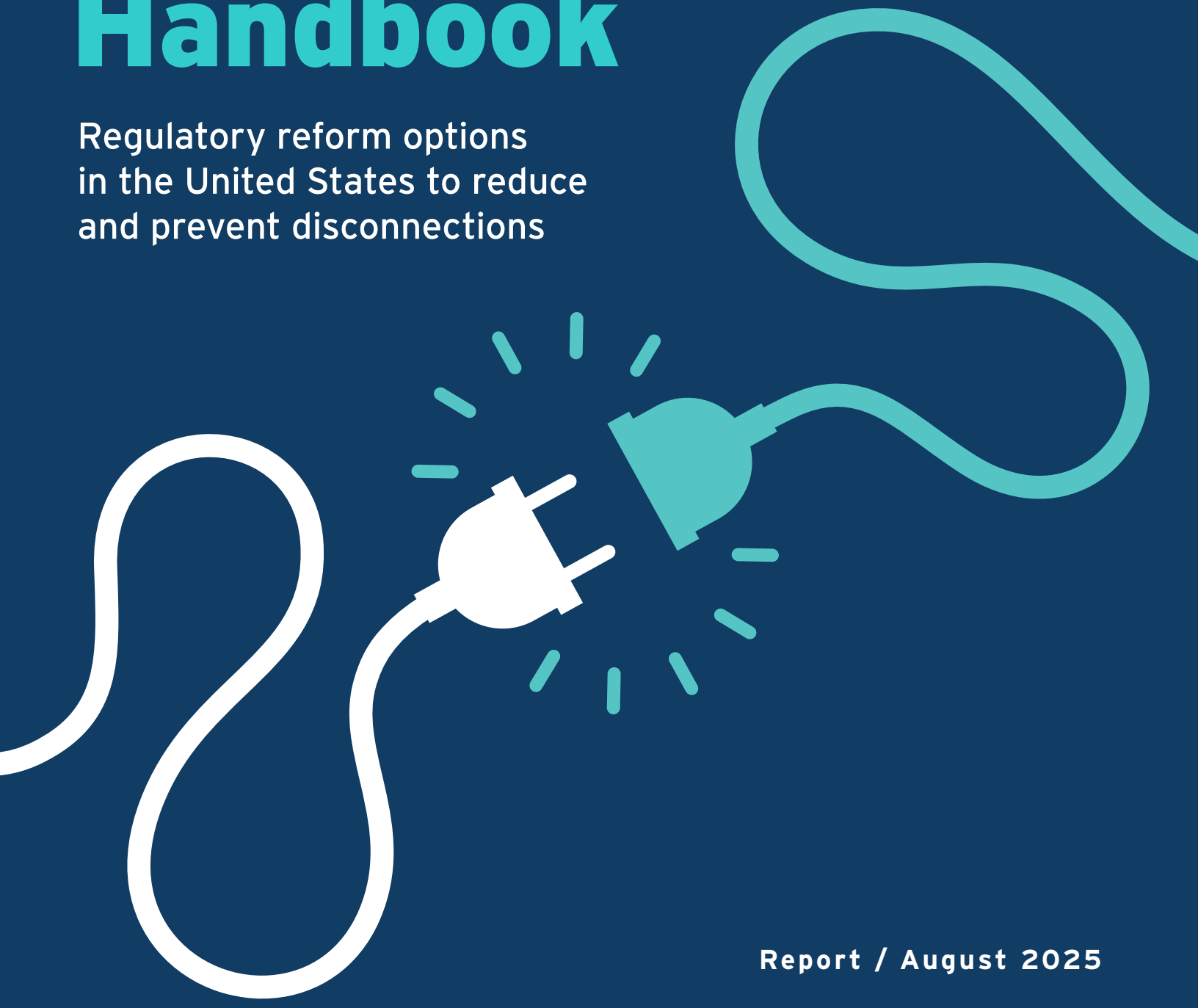
RMI

Utility Disconnections Handbook

Regulatory reform options in the United States to reduce and prevent disconnections



Report / August 2025

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Acknowledgments

The authors would like to thank the following individuals for their helpful feedback on this report. All errors remain our own.

Jacob Cordivae, RMI
Cara Goldenberg, RMI
Shelby Green, Energy and Policy Institute
Alison Knasin, Energy Justice Lab
Geoff Marke, Missouri Office of Public Counsel
Max Markrich, Hawaii Public Utility Commission
Justin Schott, Energy Equity Project
Olivia Wein, National Consumer Law Center

About RMI

Rocky Mountain Institute (RMI) is an independent, nonpartisan nonprofit founded in 1982 that transforms global energy systems through market-driven solutions to secure a prosperous, resilient, clean energy future for all. In collaboration with businesses, policymakers, funders, communities, and other partners, RMI drives investment to scale clean energy solutions, reduce energy waste, and boost access to affordable clean energy in ways that enhance security, strengthen the economy, and improve people's livelihoods. RMI is active in over 60 countries.

Table of Contents

Glossary

Arrearage — amount of a utility bill that is unpaid after the due date set by a utility company.

Energy burden — the share of a household's income spent on energy.

Energy burdened — a household that spends 6% or more of its income on energy. In other words, a household with an energy burden that is at least 6%.

Energy insecure — a household that is unable to meet basic energy needs.

Energy insecurity — the inability of a household to meet its basic energy needs. There are three primary dimensions to energy insecurity, which describe different lived experiences of households: (1) physical energy insecurity, (2) economic energy insecurity, and (3) behavioral energy insecurity.

Energy poverty — a household's inability to afford enough energy to meet its basic needs.

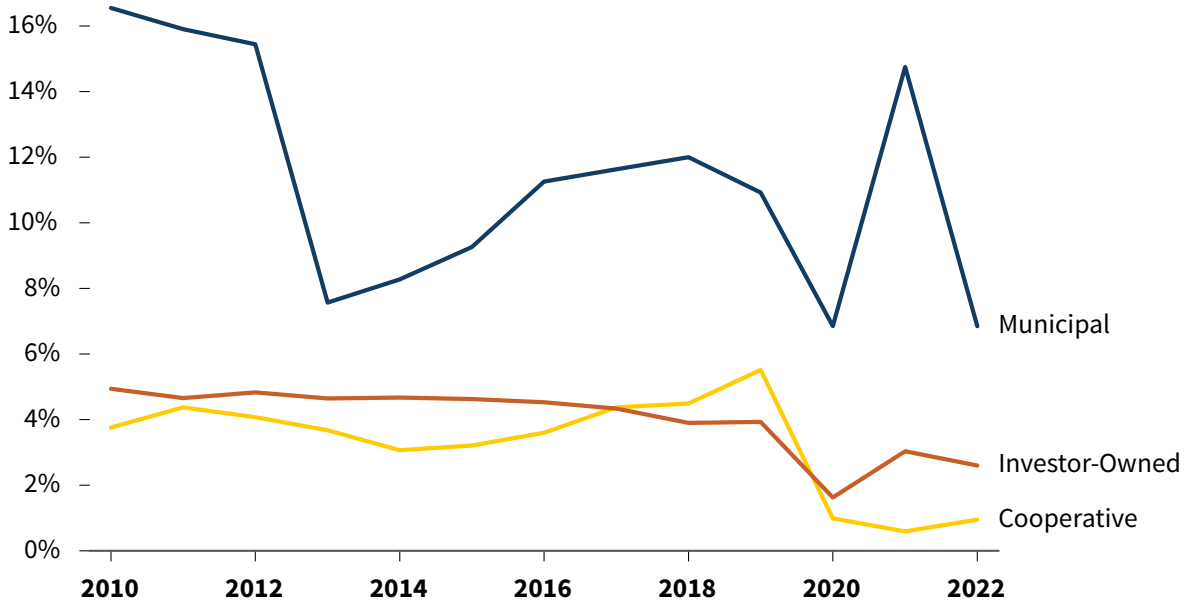
Utility disconnection — a shutoff or suspension of energy service to a utility customer due to nonpayment.

Executive Summary

Utility disconnections are a growing crisis in the United States, with millions of households losing access to electricity due to nonpayment each year. Often triggered by relatively small debts and short notices, utility disconnections disrupt household safety, health, and stability and perpetuate a broader cycle of energy poverty. This cycle obviously doesn't benefit the affected household, but it also doesn't benefit the utility or other ratepayers.

This report explores the scale, causes, and consequences of utility disconnections and provides a comprehensive set of policy pathways for public utility commissions (PUCs) to address the problem. It reveals that although disconnection data is incomplete and inconsistently reported, available evidence suggests that at least 6 million households are shut off annually. Disconnections most commonly affect households already facing economic hardship, poor housing quality, and high energy burdens. In 2023 alone, nearly 2 million shutoffs were reported across 22 states and Washington, D.C., and by the end of September 2024, arrearages totaled more than $20 billion nationwide. On average, across all utility types, electric utilities disconnect about 2.5% of residential customers throughout the United States annually (see Exhibit ES1).

Exhibit ES1 Annual utility disconnection rates by utility type



The disconnection rate values represented here are not comprehensive of all utilities in the United States and only reflect the disconnection rates of utilities present in the Energy Justice Lab's Disconnection Dashboard data set. Disconnection rate values for 2023 were excluded from this dataset because of limited utility coverage.

RMI Graphic. RMI analysis of **Energy Justice Lab's Disconnection Dashboard**

Energy insecurity — defined as a household's inability to meet basic energy needs — manifests in three interrelated dimensions: physical (poor insulation or lack of heating/cooling systems), economic (high energy burdens), and behavioral (coping mechanisms such as forgoing food or medicine to pay energy bills). These dimensions collectively trap households in a cycle of energy poverty that disproportionately affects certain demographics even after controlling for economic factors.

Disconnections are not only financially burdensome — often involving late fees, reconnection charges, and loss of essential services — but they are also dangerous. Households without electricity face increased exposure to extreme temperatures, higher risks of medical emergencies, and threats to food and housing security. Tragically, utility shutoffs have resulted in preventable deaths, including during periods of extreme heat.

The regulatory landscape is fragmented, with each state setting its own disconnection policies, often inconsistently across utilities. Still, PUCs are uniquely positioned to implement comprehensive disconnection reforms. Disconnection reforms generally fall into three categories: **broad disconnection protections**, **targeted disconnection protections**, and **affordability programs** (see Exhibit ES2).

Exhibit ES2 Disconnection reform options

Broad Disconnection Protections

a. Lifeline electricity
b. COVID-19 moratoria
c. Permanent end to disconnections

Targeted Disconnection Protections

a. Procedural requirements
b. Extreme weather protections
c. Protections for vulnerable customers
d. Performance mechanisms

Affordability Programs

a. Percentage-of-income payment plans
b. Low-income discount programs
c. Arrearage management plans
d. Low-income energy efficiency

RMI Graphic

PUCs can advance reforms through various regulatory venues, including rulemaking, investigative dockets, rate cases, and integrated distribution planning. When evaluating disconnection policies, regulators can weigh not only the financial impacts on utilities but also the broader societal and household costs, considering whether alternative collections practices might be better for customers and utility financial well-being.

The report concludes with a phased roadmap for PUC action on disconnections: understand the policy and legal context, analyze disconnection trends, define reform goals, collaboratively design policy, and monitor implementation. Taken together, these strategies can help dismantle systemic access issues and foster a future energy system where no household is left in the dark because of financial hardship.

Note: Although this report highlights reform strategies for PUCs, governors, legislatures, and utilities also play essential roles. Governors can direct reforms, legislatures can act independently, and utilities can partner with PUCs to propose or implement new disconnection policies.

Introduction

Consistent access to energy is essential for the health, safety, and overall well-being of all households. Millions of households across the United States are at risk — and ultimately face the reality — of losing access to electricity due to a utility disconnection, also known as a "shutoff." A utility shuts off electricity when a household is unable to pay its energy bills in full and on time. The practice of utility disconnections differs across jurisdictions, but utilities typically can shut off a household's electricity once it is 15 to 45 days behind on its energy bill.

