emergency, but only if the resources are available to make this safe. Governors can implement policies to support the elderly who shelter in place during energy emergencies and can ensure evacuation policies account for the needs of the elderly. This can be accomplished through technical assistance and financial support for the deployment of microgrids and/or backup generators. This energy resilience strategy will service senior and assisted living communities, especially seniors who live alone and use medical equipment. This strategy also ensures communication resources to reach isolated senior communities during emergencies and connect them with services.

Deploying generators and backup generation to support assisted living, nursing and senior living communities. Microgrids are localized energy grids that can be disconnected from the traditional grid in an emergency to offer continuous power during outages. The deployment of microgrids can benefit the elderly during energy emergencies by keeping the power on and reducing the necessity of a difficult evacuation. **Connecticut** facilitates a [microgrid deployment grant program](#) through the state's Department of Energy and Environmental Protection. The program provides funding for the deployment of microgrids for critical facilities, including healthcare centers, assisted living communities and nursing homes. In 2022, the **Colorado Microgrids for Community Resilience Program** was created through legislation signed into law by Colorado Governor Jared Polis. The program provides grant funding for the planning and deployment of microgrids to enhance energy resilience in rural communities, prioritizing community-based anchor institutions and essential infrastructure like healthcare facilities.

Increase the Deployment of Backup Battery Storage to Power Necessary Devices. The elderly are more likely to have mobility or medical needs that require durable medical equipment (DMEs) which are often electrically powered. DMEs can include ventilators, oxygen concentrators or electric wheelchairs. Seniors also can be reliant on electrically powered devices, like refrigerators, to keep certain medications, such as insulin, viable. Many DMEs have [normal battery life](#) of around 2-4 hours, which can be extended by external battery packs up to 12 hours. However, without backup energy generation, elderly individuals dependent on DMEs are not prepared for long-term outages. Certain states, including **Florida** and **Maryland**, have implemented laws that require senior living facilities to have emergency backup power to keep temperatures at a safe level and provide power for at least 48 hours in the event of an outage.

Ensure the Needs of Elderly Populations are Addressed in Emergency Response and Communications Plans. All states and territories have developed emergency planning documents for individuals and families to help them prepare for an emergency, and they also provide information on evacuations. However, some seniors may have difficulty accessing these web-based planning documents, may be isolated without support, or may not know what to do in the event of an emergency. To assist these individuals, Governors can develop programs that provide outreach to seniors and connect them with services. During the COVID-19 pandemic, **Ohio** Governor Mike DeWine's administration established the [Staying Connected program](#) that provides free, daily telephone check-ins for Ohioans over 60. Once connected on the phone, participants can confirm their well-being, have a friendly chat or opt to learn about services for older adults in their area. In the event of an energy emergency or inclement storm, this service could connect vulnerable seniors with local services and support.

In a similar vein, in 2021, **Arkansas** enacted a law that requires electric utilities to develop [emergency plans](#) to notify disabled and/or elderly individuals of the locations and contacts for local warming and cooling centers during severe weather events. Similarly, states and territories can implement [utility cut-off protections](#) during summer and winter seasons as well as during periods of extreme cold or heat. These protections can have pre-defined eligibility criteria, such as age, health and poverty status. **Arkansas**, for example, has [protections](#) for gas and electric service when the temperature falls below 32 degrees during the period of November 1 through March 31. In addition, when the temperature rises above 95 degrees, utilities are prohibited from disconnecting service to elderly or disabled customers. Similarly, **Wisconsin** administrative code contains a [moratorium on disconnecting utility service](#) that heats a residence between November 1 and April 15 to ensure Wisconsinites have the heating service they need during cold temperature months.

Lastly, emergency evacuation plans and state energy security plans should be reviewed to ensure they factor in the special needs of the elderly and complications that may arise during an energy outage. Given an increased reliance on energy for medical devices, mobility and increased health risks in extreme temperatures, evacuations for senior citizens can be more urgent. Many seniors do not drive and would require transportation during an evacuation. Research has found that most major cities lack robust [evacuation plans for car-less individuals](#). Governors can ensure state emergency evacuation plans factor in transportation for carless individuals and those unable to shelter in place as well as encourage localities to do the same.