Low-income households paying a significant share of their income on energy are most likely to face a utility disconnection, however any household that struggles to pay its energy bill in any given month is at risk. It is not possible to know the exact scale of disconnections across the country as not all utilities are required to disclose data on their disconnection practices. However, researchers on energy poverty — a household's inability to afford their basic energy needs — estimate that at least 6 million households have their electricity shut off each year.[1] According to the most recent annual data from the Energy Justice Lab, 1.98 million electric and gas utility shutoffs were conducted in 2023 across 22 states and Washington, DC.[2] Losing access to electricity is incredibly destabilizing and disruptive to a household's health, finances, safety, and overall well-being. Utility disconnections may leave people exposed to extreme temperatures and limit access to essential medical equipment, which can be deadly.[3]

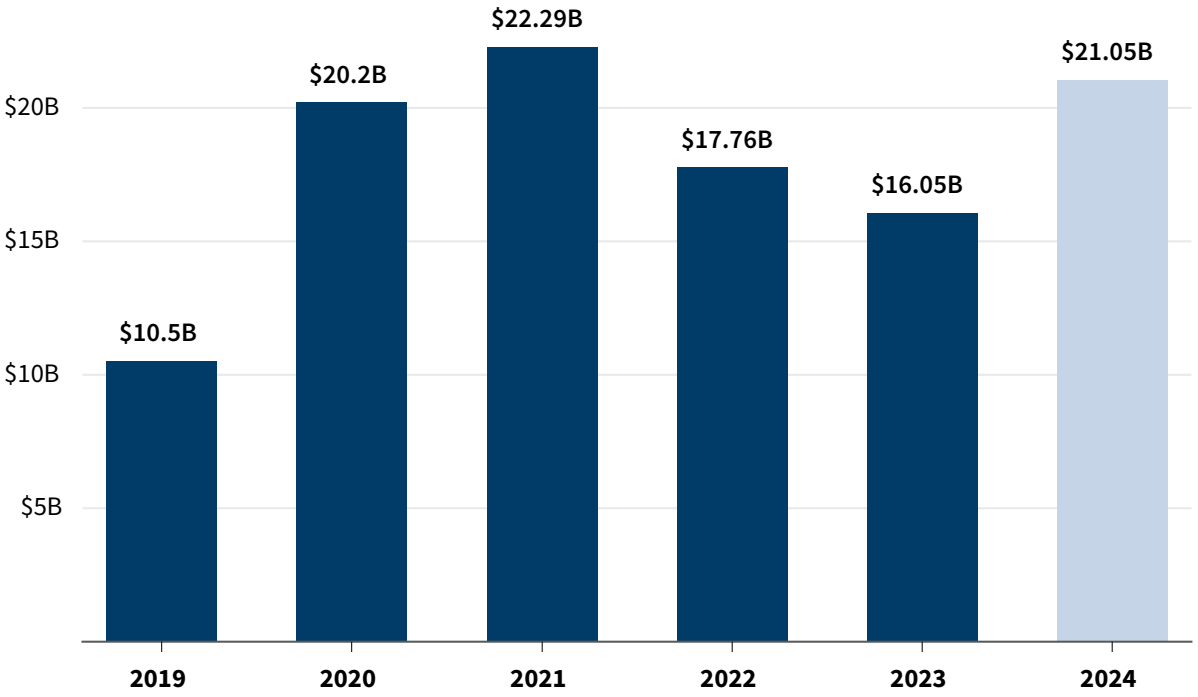
Public utility commissions (PUCs) play a pivotal role in shaping disconnection policies to protect access to essential electricity service. Although each state's regulatory framework is different, PUCs generally have a mandate to ensure that regulated utilities provide safe and adequate service at just and reasonable rates while serving the public interest. In line with this mandate, many PUCs increasingly have adopted disconnection protections in recent years. Regulators now have an opportunity to adopt comprehensive disconnection policies that not only limit the use of shutoffs as a collection tool but also proactively promote bill affordability to reduce reliance on disconnections in the first place.

Energy Poverty in the United States

In 2024, one in three households in the United States reported forgoing necessary expenditures, such as on food or medicine, to pay their household energy bills.[4] That is an estimated 40 million households across the country that struggle to pay their electricity bills and keep their lights on. Households are also falling behind on their energy bills at high rates, as past-due utility bills, also known as arrearages, were over $20 billion at the end of September 2024.[5] Rising arrearages signal a potential future increase in disconnections, as they reflect growing unaffordability and lead directly to shutoffs.

Exhibit 1 shows national estimates for unpaid utility bills, also known as arrears, for electricity and gas energy services from 2019 to 2024.

Exhibit 1 Nationwide estimated utility arrears



Values in this chart comprise electric and gas arrears. The value for 2024 is in light blue because it is based on data only through September 30.

RMI Graphic. National Energy Assistance Directors Association utility arrears reports

When households fall behind on their utility bills and remain unable to pay for an extended period, their debt is eventually classified as an "uncollectible" expense or "bad debt." Utilities typically recover these costs through rate adjustments, meaning they are passed on to other customers. In this way, allowing energy poverty and mass disconnections to persist imposes hidden costs across the entire customer base.

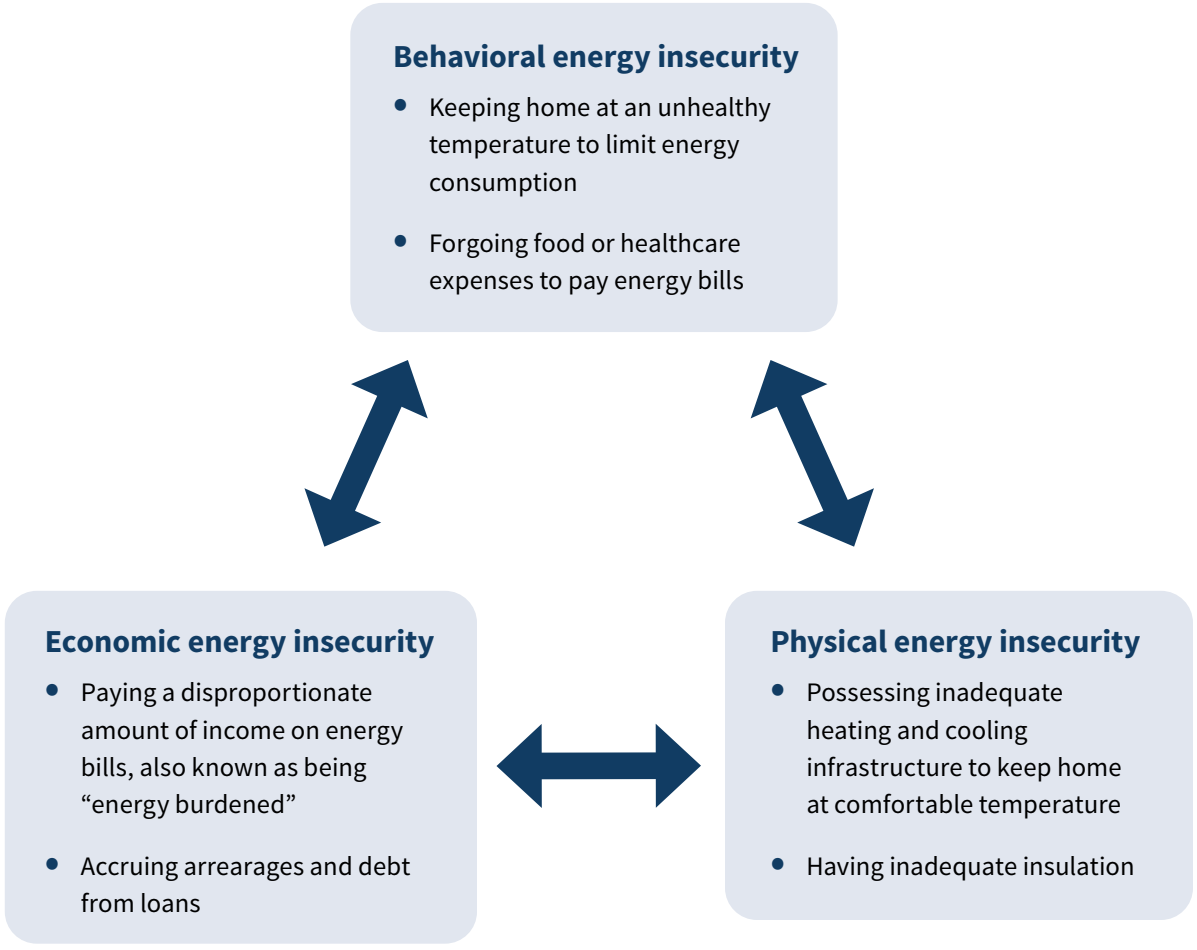
Without reform, utilities may continue to spread the financial burden of unpaid bills to other customers, exacerbating affordability challenges and creating a cycle in which more households struggle to keep up. Addressing disconnection and affordability issues isn't just a matter of protecting energy-insecure households, it's also a strategy to contain systemwide costs.

The energy insecurity crisis

Energy insecurity offers a useful lens for understanding the lived experiences of households that struggle to affordably heat, cool, and power their homes. Energy insecurity is the inability of a household to meet its basic energy needs.[6] There are physical, economic, and behavioral dimensions to energy insecurity that define and describe the lived experiences of households experiencing it.[7] These three dimensions of energy insecurity are the major components of the energy poverty cycle (see Exhibit 2).

Exhibit 2

The energy poverty cycle



RMI Graphic. Source: Diana Hernández, "Energy Insecurity and Health: America's Hidden Hardship."

Physical energy insecurity encompasses the reality and consequences of inadequacies in the physical infrastructure of the home environment that affect overall comfort, exposure to harmful environments, and energy costs. Common forms of physical energy insecurity are inadequate insulation, permeable windows, and poorly performing heating and cooling systems. Low-income households are more likely to live in housing that is older and less efficient.[8] In 2020, 17 percent of households in the United States reported living in poorly insulated housing, while 5 million to 6 million households reported not having access to any type of heating or cooling infrastructure.[9]

Economic energy insecurity is the disparate financial burden that high energy costs inflict on low-income households. Households experiencing economic energy insecurity pay a high percentage of their income for energy. This financial burden affects the amount of money a household has available to spend on other necessary expenditures as well as puts it at risk of ending up in debt because it can no longer afford to pay accruing bills. According to the National Consumer Law Center, paying utility bills is the leading reason that consumers take out short-term, high-interest "payday loans."[10] Energy burden — the share of a household's income spent on energy — is a common metric used to classify economic energy insecurity. Academics designate a household as "energy burdened" when it has an energy burden that is at least 6 percent.[11] An energy burden of 6 percent means that a household spends six of every 100 dollars of its household income on energy costs. Researchers focused on energy burden have developed a quantitative classification for various energy burden levels, which is detailed in Exhibit 3.[12]

Exhibit 3 Energy burden-threshold classifications

Classification	Energy Burden (% of income spent on energy)
Cheap	<3%
Affordable	3%–6%
Moderately unaffordable	6%–9%
High	9%–12%
Severe	12%–15%
Extreme	15%–20%
Catastrophic	>20%

RMI Graphic. Source: **"Proceeding on Motion of the Commissions as to the Rates, Charges, Rules, and Regulations of Niagara Mohawk Power Corporation d/b/a National Grid for Electric and Gas Service before the State of New York Public Service Commission, September 26, 2024, Case Nos. 24-E-0322 and 24-G-0323,"** (prepared testimony of Energy Burden Panel, Justin Schott and Rahul Agrawal Bejarano of Energy Equity Project, University of Michigan).

Behavioral energy insecurity is defined as the measures households take to cope and counteract physical and economic energy insecurity. A common type of coping measure households take is to forgo expenditures on necessary items, such as food or medicine, to pay their energy bills. Energy-limiting behaviors are also common coping strategies for households facing energy insecurity. Within the past year, one in five households in the United States reported keeping their home at an unhealthy and unsafe temperature (excessively cold or hot) to save money on their energy bill.[13]

Researchers have begun to quantify the reality of households in energy poverty employing energy-limiting behaviors; they found that energy-poor households turn on their indoor cooling systems at outdoor temperatures that are 4.7°F to 7.5°F hotter than non-energy-poor households.[14]

An overview of the three dimensions of energy insecurity are detailed in Exhibit 4.

Exhibit 4

A glance at energy poverty in the United States

Physical Economic Insecurity	Economic Energy Insecurity	Behavioral Energy Insecurity
Unable to maintain a safe household temperature	Spending a high percentage of income on energy	Compromising necessary spending or safe indoor temperatures to afford energy
5 million to 6 million US households do not have access to any type of heating or cooling infrastructure.	**A quarter of low-income households in the United States spend more than 15% of their income on energy bills.**	**One in three US households forgo necessary expenditures, such as on food or medicine, to pay household energy bills.**

RMI Graphic. Source: Energy Information Administration; ACEEE; and US Census Bureau.

These three dimensions are the major components of the energy poverty cycle. A household in energy poverty may experience just a single dimension of energy insecurity or any two or all three. The root cause and impacts of the three pillars of energy poverty are often interrelated, as energy poverty is the product of a household's economic situation, energy needs and behaviors, and housing infrastructure. For example, a poorly insulated house may mean a household has higher energy consumption, resulting in high energy bills. Conversely, a household may not experience economic energy insecurity or a high energy burden if it employs energy-limiting behaviors or lacks needed heating or cooling infrastructure.

The national energy burden landscape

Households considered energy burdened are acutely at risk of getting their energy disconnected, as high energy burdens make it difficult for a household to consistently pay its energy bills in full and on time.

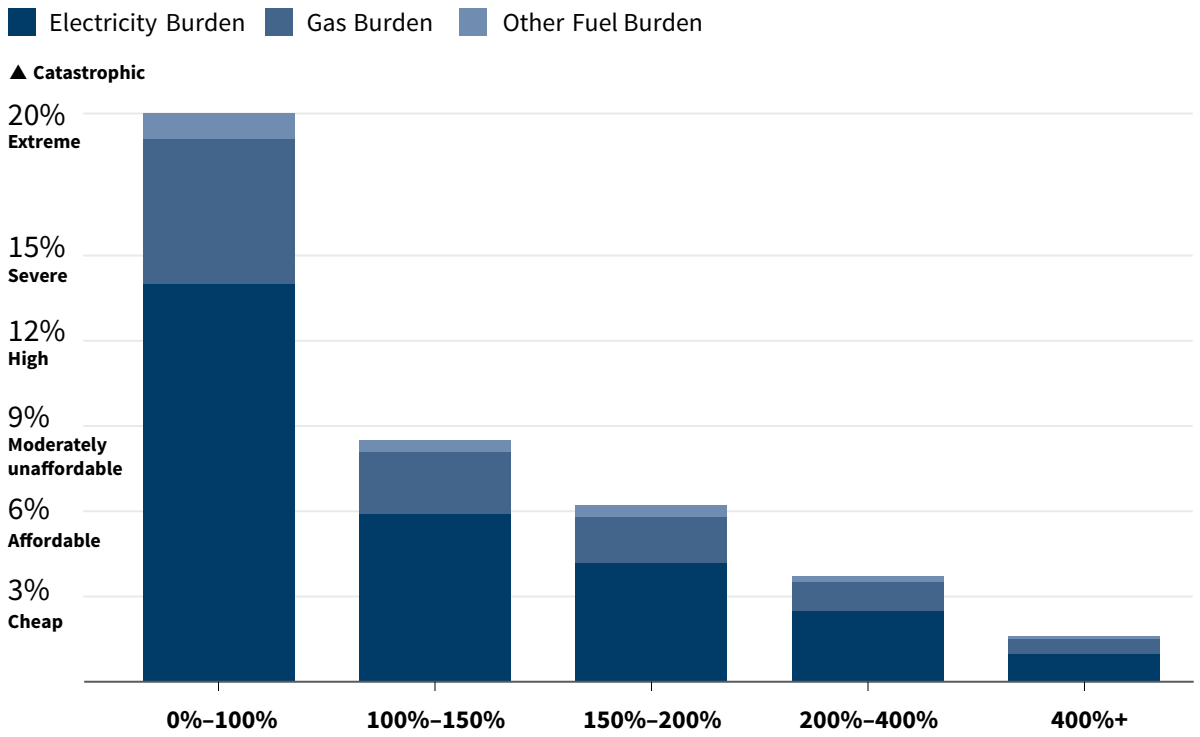
Energy burden is determined by a household's energy expenditures and income; it is informed by factors like those related to energy poverty: socioeconomic status, energy needs and behaviors, and housing infrastructure. As electricity bills have risen roughly with the rate of inflation, and wages have not kept up with inflation,[15] energy affordability for all households, but especially low-income households, is increasingly challenging.

Nationwide, according to federal data from 2022, low-income households have an average energy burden (11.5%) that is four times higher than the average energy burden of non-low-income households (2.7%).[i] Extremely low-income households, defined by the lowest federal poverty level (FPL) category, have an average energy burden of 20%.[16]

Exhibit 5 shows average energy burden (the percent of income spent on energy expenditures) broken out by income groups as classified by percentage of the FPL.

Exhibit 5

Average energy burden by FPL



Note: Energy burden is the share of a household's income spent on energy. The income groups shown on the x-axis are categories based on percentages of the FPL. According to many federal and state guidelines, households between 0% and 200% of the FPL are considered low-income.

RMI Graphic. Department of Energy Low-Income Energy Affordability Data Tool (2022 update)

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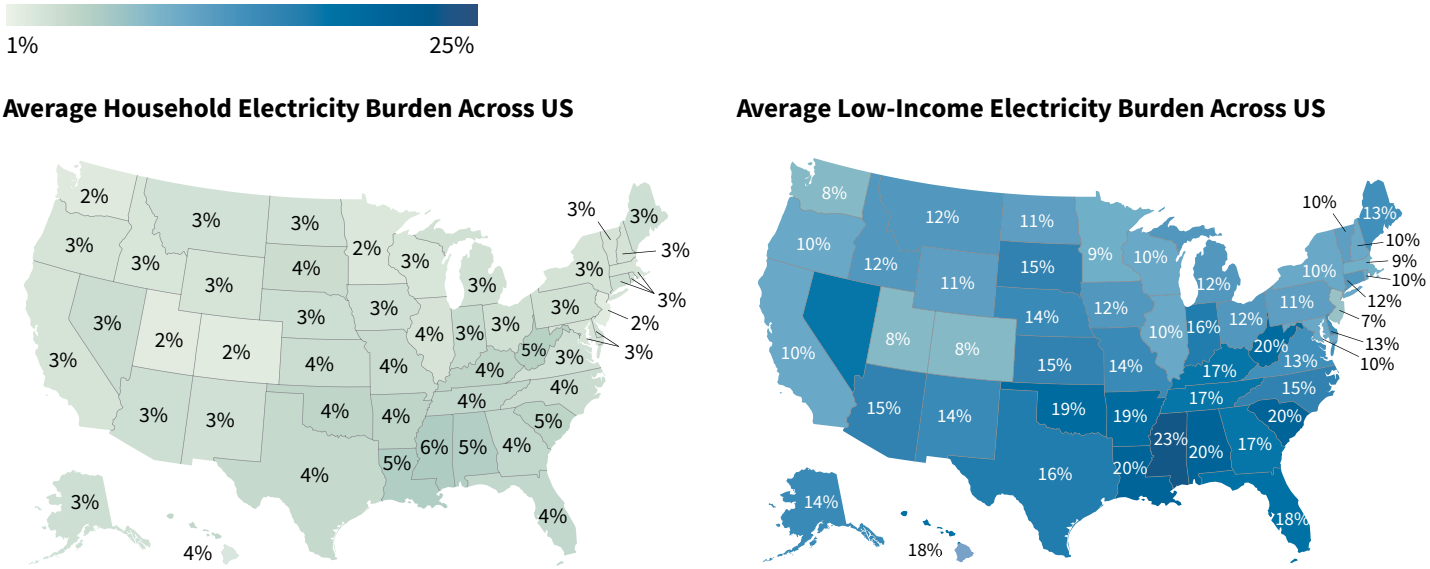
i Low-income households are typically defined as those having an income between 0% and 200% of the FPL.

Recently published energy burden data from 2023 found that a quarter of all households in the United States have an energy burden that is above 5.7%, a value near the established 6% threshold when a household is considered "energy burdened." In addition, this data found that a quarter of low-income households have an average energy burden above 15.2%.[17] These findings demonstrate the scale of the disproportionate financial burdens posed by energy bills as seen across the general population, especially among low-income households.

According to federal energy burden data from 2022, average state-level electricity burdens for the lowest-income households range from 7% to 23%. When accounting solely for electricity expenditures, Alabama, Louisiana, Mississippi, South Carolina, and West Virginia have the highest electricity burdens in the country on average.

In Exhibit 6, the map on the left shows the state-level average electricity burden for all households; the map on the right shows the state-level average electricity burden for low-income households.

Exhibit 6 Average household electricity burden and average low-income household energy burden in the United States



Note: We assume that low-income households are within 0–60% State Median Income.

RMI Graphic. RMI analysis of Department of Energy's Low-Income Energy Affordability Data Tool (2022 update)

A study analyzing census-tract level energy burdens from 2015 through 2020 found that energy burden increased substantially in the Southeast and Southwest, with possible factors including increasing electricity rates, rising adoption of air conditioning, extreme heat days, and negative economic impacts from the COVID-19 pandemic.[18] This same research found that areas where energy burdens that exceed 6% are concentrated in the Southeast and Southwest.

Utility disconnections due to nonpayment

A utility disconnection due to nonpayment is a major consequence of energy insecurity. Unpaid or late utility bills accrue as an arrearage. Depending on the protocol and regulatory protections a state has in place for utility shutoffs, a utility may be able to terminate a household's energy service when a single monthly energy bill payment is missed. Although disconnection practices vary by utility, states typically allow customer disconnections to occur between 15 and 45 days after a partially paid or missed bill. Households can be disconnected from their electricity for owing a utility as little as a few cents; in January 2024, a 74-year-old in Tallahassee, Florida, saw her electricity shut off for owing eight cents.[19] Once a household's energy is shut off, it might be required to pay the arrearages and often late fees in addition to disconnection and reconnection fees to restore the household's energy service.[20,ii] Reported fees for restoring utility service can vary from $20 to $210.[21]

There are significant short- and long-term health, financial, and safety impacts of losing electricity access.[22] The impacts of a utility disconnection can be severe and, in some cases, deadly. A utility disconnection is a stressful event that can cause members of a household to feel shame, anxiety, loss of dignity, and other forms of distress.[23] Disconnections can often result in the compromised safety and well-being of members of a household. Households that are disconnected can accumulate debt and be exposed to extreme temperatures, which can have cascading effects leading to lower quality of life and, in some cases, homelessness and increased mortality.

Disconnections most acutely affect populations and communities that are already vulnerable, including households with children, the elderly, and people who rely on medical devices. For example, a study analyzing disconnections across four utilities in California found that an increase in the share of a zip code's population of children under 5 years old by 10 percent is associated with 181 additional disconnections per year; this finding demonstrates an increased disconnection risk of 2.7% for each additional 1% of a population with young children. [24]

Health and safety

Disconnections limit a household's ability to regulate indoor temperatures, which can be deadly, particularly during extreme weather.

Extreme heat is one of the deadliest forms of extreme weather. Mortality increases by 3.74% during heat waves, and heatwaves have killed more people indoors than outdoors across the past 20 years in the United States. During a three-day heat wave in 2021, an estimated 169 people died in the state of Washington from heat-related causes, and hundreds more died throughout the region. In 1995, a heat wave in Chicago killed 700 people, the majority of whom lived in public housing and did not have access to air conditioning.

The rate of disconnection is expected to rise as the climate warms because it will become increasingly costly to keep homes at a safe temperature.[25] At the same time, the population in the Sunbelt, one of the hottest regions in the United States, is growing significantly,[26] which could increase residents' exposure to extreme heat. Tragically, disconnections during extreme weather have resulted in deaths. A recent example of this harrowing reality mobilized Arizonans in 2023, leading to increased disconnection protections in the

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ii In 2020, the California PUC addressed these fees in a disconnection proceeding, "Phase I Decision Adopting Rules and Policy Changes to Reduce Residential Customer Disconnections for the Larger California-Jurisdictional Energy Utilities." See: **https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M340/K648/340648092.PDF**.

state. Stephanie Pullman, a Phoenix resident, died in July 2023 after experiencing a utility shutoff during a heat wave. Stephanie owed Arizona Public Service $51 at the time of her shutoff.[27] The projected increase in disconnections — and therefore lack of access to air conditioning — combined with the expanding population in hot regions could be particularly deadly and underscores the importance of addressing such disconnections.