Supporting Energy Resilience for Individuals Affected by Chronic Illness and Disabilities:

The Centers for Disease Control and Prevention (CDC) estimates that approximately [61 million adults](#) in the United States are affected by a disability. For Americans over the age of 65, this number rises to two in every five people. Broadly speaking, a disability can include but is not limited to mobility limitation, cognition or mental health challenges, hearing difficulties, vision impairments, or blindness.

The CDC estimates that more than [six in every ten Americans](#), or nearly 200 million people, suffer from some form of chronic disease. Chronic illness is a leading cause of death and disability in the United States and a key driver of the estimated \$4.1 trillion in annual health care costs. While disabilities and chronic illness are not always related, people with disabilities have a substantially higher chance of also suffering from a chronic illness.

The nature and effects of these disabilities or illnesses are not uniform. The severity and nature of individual disabilities and illnesses can vary greatly and have differing impacts on an individual's ability to weather a prolonged energy outage.

Individuals who have chronic illnesses and/or are affected by disabilities can be particularly vulnerable to energy emergencies for a variety of reasons:

- Many individuals who are sick or disabled are dependent on reliable energy access and are particularly vulnerable to loss of electricity. Even relatively short power outages can have [devastating impacts](#) on individuals who are reliant on medical equipment powered by electricity. This equipment can include mobility technology such as motorized wheelchairs and elevators, cooling technologies like refrigeration for medication and air conditioning, oxygen generators and more.
- Individuals affected by chronic illness and disabilities may be reliant on medical facilities such as dialysis centers, chemotherapy clinics, rehab hospitals, behavioral health treatment facilities, nursing homes or other outpatient treatment facilities. Such medical facilities are [less likely](#) to possess backup generation capabilities than larger hospitals, which could render them inoperable during energy outages.
- Individuals who are sick or disabled are often less able to relocate either before or after an emergency, often because transportation was inaccessible. For example, during [Hurricane Katrina](#), most evacuation buses did not have wheelchair lifts, and people with visual and hearing disabilities were unable to obtain necessary information pertinent to their safety.

- People with mobility issues who live on higher floors may [become trapped within their homes](#) without functioning elevators or motorized mobility devices. Without functioning climate control, sick and disabled people may struggle to stay warm or keep cool. These temperature issues can put [additional stress](#) on their health and even contribute to more acute symptoms.
- Though less visible, mental health issues and trauma can stem from extreme weather and potentially their associated power outages. According to the Environmental Protection Agency (EPA), some extreme weather events, such as heat waves, flooding and drought can cause stress, depression, grief and anxiety, the effects of which can impair an individual's well-being and ability to function. Furthermore, the EPA points out that people with disabilities are among the groups "[most vulnerable to mental health effects](#) as the climate changes."
- During power outages, sick and disabled people often incur additional financial costs to ensure access to electricity. Some people choose to purchase costly backup generators to power their residences and medical equipment. Others may undertake unexpected travel to stay in hotels or with family in unaffected areas. The combination of stress, both on the health of individuals and their household budgets, coupled with more acute health threats, place individuals who are affected by a chronic illness or have disabilities in an extremely vulnerable situation.

How Governors Can Support Individuals Affected by Chronic Illness and Disabilities

Governors can and do play a key role in supporting individuals who are affected by disability or chronic illness during energy emergencies by taking their specific circumstances and needs in mind while planning for emergency situations.

Governors can take action to address the challenges faced by individuals affected by chronic illness and disabilities during energy emergencies, including:

- Developing and implementing energy emergency preparedness and response plans that incorporate individuals affected by chronic illness and disabilities,
- Developing and enforcing utility shut-off protections for individuals affected by chronic illness and disabilities during periods of extreme temperatures,
- Ensuring emergency communications are timely and accessible, and
- Prioritizing energy resilience and restoration to healthcare facilities.