Cold indoor temperatures are also tied to negative health outcomes and increased mortality.[28] Some consequences of cold indoor air temperatures include negative mental health impacts, cardiovascular and respiratory problems, and lower sleep quality.[29] In addition to the dangers of prolonged exposure to cold indoor air temperatures, there are health risks associated with attempting to mitigate exposure. Fire-related injuries and deaths have been linked to using candles, space heaters, and extension cords after a disconnection.[30] Carbon monoxide poisoning is also a potential health threat for households that use generators after their energy is shut off. Deaths attributable to carbon monoxide poisoning from portable generators have long been documented; an estimated 900 people died of carbon monoxide from portable generators between 2005 and 2017.[31]

Disconnections not only worsen existing illnesses but also result in a higher likelihood of sickness, hospitalization, developmental delays, and medical emergencies.[32] Shutoffs are life-threatening for those relying on medical devices or refrigeration for essential medicines, such as insulin, and they are especially risky for children and the elderly.[33] The lives of household members who depend on medical devices that require electricity, such as dialysis machines and oxygen generators, can be put at risk.[34]

The increased risk of a utility disconnection to children can translate to families being separated and parents losing custody of their children.[35] A household that doesn't have access to electricity because of a disconnection can face intervention by child protective services or other government agencies; such interventions have the potential of harming children and other members of a family unit and triggering lifelong traumatizing impacts.

Financial

Disconnections can be incredibly costly for households in the short, medium, and long term. A disconnection can trigger eviction, foreclosure, and, as noted, intervention by child protective services.[36]

Data from the US Census Bureau's "Household Pulse Survey" estimates that 70 million households in the nation reduced or neglected food or medicine payments to pay their energy bills in 2024.[37] In contrast, when households received financial assistance for energy bills, it was associated with higher nutrition for children of the household, suggesting a direct trade-off between energy expenditures and food.[38] Similarly, a utility disconnection can be incredibly disruptive to a household's food supply, budget, and nutritional health — as a disconnection can lead to spoiled food and a resulting loss of up to hundreds of dollars in food costs alone.

A utility disconnection can also make households susceptible to predatory and risky financial systems that push them deeper into the energy poverty cycle. For example, when a household gets disconnected, it may resort to predatory loans to pay past-due bills to restore service.[39] Additionally, many utilities require customers to pay late fees, reconnection fees, or a reconnection deposit to restore their service after being disconnected, which can serve as an additional financial setback for already struggling families. They may also lose their rental security deposit due to losing their electricity, which is typically the value of one or two months' rent.

National level disconnection data is limited

Data on the occurrence and frequency of disconnections is limited, unstandardized, and difficult to access. This makes it challenging to know the true scale of US households that have lost access to electricity because of a disconnection. Only 25 states and the District of Columbia have formal disconnection data-reporting requirements for regulated utilities. Of those, 15 jurisdictions mandated standardized monthly data as of 2023. In addition to unstandardized reporting requirements, data accessibility also remains a persistent challenge; formal disclosure reports are dense and hard to find.[40] Even when reported, disconnection data can be difficult to consistently access, store, and analyze. Consistently published and easily accessible data is crucial for designing and implementing policy measures targeted at addressing the needs of households facing energy poverty and utility disconnections.[iii]

Disconnections by the numbers

What's happening?

In the United States, there are an estimated **3 million to 6 million annual disconnections.** On average, electric utilities disconnect about 2.5% of customers across the country annually, according to limited data. However, disconnections are not evenly distributed; states in the South and Midwest have higher rates. Disconnection rates also vary by utility type and season. In 2022, there were twice as many disconnections in the summer months (June, July, and August) as there were in the winter months (December, January, and February).

Why is action now critical?

PUCs can regulate investor-owned utilities and, in some cases, municipal and cooperative utilities. During the COVID-19 pandemic, several PUCs set disconnection moratoriums. These moratoriums cut disconnections in half in 2020, but disconnections are once again affecting millions of Americans, which is a serious public health crisis. As temperatures rise, disconnections and deadly exposure to extreme heat are expected to increase.

According to the Energy Justice Lab, there are at least 6 million disconnections in the United States annually.[41,iv] Since 2010, electric utilities have conducted the most total disconnections compared with other utility types, such as gas and electric plus gas utilities.[v] Utility disconnections are increasingly larger in scale than in previous decades, according to available data. Four million utility shutoffs were reported in 2021— just as COVID-19-related moratoriums expired across the country.

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iii This report uses data from a variety of sources, including national government surveys and databases from academic institutions, such as the Energy Justice Lab's Disconnection Dashboard. The Energy Justice Lab gathers disconnection data from regulatory proceedings as well as through independent data gathering, such as information requests and other forms of manual inquiries (e.g., phone calls and emails to utility personnel). Depending on the year, the Energy Justice Lab has data from 8 to 40-plus states. However, not all utilities in each state report disconnections each year. Therefore, even the most comprehensive data sources do not record the total number of disconnections each year.

iv Estimates for the number of disconnections vary. For instance, the US Census Housing Survey estimates there were 731,000 nationwide shutoffs in 2021. Comparatively, the Center for Biological Diversity estimates that there were 5.7 million cumulative shutoffs from January 2020 to October 2022, and the EIA estimates there were 12.36 million disconnection notices (note: not confirmed disconnections) in 2020.

v The Energy Justice Lab dataset includes data from the three utility types: investor-owned, municipal, and cooperatives; and data for gas, electric, and electric and gas services.

Understanding disconnection trends over the past 10 years helps underscore why this is such a critical moment to consider disconnection protection options. According to data from the Energy Information Administration's (EIA) Residential Energy Consumption Survey (RECS), 3% of households in the United States experienced a disconnection in 2015, and 15% of households received a disconnection notice.[42] Disconnection rates then fell during the COVID-19 pandemic because of widespread disconnection moratoriums. During the COVID-19 pandemic, at least 33 states and the District of Columbia instituted shutoff moratoriums.[43,vi]

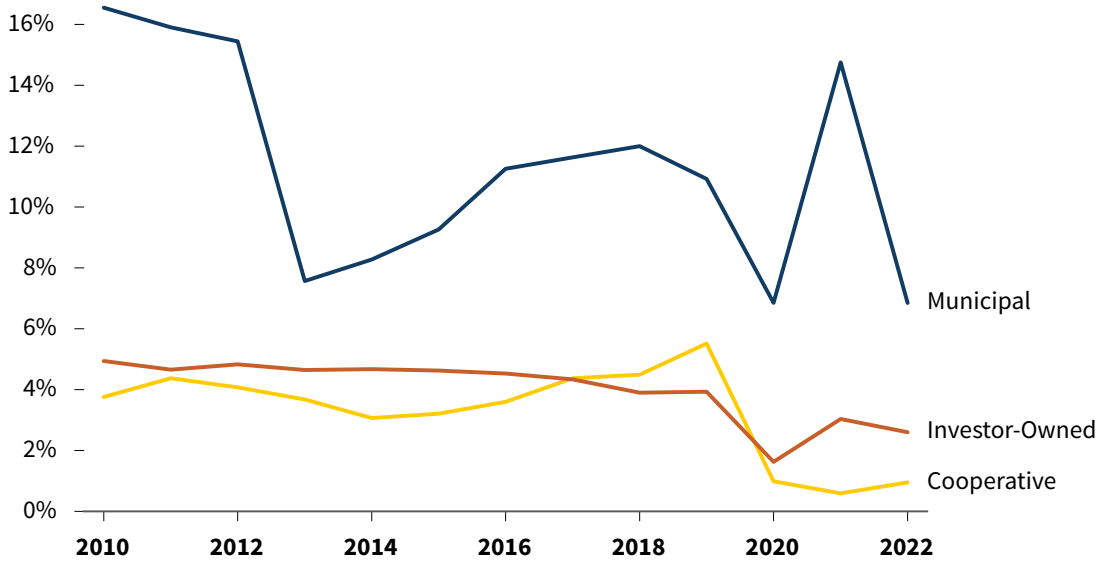
Disconnections by utility type

Given their larger customer base, investor-owned utilities (IOUs) perform more disconnections than municipal utilities and cooperatives. IOUs conducted nearly 35 million of the 39.3 million disconnections recorded in the Energy Justice Lab database (dating to 1996). Since 1996, according to reported shutoff data, IOUs have disconnected more than six times as many customers as municipal utilities. In 2022, seven utility parent companies accounted for 70% of all shutoffs reported that year.[44] However, when analyzing disconnection rates rather than total disconnections, municipal utilities have a higher rate of customer disconnection, according to very limited data on municipal utility disconnections.

Exhibit 7 shows annual utility disconnection rates by utility type (investor-owned, cooperative, and municipal) from 2010 to 2022.

Exhibit 7

Electric utility disconnection rates by utility type from 2010 to 2022



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RMI Graphic. RMI analysis of Energy Justice Lab's Disconnection Dashboard

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vi Of the 34 shutoff moratoriums, 30 had expired by the end of 2021.

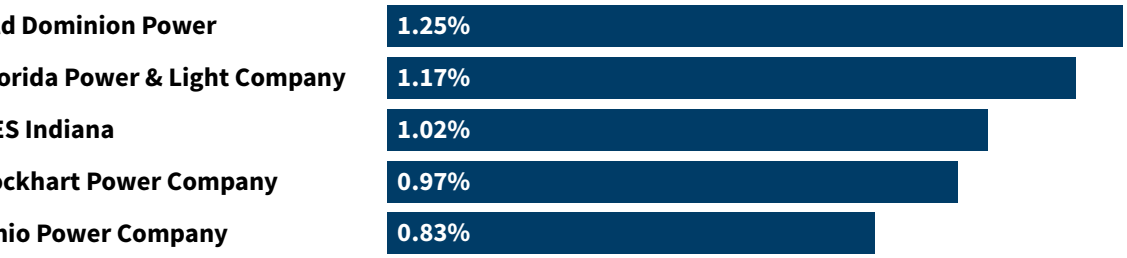
Zooming in, the electricity disconnection patterns of IOUs are important to understand because IOUs serve most US customers of the three main utility types, and they fall under regulatory oversight of PUCs. The five IOUs that reported the highest rates of electric disconnections between 2005 and 2022 were Old Dominion Power, Florida Power & Light Company, AES Indiana, Lockhart Power Company, and Ohio Power Co.

Exhibit 8 shows the five utilities with the highest average monthly disconnection rates between the years 2005 and 2023.

Exhibit 8

Utilities with the top 5 disconnection rates 2005-2023

Average disconnection rates according to percentage of customers disconnected from 2005 to 2023 for the five utilities that reported the highest average disconnection rates during that period.



Note: The five utilities are IOUs with more than 1,000 customers where data was available for at least two of the years included in the analysis. The values in this chart are based on monthly disconnection rates.

RMI Graphic. RMI analysis of Energy Justice Lab's Disconnection Dashboard

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Analyzing more recent data, RMI found that the utilities with the highest monthly disconnection rates in 2024 were United Illuminating in Connecticut (1.5%), Indiana Michigan Power in Indiana (1.3%), and Dominion Energy in Virginia (1.12%). Although a low percentage of total residential customers experience disconnections on a monthly basis, they negatively affect millions of people across the country.

There are also regional differences: households in the South and Midwest have higher rates of disconnection notices per household than average across the United States, and Western regions have lower disconnection rates.

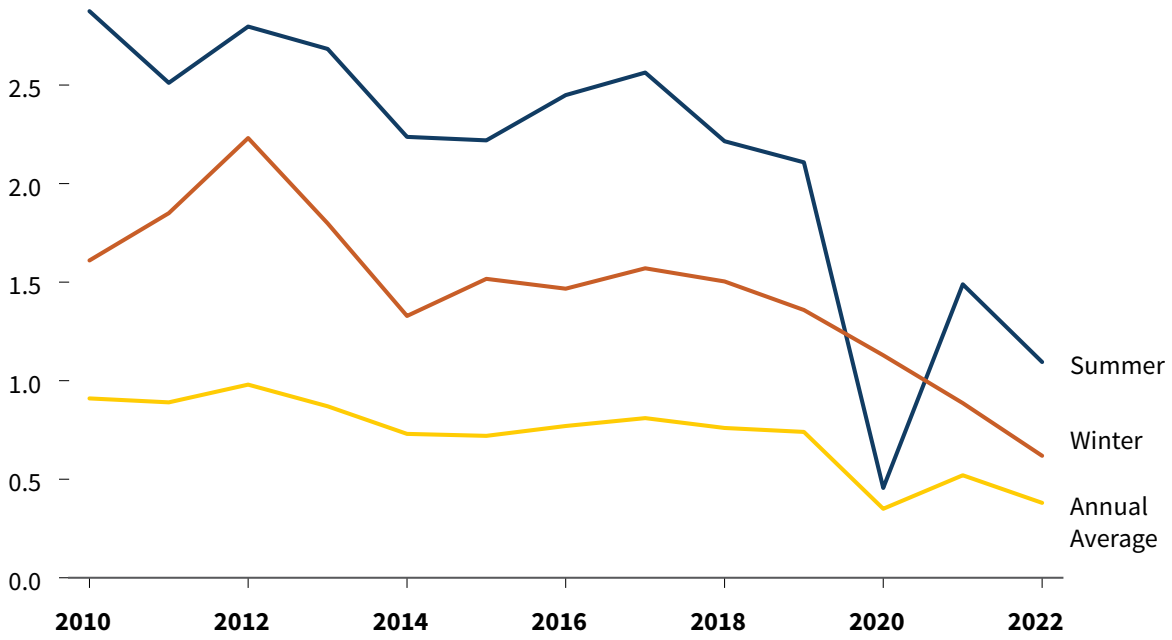
Seasonal variation

There are 42 states with cold weather–based disconnection protections, which are meant to protect households from the deadly impacts of losing electricity during extreme cold. However, when these protections typically lift in the spring, there is often a spike in disconnection rates. There are also 25 states with heat-based based disconnection protections. This report's final section, *Disconnection Reform Options,* offers more detailed information on state-level weather protections.

These disparities in seasonal protections may help explain why disconnection rates have historically been higher in the summer than in the winter. Additionally, federal energy assistance usually runs out by the summer and can't support eligible households that are at risk of disconnection.

An analysis of monthly disconnection rate data from the Energy Justice Lab found that summer disconnection rates were consistently higher than winter disconnection rates (see Exhibit 9). In 2020, however, the summer disconnection rate dipped below the winter disconnection rate. One possible explanation is that COVID-19 moratoriums did not start until halfway through 2020. Customers who were behind on payments in January and February 2020 were still subject to disconnection. By summer that year, the COVID-19 moratoriums would likely have protected customers from being disconnected. After the anomalous 2020, summer disconnections again rose higher than winter disconnections (see Exhibit 9). This rebound of summer disconnections post-COVID-19 suggests that households are still struggling to afford and maintain access to electricity during the summer months, which coincide with some of the most dangerous conditions.

Exhibit 9 Disconnection rates by season



Note: Annual average disconnection rates were calculated using individual utility disconnection rates based on monthly disconnection data, then weighted by total utility connections. Summer disconnection rates were calculated using data from June, July, and August. Winter disconnections rates were calculated using December, January, and February.

RMI Graphic. RMI Analysis of **Energy Justice Lab's Disconnection Dashboard**

In 2022, the latest year of available data for more than 40 states, there were 467,000 disconnections in the winter and nearly double that (906,000 disconnections) in the summer. Extreme heat has been shown to increase the rate of disconnections in subsequent months because energy consumption must be higher to keep homes at a livable temperature.[45]

Examining Trends in Disconnections

Nationwide, rising energy prices mean a higher portion of people's incomes is spent on household energy, increasing energy insecurity for households across the country. However, energy affordability challenges vary in scale and severity across a range of factors, such as geographic region, housing ownership type, and demographic makeup. Historically, marginalized demographic groups experience higher rates of energy insecurity and disconnections compared with other groups.

Even when accounting for income and other economic factors that contribute to energy burden and insecurity, demographic disparities persist in rates of energy poverty and utility disconnections. Because of a variety of historic and structural factors, Black, Latino, and Native American households in the United States have higher rates of energy poverty than other racial and ethnic groups.

Demographic disparities in energy burden and energy insecurity

The root cause and impacts of the three pillars of energy poverty — physical, economic, and behavioral energy insecurity — are often interrelated, as energy poverty is the product of a household's economic situation, energy needs and behaviors, and housing infrastructure.

Studying the legacy of poverty in the United States and the history of redlining and disinvestment in the housing market is essential for understanding who is most affected by energy insecurity.[46] Academic research on energy insecurity has found that households that are low-income, Black, or Latino, and those that have members without a college degree or with young children are most likely to be energy insecure. A survey conducted by the University of Pennsylvania and Indiana University's Energy Justice Lab in the early months of the COVID-19 pandemic found that Black and Latino households experienced more severe forms of energy insecurity at higher rates than white households.[47]

According to analysis of the US Census Bureau's American Community Survey (ACS), Black households — renters and homeowners — pay more in energy expenses than non-Black households even when controlling for income. This discrepancy could be, in part, due to differences in housing quality — which are often driven by historic disinvestment and disparities in access to loans — and lack of access to energy-efficiency measures. The result is that Black households face a higher energy burden than non-Black households.[48]

Black and Latino households are more likely to be energy insecure than white households, even when accounting for leading factors of energy insecurity, including housing condition and energy burden.[49] Demographically, Native American, Black, and Latino households had average energy burdens ranging from 3.5% to 4.2% — above the national median of 3%.

Historic and current demographic disparities in energy burdens are influenced by structural discrimination, underinvestment, and higher poverty rates among communities of color. As severe energy burdens heighten the risk of disconnections, Black and Latino households are therefore more prone to being disconnected and losing access to essential household energy.

Demographic disparities in disconnections

Ultimately, disproportionate energy insecurity results in disproportionate utility disconnections. Much like the racial and demographic disparities documented with respect to energy insecurity, Black and Latino households disproportionately face utility disconnections. Disconnecting Black and Latino households at a higher rate than other households means that the consequences of a disconnection, ranging from lost economic opportunity to loss of life, are acutely felt by these historically marginalized communities.

Survey data from around the time of the COVID-19 pandemic demonstrated how disconnections disproportionately affect Black, Latino, and Native American households. According to EIA's 2020 RECS, of households that received a disconnect or delivery stop notice in 2020, 27% were Black, which is disproportionately high compared with the share of US households that are Black (10.5%). According to the same survey, 18% of Native American households received a utility disconnection notice in 2020.[50] A different survey found that Latino households were 2.4 times more likely than white households to be disconnected by utilities between 2019 and 2020 and 4.7 times more likely to be disconnected during the early months of the pandemic.[51]

Recent utility proceedings have also featured important disconnection data and trends that elucidate demographic disparities. For example, academics found that Xcel Energy Minnesota customers living in communities of color were more than three times as likely to face a utility disconnection due to nonpayment between 2017 and 2021 compared with customers in predominantly white neighborhoods. Majority low-income areas in a community made up of over 30% people of color had an average annual disconnection rate of 21.3%, while majority low-income areas with a population of less than 10% of people of color had an average annual disconnection rate of 4.7%.[52] These rates are also significantly higher than the national average disconnection rate for IOUs, which is typically around 0.4%.

There are structural discriminatory practices that directly influence the racial disparities seen in disconnection rates, such as the leveraging of credit scores to identify who gets disconnected;[53] prioritization of disconnections in dense, urban neighborhoods due to operational efficiency; and the compounding impacts of predatory loans and collection practices.

Communities of color are also more acutely at risk of the negative health impacts of disconnections. Urban heat islands, a legacy of race-based zoning and historic disinvestment, disproportionately expose people of color to extreme heat and put communities of color particularly at risk for negative health effects and death from disconnections during periods of extreme heat.[54]

To understand energy poverty in the United States, it is critical to account for the role that underinvestment, segregation, and discrimination have played in shaping the disproportionate impacts of energy burden and disconnections on specific racial and ethnic groups in the United States. To be most effective, future policy decisions and regulations can account for these historical disparities and strive to build a future that has an affordable and reliable energy system for all communities.

Disconnection Reform Options

The policy opportunity for PUCs

PUCs serve a crucial role in ensuring that households remain connected to essential electricity service. Service disconnections can have severe consequences, including serious health risks, threats to food security, and even mortality. These impacts are especially dangerous for vulnerable populations — such as low-income families, seniors, and individuals with disabilities — and are further intensified during periods of extreme heat or cold.[55] As affordability challenges grow and extreme weather events become more frequent,[56] regulators can take proactive steps to reform disconnection policies and help customers remain connected to vital electricity service.

Currently, there is no uniform approach to disconnection policies across the country. Each state has developed its own regulations over time, often resulting in a patchwork of incremental protections that leave gaps in coverage. For example, a state may have a robust winter shutoff moratorium and safeguards for customers with medical conditions yet lack similar measures to protect vulnerable customers from shutoffs during summer months.

In addition, PUC disconnection policies often apply only to IOUs, which are the primary entities under PUC jurisdiction. Municipal utilities and electric cooperatives often fall outside of full PUC oversight and are typically able to set their own disconnection policies.[vii] This contributes to the fragmented landscape of customer protections within and across states. Despite this, PUCs still hold substantial influence over disconnection policies nationwide, as nearly three-quarters of Americans receive service from IOUs.[57] This gives PUCs a critical opportunity to adopt disconnection reforms that positively affect the majority of utility customers across the country.

PUCs are well-positioned to implement comprehensive reforms that standardize and strengthen disconnection protections for IOUs, ensuring that no customer is left vulnerable to sudden service shutoffs. By taking proactive measures, regulators can promote affordability and enhance public health and safety while limiting the use of service disconnections.

Note: This report focuses on reform strategies available to PUCs. However, governors, state legislatures, and utilities also play critical roles in advancing disconnection reform. Governors can direct either the legislature or the PUC to implement reforms, and legislatures can also act without executive direction. Utilities can serve as key partners by proposing new rules or programs, or by collaborating with the PUC and stakeholders in developing and implementing reforms.

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vii Municipal utilities are primarily governed by a local government, whereas cooperative utilities are governed by a co-op board. That said, state policies may in some limited cases apply to these non-IOUs as well. For example, in Massachusetts, municipal utilities must adhere to state disconnection protections for vulnerable populations. See **https://www.mass.gov/info-details/when-am-i-protected-from-having-my-utilities-shut-off**.

Spotlight: Disconnections and the PUC Mandate

Although specific PUC mandates vary by state, regulators are generally tasked with ensuring safe and reliable service at just and reasonable rates, while protecting the public interest.[58] Serving the public interest includes, among other responsibilities, promoting and protecting public health and safety.[59] Many regulators interpret this to mean they are obligated to maintain electricity access and support affordability for all customers to the extent that is reasonable. Some states even have laws explicitly requiring that utility commissions consider affordability and equity, further reinforcing this mandate.[60]

Given this, regulators may view addressing disconnections as essential to fulfilling core regulatory objectives. Protecting customers from service disconnections can help safeguard public health and safety — especially for vulnerable households — while affordability programs can help ensure that rates remain just and reasonable for those who need support to afford their utility bills.

Still, some regulators may question whether disconnection protections fall within their commission's core responsibilities. Depending on the jurisdiction, the PUC may be concerned that developing low-income assistance programs could stretch the commission's statutory authority or distract from other regulatory obligations. Other commissions may be concerned about the cost shift and that the costs of implementing disconnection protection will be paid for by other ratepayers. However, under the current system, uncollectible debt associated with arrearages is already collected from other ratepayers.

Well-designed disconnection protections and affordability programs can reduce uncollectible debt, ultimately supporting utility revenue collection. In this way, commissions don't necessarily have to choose between protecting customers and ensuring utility financial health. These goals can be aligned through thoughtful policy, even within the bounds of traditional regulatory responsibilities.

Disconnection reform may be initiated at the legislative or executive level. Although some PUCs act on disconnections pursuant to specific legislation or executive directives, there are several examples of PUCs evaluating and adopting new or revised disconnection policies on their own.

For instance, in a January 2025 rulemaking opening order to adopt disconnection protections during extreme heat conditions, the New York Public Service Commission wrote, "The Commission is statutorily obligated to ensure that the State's electric and water utilities provide safe and adequate service at just and reasonable rates. The utilities' obligation to provide safe and adequate service is most important during periods of extreme heat, when access to air conditioning and water are increasingly important."[61] The Arizona Corporation Commission, meanwhile, cited its broad ratemaking authority as well as its specific permissive authority over matters of public health and safety in a July 2019 decision that instituted new protections during extreme heat and communication protocols for notifying customers of potential disconnections, among other new rules.[viii]

More broadly, since the COVID era, there have been an increasing number of instances of commissions taking a proactive posture on disconnection reform, pursuing changes through a range of venues, as detailed below.