Develop and Implement Energy Emergency Preparedness and Response Plans that Incorporate Individuals Affected by Chronic Illness and Disabilities. For states to support sick and disabled individuals during an energy emergency, they must first understand the specific challenges these communities face. To do this, Governors can bring people affected by chronic illness and disabilities directly into the energy assurance planning process. As a matter of normal operations, the United States Department of Energy helps to engage local disability stakeholders, develop inclusive engagement with utilities, and ensure local and state emergency operations planning include fuel action plans. Governors can become involved in these processes either with federal agency partners or lead a parallel state level process. Bringing individuals into the planning process prior to an emergency allows these communities to articulate their needs to planners and allows energy/emergency plans to center these needs proactively. Governors can include relevant health and disability focused state agencies in emergency preparedness and energy security planning conversations.

Develop and Enforce Utility Shut-off Protections for Individuals Affected by Chronic Illness and Disabilities During Periods of Extreme Temperatures. States and territories can implement [utility cut-off protections](#) during summer and winter as well as during periods of extreme cold or heat. These protections can have pre-defined eligibility criteria, such as age, health, and poverty status. **Arkansas**, for example, has [protections](#) for gas and electric service when the temperature falls below 32 degrees during the period of November 1 through March 31. In addition, when the temperature rises above 95 degrees, utilities are prohibited from disconnecting service to elderly or disabled customers. Arkansas also requires utilities to honor a physician's attestation that a customer has a serious medical condition that could result in risk of death or serious impairment if service was suspended.

Ensure Emergency Communications are Timely and Accessible. Governors can also ensure that communications are timely, accessible and actionable. Effective communications with vulnerable populations must take place before, during and after an energy emergency event. Providing guidance and detailing potential risks before an emergency can allow sick and disabled people to make informed decisions. For example, a person who is disabled may choose to relocate out of the path of a coming storm, if given sufficient advance notice. If they choose to stay, they may take other actions such as fully charging all medical devices or moving to a lower floor of their residence. Effective communications before, during and following

an emergency can allow individuals affected by chronic disease or disability and their families to understand the risks and changing capacities of emergency responders.

Public communication after an emergency event will help individuals to assess their specific situations and plan for their health needs in the short and medium term. In situations where an energy outage is planned or anticipated, such as during maintenance or rolling “brownouts,” Governors, emergency managers and utilities should provide as much advance notice as possible. In addition, all parties should remain communicative during recovery to help vulnerable individuals make informed decisions on their next steps.

Prioritize Energy Resilience and Restoration to Healthcare Facilities.

Governors can also prioritize energy assurance and energy restoration for healthcare facilities. During an energy emergency, people who are sick and disabled may need to access the healthcare system at higher rates than the general population.

Federal regulations mandate that hospitals build and maintain emergency backup energy generators. Most emergency generators operate on fossil fuels, typically natural gas or diesel gasoline. Long-term disruptions, lasting more than a few days, may affect the ability to restock fuel, potentially placing the facility at risk. Contracts to supply additional fuel in an emergency may be compromised if short term demand outpaces supply.

Relying on a single generator or single fuel source creates the possibility that a single point of failure, such as a mechanical issue in the generator, or flooding and storm damage, can disable the facility’s emergency power. Considering non-fossil fuel-based generation sources, paired with backup battery power, can alleviate risks of power shortages as well. While large in-patient medical facilities like hospitals are required to maintain emergency power systems, many portions of the medical system, such as assisted living facilities and community clinics, have no such federal requirement. Governors can help address this disparity by directing state resources to support the deployment of local microgrids that include or are centered around medical facilities.

RELEVANT RESOURCES FOR STATES AND TERRITORIES

Federal Resources

- U.S. Department of Energy: [Energy Justice Mapping Tool - Disadvantaged Communities Reporter](#)
- U.S. Department of Energy: [Justice40 Energy Burden Tool](#)
- Executive Office of the President Council on Environmental Quality: [Climate & Economic Justice Screening Tool](#)

NGA Resources

- [Roadmap: Executive Authority During Energy Emergencies](#)
- [Memorandum on State Utility Disconnection Moratoriums and Utility Affordability](#)
- [State Resilience Assessment and Planning Tool](#)
- [Rural Energy Affordability Solutions](#)
- [State Approaches to Equitable Distributed Energy Resource Deployment](#)
- [State Governance, Planning and Financing to Enhance Energy Resilience](#)
- [State Energy Efficiency Policy in a New Era: A Toolkit for Governors](#)
- [Prioritizing Resilience: Best Practices on Energy Resilience for Healthcare Facilities](#)

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