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viii The Arizona commission writes: "The Termination of Service Rules are reasonably necessary for the Commission to exercise its exclusive and plenary ratemaking powers under Article 15,§3 of the Arizona Constitution, are authorized under the Commission's statutory authority cited above, and are authorized under the Commission's permissive authority under Article § 3 of the Arizona Constitution, which grants the Commission authority to regulate public service corporations in areas other than ratemaking, specifically authorizing the Commission to "make and enforce reasonable rules, regulations, and orders for the convenience, comfort, and safety, and the preservation of the health, of the employees and patrons of [public service] corporations." As clarified by the Supreme Court in Johnson Utilities, the Commission has permissive authority over public health and safety, and to make reasonable orders benefiting the public at-large" (Docket No. RU-00000A-19-0132, Decision No. 78316, Arizona Corporation Commission, June 20, 2019, https://docket.images.azcc.gov/0000198730.pdf?i=1749047383817).

Landscape of policy options available to PUCs to limit disconnections

Policy options to reform current disconnection practices generally fall into three primary categories: targeted protections, disconnection protections, broad disconnection protections, and affordability programs (see Exhibit 10). Broad disconnection policies end disconnections for nonpayment altogether, either on a temporary or permanent basis (e.g., COVID moratoriums, lifeline programs). Targeted disconnection policies include rules and programs to reduce disconnections under certain conditions (e.g., procedural rules, seasonal or temperature-based limitations, protections for specific vulnerable groups). Affordability programs stem the risk of disconnection by making energy more affordable in the first place (e.g., percentage-of-income payment plans, arrearage management plans). Many states offer some combination of targeted disconnection protections and affordability programs. Few have adopted broad disconnection reform.

Exhibit 10 Policy options to reduce disconnections

Broad Disconnection Protections

Lifeline electricity — Rather than disconnecting service for bill nonpayment, limit a customer's electricity allotment to a specified amount (e.g., 600 watts) — typically enough to support basic needs while still encouraging the customer to make payment and/or seek assistance.

COVID-19 moratoria — Temporarily pause on all disconnections, given the emergency conditions spurred by the pandemic.

Permanent end to disconnections — Ban the use of disconnections as a collections tool on a permanent basis, particularly for a specific subset of customers (e.g., low-income, elderly).

Targeted Disconnection Protections

Procedural requirements — Set limits on when and how utilities can shut off service, including rules about timing, notice, and fees for disconnecting and reconnecting service.

Extreme weather protections — Prohibit utilities from disconnecting customers during times of extreme cold or heat.

Protections for vulnerable customers — Prevent utilities from disconnecting vulnerable customer segments who are at particular risk should they be disconnected.

Performance mechanisms — Increase visibility into disconnection trends and encourage utilities to reduce disconnections in accordance with specified performance targets.

Affordability Programs

Percentage-of-income payment plans — Cap energy bills at a set percentage of household income, helping to keep bills at an affordable energy burden for income-eligible customers.

Low-income discount rates — Provide energy at a discounted rate to eligible customers, lowering overall bills.

Arrearage management plans — Forgive a portion of a customer's debt for each on-time payment of a new bill, helping customers pay down their past-due balance and return to regular payment.

Low-income energy efficiency — Target energy-efficiency spending and savings to low-income customers, reducing the volumetric charge on customer bills.

RMI Graphic

Targeted reform options

The following sections provide an overview of targeted reform options, including descriptions of the policies, their prevalence across the country, leading examples, and best practices. These policies include procedural rules that govern how and when disconnections can occur, as well as seasonal or temperature-based moratoriums. They also include targeted protections for specific vulnerable populations and performance mechanisms designed to reduce disconnection rates and increase visibility into disconnections overall. Many of these policies have been widely adopted across the United States, though their exact designs vary.

Procedural requirements

Procedural requirements are narrower reforms setting limits on when and how utilities can shut off service, including rules about timing, notice, and fees for disconnecting and reconnecting service. These policies typically aim to protect customers from being subjected to sudden and costly disconnection. They include:

- **A minimum time frame or delinquency period that can give customers a critical window to resolve missed payments before facing disconnection.** At least 42 states specify a minimum time frame for bill payment before disconnection.[62] For most states, this falls between 15 and 45 days.[63] Under this type of rule, the utility must provide customers a specific grace period after a missed payment before disconnection can occur, helping ensure that they have adequate time to pay. For example, in New Hampshire, utilities cannot disconnect service unless a customer's bill is at least 60 days past due.[64] In Georgia, meanwhile, customers have a minimum delinquency period of 45 days to pay their bills before facing disconnection.[65]

- **Safeguards for customers actively seeking assistance that can promote long-term bill stability.** Extending disconnection timelines for customers applying for assistance programs can give them the time needed to secure support, resolve outstanding balances, and return to regular payment. States can consider extending timelines for customers in the process of enrolling in assistance programs because once they receive the support they need, they may be more able to afford their bills and avoid disconnection. In Illinois, electric and gas utilities with over 500,000 customers were required to implement a disconnection protection program, in which customers who apply for assistance through the Low-Income Home Energy Assistance Program or a percentage of income payment plan (PIPP) are protected from disconnection for 30 days after the utility is notified by a local agency that the application has been submitted.[66] Customers who receive assistance through either program are granted an additional 45-day disconnection protection period following that notice.

- **Clear, multichannel disconnection notice requirements that help ensure customers understand and can respond to disconnection risks**. All but one state require the utility to attempt some contact with customers facing disconnection before shutting off their service,[67] though the clarity and accessibility of communications vary widely. Forty-nine states require written notice, 22 states require notice by phone, and 12 states require that the utility try to reach the customer in person.[68] It is generally considered best practice to use multiple forms of communication when providing a disconnection notice. For example, Oregon requires that utilities attempt contact with customers in person, by phone, and by mail under different circumstances. Under the policy, utilities must provide clear, multilingual written notices at least 15 days in advance (or five days in certain situations), including reasons for disconnection, payment options, and available assistance.[69] They must also attempt personal contact with the customer before disconnection and document all notification efforts.

- **Minimum arrearage thresholds that protect customers from disconnection over small debts.** At least seven states specify a minimum arrearage threshold that a customer's debt must exceed before a utility can disconnect service, helping protect customers with small debts from unnecessary hardship. Across states, these thresholds range from about $50 to $500.[70] For example, in Arizona and Rhode Island, disconnection cannot proceed unless a customer's arrearage exceeds $300, while in New Jersey the minimum is $200, and in New Hampshire and Maryland it is $100.[71] In Montana, there is a $500 minimum arrearage threshold for medically protected customers.[72]

- **Limited disconnection or reconnection fees that can reduce the financial burden of shutoffs**. California prohibits IOUs from requiring customers to pay reconnection fees.[73] As part of a recent rate-case settlement, meanwhile, Entergy Louisiana agreed to reduce late fees and eliminate disconnection and reconnection fees for customers with smart meters.[74] As the Louisiana Public Service Commission (PSC) recognized, smart meters enable the remote disconnection and reconnection of service, significantly reducing the operational costs associated with shutoffs. As smart meters become more widespread, PUCs have an opportunity to reconsider the need for disconnection and reconnection fees.

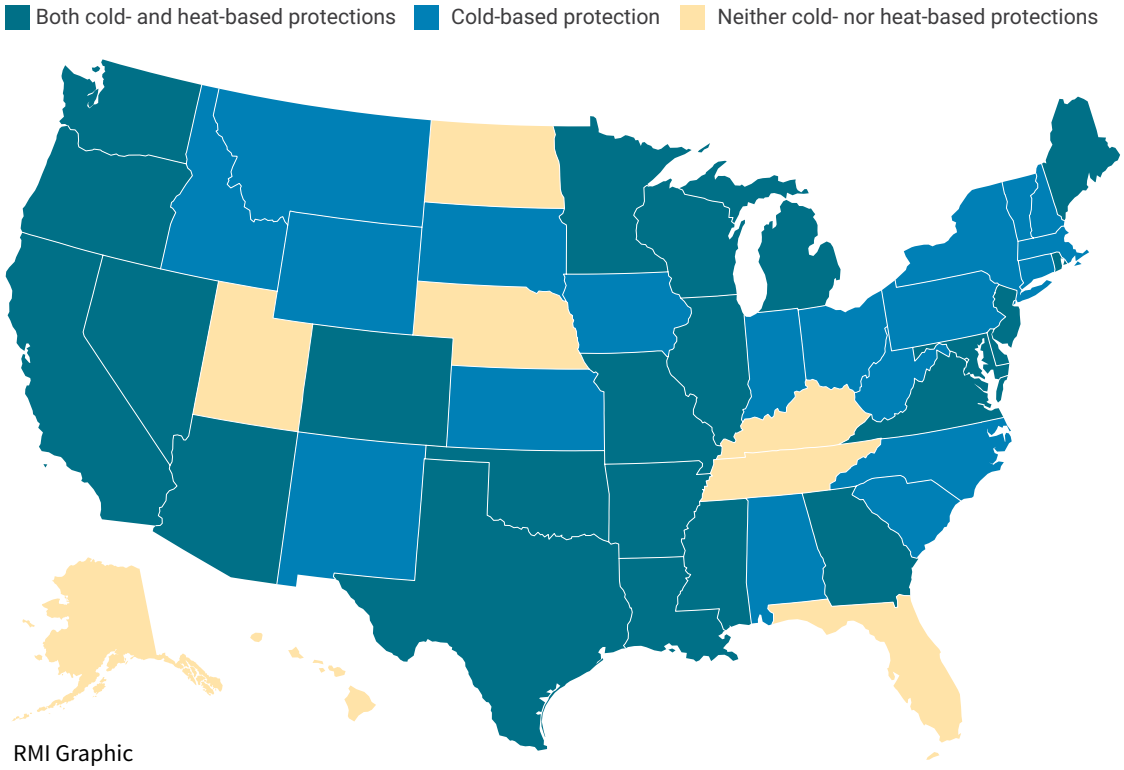
Extreme weather protections

These policies prevent utilities from disconnecting customers during times of extreme cold or heat, when access to heating and cooling is essential for health and safety.

Exhibit 11 illustrates the range of weather-based disconnection protections in place across the United States. The map reflects states with any type of protection, including date-based rules and temperature-based thresholds.

Exhibit 11

Weather-based disconnection protections in the United States



RMI Graphic

At least 43 states offer cold-based protections, and at least 21 states offer heat-based protections.[75] These protections can be defined as using a temperature (e.g., shutoffs are prohibited if the temperature reaches above 95°F), a date range (e.g., shutoffs are not permitted from November 1 to March 31), or both. It is considered best practice to provide a combination of temperature- and date-based protections during both winter and summer seasons.[76]

When adopting temperature-based protections, states can consider how to incorporate the heat index or a National Weather Service warning metric to account for the effects of humidity on human health.[ix] For example, Washington state prohibits electric utilities from shutting off service on days when the National Weather Service issues or plans to issue a heat-related alert.[77] This includes alerts like excessive heat warnings, advisories, or similar alerts. Similarly, Virginia prohibits disconnections when the National Weather Service forecasts that the temperature will fall below 32 degrees or rise above 92 degrees Fahrenheit within the 24 hours following a scheduled disconnection.[78]

Protections for vulnerable customers

Broad protections for vulnerable customers help ensure continued energy access for those at greater risk of health and safety harms from disconnection.

Vulnerable-customer protections prohibit utilities from disconnecting vulnerable customers, such as the elderly and customers with medical conditions. Depending on the jurisdiction, customers typically apply for a specified time frame (e.g., 30 to 60 days) and allow for the possibility of renewal.

- At least 45 states have some type of protection for customers facing medical emergencies or serious health conditions.[79]
- At least 14 states have protections for elderly customers.[80]
- At least 11 states have protections for customers with disabilities.[81]
- At least seven states have protections for military veterans.[82]
- At least four states have protections for households with young children.[83]

Protections for vulnerable customers are most effective when defined broadly, with flexible pathways for certification by a range of entities.[84] To ensure timely protection, the certification and recertification process should be simple and accessible for customers who need it. Massachusetts is one example of a state with significant protections for vulnerable customers. Massachusetts customers experiencing financial hardship are protected from having their electric or gas service disconnected without prior approval from the Department of Public Utilities if any of the following conditions apply:[85]

- A member of the household is “seriously ill.”
- There is an infant under 12 months old in the home.
- All adults in the home are age 65 or older and a minor child also lives in the household.

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ix Although National Weather Service metrics offer a helpful lens for understanding potential extreme weather, there are also challenges. Alerts are issued by local National Weather Service offices, whose capacity can vary. Additionally, utilities must interpret and act on different alert types — such as advisories, watches, and warnings — which can be complex.

The state's medical protection leaves it to a medical professional's discretion to determine whether a customer meets the conditions to be considered "seriously ill."[86]

Performance mechanisms

Performance mechanisms include performance incentive mechanisms (PIMs), scorecards, and reported metrics. PIMs aim to realign a utility's revenues with its performance on specified policy outcomes; they consist of a financial incentive tied to a metric and performance target. In the case of disconnections, the commission can adopt a PIM that provides a reward (or a penalty) to the utility for achieving a specified level of reductions in residential service disconnections (or failing to achieve it). Scorecards include a metric tied to a performance target (e.g., a percentage decrease in the number of residential disconnections), while reported metrics simply include the metric without a specific target (e.g., the number of residential service disconnections).

Performance mechanisms can increase visibility into disconnection trends and encourage utilities to reduce the use of shutoffs as a collections tool. At least two states have implemented PIMs to reduce disconnections: New York and Illinois.[87] Illinois PIMs for ComEd and Ameren provide symmetrical return on equity (ROE)-based rewards (or penalties) to the utilities if they reduce (or fail to reduce) disconnection levels in the 20 zip codes with the highest historical disconnection rates.[88] ComEd's incentive is +/- 5 ROE basis points, and Ameren's is +/- 3 basis points.[89] These mechanisms have been in place only for a year, so there is limited data to assess their effectiveness. That said, performance data from this first year of implementation indicates that the PIMs supported reductions in disconnections.

In 2024, ComEd did 19,573 disconnections in the 20 selected zip codes with the highest historical disconnection rates,[90] which represents a 71% decrease compared with disconnection numbers in 2023 when the PIM was not in effect.[91] This outcome was well below ComEd's specified target for the performance period (39,853 disconnections) and resulted in the full 5 ROE basis-point reward.[92] As part of its efforts to reduce disconnections, ComEd enhanced its customer outreach and communications, including increased education on available assistance programs.[93]

Meanwhile, Ameren did 4,907 total disconnections in the 20 selected zip codes in its service territory in 2024[94] — an 11% decrease in disconnections relative to 2023 numbers.[95] This was below the Ameren's 2024 target (5,730 disconnections) and earned the company the full 3 basis-point reward.[96] Ameren similarly increased its customer communication and outreach around available assistance programs to help achieve this outcome.

Although early results from Illinois are promising, disconnection PIMs are still an emerging policy tool, and there is not yet sufficient evidence to fully evaluate their effectiveness in reducing disconnections. States may also differ in how they view the role and necessity of these incentives in driving utility behavior. Some may favor mandates or downside-only PIMs, especially if they view limiting disconnections as part of a utility's core service obligations. In such cases, financial penalties can be used to hold a utility accountable for meeting those obligations.

In contrast, states that view disconnection reduction as a worthwhile objective — but not one that falls within a utility's mandated responsibilities — may find upside-only or symmetrical PIMs more appropriate. The financial reward provides the utility with a positive motivation to reduce disconnections without penalizing it for falling short of goals that the regulator sees as outside its formal obligations.

For states hesitant to link financial incentives to reducing disconnections, scorecards and reported metrics can still serve as valuable tools. When paired with a public dashboard that displays the utility's performance on specific metrics (e.g., reduction in residential service disconnections), these tools can enhance transparency and offer a "reputational incentive" for utilities to improve their performance while influencing their standing with customers, regulators, and shareholders.

For instance, the Hawaii PUC implemented a disconnection reporting metric for Hawaiian Electric that measures the annual percentage of disconnections for nonpayment, broken down by customer class and zip code.[97] The goal is to increase visibility into geographic patterns of disconnection, helping to identify where additional efforts may be needed.[98] The results are publicly available on Hawaiian Electric's website, and the underlying data can be downloaded.[99]

Broad reform options

The following section provides an overview of broad reform options, including policy descriptions, benefits, drawbacks, and design considerations. Broad reforms include those that end disconnections as a collection tool. Although many jurisdictions have adopted broad measures on a temporary basis (e.g., COVID disconnection moratoriums), there are few instances of permanent broad reform in the energy sector. Broad reforms offer the most robust protection from disconnection, helping to address the patchwork nature of current practices that leave some customers at risk of disconnection.

Lifeline electricity

"Lifeline" or service limitation policies reduce the amount of electricity available to a household after a missed payment, offering a partial service alternative to full disconnection.

Lifeline policies can help customers retain access to electricity for basic uses while still motivating the customer to make payment or seek assistance. For example, in France, the state-owned utility Électricité de France (EDF) adopted a lifeline policy that avoids shutting off electricity for nonpayment. Instead, the utility reduces a customer's electricity supply to just one kilovolt-ampere.[100] This amount of power is

enough for lighting, internet, device charging, water heating, and a small refrigerator — but not for more energy-intensive uses like space heating.[101] France also has a winter disconnections moratorium in place from November 1 to March 31 during which customers enrolled in the state energy voucher program cannot have their power reduced, ensuring they retain access to essential home heating.[102]

EDF observed the following outcomes after implementing this policy:[103]

- Power limitation enabled the utility to find solutions for 70 percent of customers with past-due bills and bring them back to regular payment. These customers also saw their debt reduced.

- The median duration of power limitation was 11 days. In other words, most customers had their power reduced for 11 days before their regular service was resumed.

Kauai Island Utility Cooperative (KIUC), which serves 33,000 customers in Hawaii, follows a similar policy.[104] Before disconnecting customers for nonpayment, KIUC reduces their electricity supply to 600 watts — enough to power a refrigerator and a couple of lights.[105] If the bill remains unpaid after one week of limited service, the utility proceeds with full disconnection.[106]

COVID-era disconnection moratoriums

At least 33 states and the District of Columbia instituted shutoff moratoriums during the COVID-19 pandemic.[107] At the height of the pandemic, about 88 percent of residential customers in the United States were protected from disconnection under temporary moratoriums.[108] Research shows that COVID energy and water utility disconnection moratoriums reduced COVID infections by 4.4% and mortality rates by 7.4%.[109]

The COVID-19 experience indicates the importance of implementing complementary affordability programs when pursuing broad reform. Unfortunately, most COVID disconnection moratoriums were implemented without corresponding efforts to proactively manage customer debt, contributing to a sharp increase in arrearages. By the end of 2020, utility arrears had reached an estimated $32 billion nationwide.[110] In response to the energy affordability crisis that followed the height of the COVID-19 pandemic, several states implemented bill assistance programs aimed at reducing customer arrearages and mitigating the risk of disconnection. Minnesota and New York offer notable examples of such initiatives. In both cases, the programs were at least partially funded by utility shareholders and were found to be a cost-effective strategy for proactively managing customer debt and disconnection rates.

In 2021, the Minnesota PUC approved a utility-funded arrearage relief program for income-qualifying Xcel Energy customers with overdue bills.[111] The PUC found that Xcel's commitment to fund the program would ultimately benefit both the utility and its broader customer base by improving customer retention and revenue, and by reducing bad-debt write-offs and disconnection-related costs.[112] The program was fully funded by Xcel for $17.5 million.[113] Eligible customers — those with arrears between $1,000 and $4,000 — could receive a 75% credit on their past-due balances if they entered into a payment plan with the utility. The program supported 17,282 customers, reducing their utility debts by an average of approximately $2,007 per person. [114]

In June 2022, the New York PSC implemented a two-phase arrearage relief program for low-income electric and gas customers. The PSC determined that offering bill relief would ultimately be more cost-effective for New Yorkers than allowing utility debt to accumulate and risking widespread service disconnections.[115]

The program was primarily funded by ratepayers, who covered 85% of the total cost through an average bill surcharge of approximately 0.5%. Utility shareholders contributed the remaining 15%, totaling $101 million.[116]

The program automatically applied credits to unpaid utility bills accrued during the COVID-19 pandemic (through May 1, 2022) for customers enrolled in the state's Energy Affordability Program. In total, the program provided relief to approximately 789,000 residential customers and 56,000 small businesses.[117] By helping customers avoid disconnection and eliminating their utility debt, the program is estimated to have saved New Yorkers between $328 million and $628 million. Phase 2 alone delivered $672 million in assistance, roughly half the estimated cost of inaction ($1 billion to $1.3 billion).[118]

Permanent end to disconnections

In November 2022, the Los Angeles Department of Water and Power (LADWP) Board of Commissioners approved a policy ending utility disconnections for low-income and elderly customers enrolled in assistance programs.[119]

For PUCs interested in pursuing broad reform, LADWP's reform may be a useful model. The board's decision was informed by data from the COVID-19 moratorium period, which showed that low-income customers in assistance programs paid their bills at equal or higher rates than other customers.[120] The board of the largest municipal utility in the country also considered data revealing that the lowest-income households — and those in majority-Black and majority-Latino communities — were more than twice as likely to experience power shutoffs compared with higher-income and white households.[121]

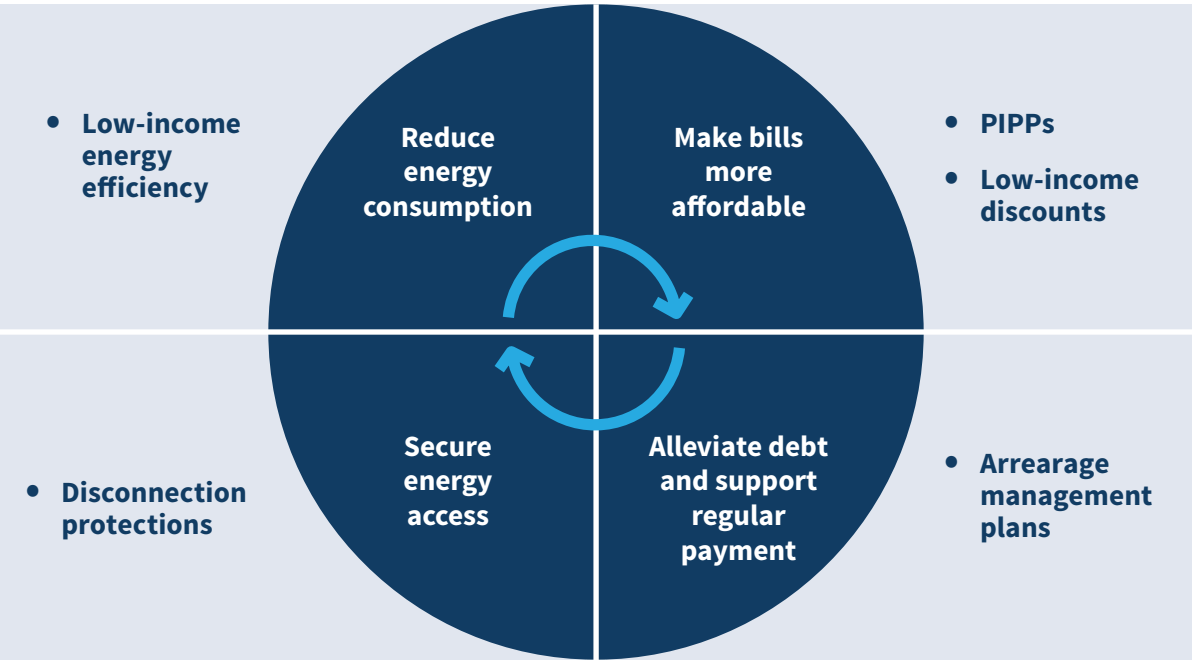
> **"The fact that these customers — when they have the opportunity, when they can — do pay, really does remove, from my perspective, the power of [the free rider argument] and tells us that their lack of payment isn't a lack of responsibility. … It's a result of their actual inability to pay the bill."**
>
> *— LADWP Board President Cynthia McClain-Hill*

The policy protects approximately 240,000 customers from disconnection on a permanent basis.[122] Alongside the shutoff reform, the department was directed to expand outreach through partnerships with community-based organizations to increase awareness of assistance programs that help income-eligible customers afford their bills.[123]

Affordability programs

Utility disconnections typically occur when households are unable to consistently pay their bills in full and on time, and low-income households with high energy burdens are especially vulnerable to falling behind on their bills and facing disconnection. To proactively address low-income energy burdens and disconnection risk, PUCs can consider a variety of programs to safeguard affordability and help customers (see Exhibit 12).

Exhibit 12 Toolkit for safeguarding affordability



RMI Graphic

The following programs can help customers manage and lower energy bills:

- **PIPPs can directly limit energy burden and shield customers from rising or volatile bills.** At least nine states have a PIPP program, which caps energy bills at a specified percentage of household income for income-eligible customers ensuring that customer bills never exceed a specified affordability threshold (e.g., 4 percent of household income for electricity bills). This helps ensure they can afford to pay their bills on time and in full. For example, Ohio offers a PIPP for customers with incomes at or below 175% of the federal poverty guidelines.[124] The program caps bills at 5% of household income for gas and 5% for electricity or 10% for households that use electricity for heating.[125]

- **Low-income discount programs can similarly help mitigate energy burden, though their exact impact depends on their design.** At least 14 states provide energy at a discounted rate for income-eligible customers. Like PIPPs, low-income discount rates help lower total bills for participating households. However, the support they provide is typically less tailored to individual household needs. Discounts can be structured as a flat discount for all eligible income groups, or a tiered discount in which the discount level varies based on the income group (e.g., the lowest-income groups, or the most energy-impoverished customers, receive the largest discount). For instance, beginning in 2026, Connecticut will implement a five-tiered, low-income discount program with discount levels ranging from 5% to 50% off total monthly bills.[126] The discounts will be available to customers with incomes up to 60% of the state median income.[127]

- **Arrearage management plans (AMPs) can help customers pay down their debt and return to regular payment schedules.** At least 10 states offer AMPs that forgive a portion of a customer's debt for each on-time payment of a new bill. These programs help customers gradually reduce their arrears and regularly pay their bills — often with lasting improvements in payment behavior even after completing the program.[128] For example, Maine has an AMP that offers eligible low-income electric customers who have at least $500 in arrears monthly arrearage forgiveness over a 12-month period.[129] For each on-time bill payment, participants receive forgiveness equal to 1/12 of their total arrears (up to $500/month), with the potential to fully eliminate their debt after a year.[130]

- **Low-income energy efficiency can reduce the volumetric portion of customer bills and mitigate energy burdens, depending on their design.** Most states offer targeted energy efficiency programs for low-income customers to ensure they benefit from improvements such as weatherization and appliance upgrades. These programs generally follow one of two approaches: they may prioritize deep retrofits — delivering substantial energy savings to a smaller group of households — or focus on lighter-touch measures that extend basic benefits to a broader population. Deep retrofit programs are typically associated with greater bill savings for participating customers, as the more comprehensive energy-saving measures can significantly reduce total energy usage and, in turn, lower the volumetric portion of customers' bills.

To ensure that low-income customers benefit from targeted spending and energy-efficiency savings, commissions can establish specific savings goals for low-income programs or adopt modified cost-effectiveness rules tailored to those programs.[131] For instance, the Pennsylvania PUC mandates that at least 5.8% of each utility's total consumption-reduction target must come from the low-income sector.[132] Additionally, emerging evidence suggests that residential rooftop solar can mitigate energy insecurity for low- and moderate-income (LMI) households. One recent study found that LMI households with solar were 46% less likely to receive a disconnection notice and 44% more likely to pay their bill on time compared with similar nonsolar households.[133] However, because of the high up-front costs of solar installation, LMI customers may require targeted subsidies or financing support to access and benefit from solar.

Implementing Disconnection Reform

Depending on the jurisdiction, regulators may pursue disconnection reforms through investigative, rulemaking, ratemaking, or planning dockets. In doing so, states can weigh the costs and benefits of different approaches, accounting for household and societal impacts of disconnection compared with alternative collection practices. A comprehensive reform process may involve assessing statutory authority; gathering and analyzing data on disconnections, arrearages, and stakeholder input; identifying desired outcomes; designing reforms that align with those outcomes in collaboration with stakeholders; and finally, implementing and monitoring the reforms over time to ensure they are working as intended.

Regulatory venues for advancing disconnection reform

States have developed and evaluated disconnection policies in a variety of regulatory venues. A commission may choose the appropriate venue based on several factors, such as the presence of a legislative directive, the PUC's specific statutory mandate and authority, existing disconnection policies, and availability of disconnections data.

Investigative

In an investigative proceeding, the commission typically gathers data and stakeholder input to better understand the scope and impacts of utility disconnections, often through technical workshops and information requests. This can help the commission identify key issues and potential reforms before formal action is taken.

For example, the Hawaii PUC initially evaluated disconnection practices and possible reforms in its equity docket, an investigative proceeding.[134] This included multiple virtual stakeholder meetings to discuss the state of utility disconnections and policy best practices. After the investigative phase, the commission launched a formal proceeding to establish disconnection reform. That process is ongoing and expected to continue into 2026.[135]

Rulemaking

During a rulemaking, the commission can propose and adopt formal, enforceable rules to govern utility disconnection practices. A rulemaking may be initiated after an investigative proceeding, pursuant to state legislation, or in response to a stakeholder's formal petition.[x]

The California PUC initiated a rulemaking on its own motion in 2010 to address rising disconnection rates.[136] In its Phase II Decision in the proceeding, the PUC adopted a number of procedural reforms to disconnection practices, including updates to notification protocols, a ban on credit deposits for late bills, and a requirement that medically vulnerable customers cannot be disconnected without an in-person visit

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x Some states have a formal process by which a stakeholder can formally petition the commission to open a rulemaking. For example, the Texas PUC allows any interested person to "petition the commission requesting the adoption of a new rule or the amendment of an existing rule." See **https://ftp.puc.texas.gov/public/puct-info/agency/rulesnlaws/procrules/pro/22.281/22.281.pdf**.

from a utility representative.[137] In 2017, Governor Jerry Brown signed legislation that directed the PUC to develop new policies to reduce the statewide disconnection rate, and the PUC opened a new rulemaking to implement the law.[138] The commission has adopted a wide array of reforms in the docket, including: (a) a cap on residential disconnections each year based on each utility's prior disconnection rate; (b) a ban on reconnection fees; (c) an expansion of the definition of "vulnerable customers"; and (d) development of new assistance programs, including an arrearage management plan and PIPP pilot.[139]

Distribution planning

In the context of distribution planning, the commission may evaluate geographic disparities in disconnections and identify targeted strategies for mitigating harm.

For instance, in Minnesota's Integrated Distribution Plan docket, the Minnesota PUC responded to filings from energy equity advocates highlighting stark racial disparities in utility disconnections. The study found that Xcel Energy customers in communities of color were over three times more likely to be disconnected than those in predominantly white areas, even when controlling for socioeconomic factors.[140] In response, the PUC held a stakeholder workshop and opened a public comment period to solicit stakeholder input on the equity analysis and Xcel's proposed next steps.[141] In a separate proceeding, the commission then adopted a number of changes to Xcel's disconnection practices, including requiring the company to reduce reconnection down payments from 50% to 10%, establish a $300 minimum arrearage threshold, extend disconnection notice windows, and commit to a racial disparity study.[142]

Rate case

Within a rate case,[xi] a commission could assess the revenue impacts of a particular disconnection policy. A rate case can also provide a forum for developing ratemaking mechanisms tied to disconnections (e.g., a PIM that incentivizes reduced disconnections).

For instance, the New York PSC adopted positive and negative revenue adjustment mechanisms — a type of PIM — for the major IOUs in the state within each utility's respective rate case. Although the exact design varied by utility, these mechanisms generally incentivized efforts to reduce residential service disconnections and uncollectible expense.[143]

Other

Commissions may have distinct processes outside of ratemaking, planning, investigative, and rulemaking dockets to consider and adopt disconnection policies.

For example, the Ohio PUC annually issues a winter reconnect order, which is intended to support customers in staying connected or getting reconnected to energy during the winter. The commission initiates this protection on its own authority, citing that "in the event of an emergency, when the Commission finds it necessary to prevent injury to the business or interests of the public or of any public utility, it may temporarily alter, amend, or suspend any existing rates or schedules."[144] Recently, the PUC also adopted a policy that prohibits disconnection in the 30 days following the completion of a bill assistance application.[145]

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xi A rate case is a formal, legal process in which a utility company seeks approval from a regulatory body, typically a PUC, to adjust its rates.

Cost-benefit considerations for disconnection reform

When evaluating utility disconnection reform options, there is an opportunity to account for a broader range of costs and benefits, including the societal and household impacts from disconnections and alternative approaches.

Policy discussions around disconnections — especially those concerning the costs of reform — have traditionally centered on potential utility revenue and bad debt impacts. Under this assumption, both disconnection notices and actual shutoffs are believed to encourage bill payment, stabilize utility revenues, and reduce arrearages — which, if left unpaid, eventually become uncollectible expenses.

Most states have not fully assessed the costs and benefits of disconnections compared with alternative collections practices. However, some PUCs have recently begun considering broader impacts of utility decisions such as using the social cost of carbon to value climate pollution.[xii] A similar approach could support more comprehensive cost-benefit analyses of disconnection reform compared with business-as-usual scenarios. This broader assessment could include societal and household-level health and safety costs associated with disconnections.

Traditional cost-benefit analyses typically focus on expected benefits to utility revenue stability such as:

- **Cost recovery:** disconnection notices and actual shutoffs may prompt payment of past-due bills, aiding utility cost recovery and revenue stability and reducing arrearages and eventual uncollectible expenses.

- **Avoided variable costs** — If customers are shut off and their power is not promptly restored, the utility may avoid some variable costs such as those associated with fuel because it is no longer serving those customers.[xiii]

A broader cost-benefit analysis could consider the following costs:

- **Utility administrative costs**

    - Pre-disconnection collection efforts can be resource intensive. Executing the disconnection itself also requires staff time; with smart meters, this is minimal, but without smart meters, it requires manual labor.

- **Customer costs**

    - Disconnecting customers reduces the number of active, paying customers contributing to the utility's cost recovery. This can increase the financial burden on remaining customers, particularly for fixed costs that must be recovered regardless of how many customers remain connected.

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xii The Massachusetts Department of Public Utilities is required to consider the "social value of greenhouse gas emissions reductions" in assessing the cost-effectiveness of proposed energy-efficiency programs; similarly, the New York PSC includes the estimated social cost of greenhouse gas emissions within its distributed energy resource compensation framework (Institute for Policy Integrity, New York University School of Law).

xiii The utility's fixed costs — such as for infrastructure — remain unchanged and must still be recovered from the broader customer base.

- Once a customer is disconnected, the utility may never recover the past-due balance, turning arrearages into uncollectible expenses that must be recovered from other customers.

- **Household costs**
  - Disconnection from utility service increases the risk of severe negative outcomes for household members, including deterioration in physical and mental health, shortened life expectancy, and in extreme cases, mortality.
  - Households often face lost wages or must sacrifice valuable time navigating reconnection processes or applying for bill assistance, diverting resources from other essential needs.
  - Being disconnected can also heighten the risk of dangerous coping mechanisms, such as using unsafe heating sources, and can lead to unmet medical needs or housing instability, including the potential for eviction or foreclosure.
  - Households may incur direct financial penalties, such as reconnection fees or late charges, and may be forced to take on high-interest, predatory loans, compounding existing debt and financial hardship.
  - In addition to these material burdens, disconnection can degrade overall quality of life, negatively affect children's emotional and cognitive development, and in extreme cases, contribute to child welfare interventions or loss of custody.
- **Societal costs**
  - Widespread disconnections create downstream impacts for society at large, including greater strain on publicly funded healthcare systems and social services, which must respond to the resulting health and housing emergencies.
  - Disconnection also dampens household engagement in the local economy, reducing overall consumer spending and potentially weakening community economic resilience.

Rather than relying primarily on disconnections to enforce payment, states could consider alternative strategies that preserve customer access while still addressing utility financial stability concerns. For example, disconnection protections paired with affordability programs — such as PIPPs — can help customers retain service while continuing to make regular payments. These approaches may better support long-term arrearage management and revenue stability by addressing the root causes of nonpayment, reducing reliance on disconnections as a collection tool, and minimizing the associated household and societal harms.

Putting the pieces together: toward comprehensive service disconnection reform

The following roadmap outlines five steps that commissions could consider for designing disconnection reform, from grounding the effort in their statutory context to implementing reforms and monitoring long-term progress. Taken together, these steps offer a framework that can support comprehensive service disconnection reform.

Step 1

Build the Foundation for Reform

A commission's specific context can help dictate the potential venues and scope of reform. In some cases, a commission might pursue disconnection reform pursuant to specific legislation. Legislative directives may be prescriptive (e.g., require the commission to open a rulemaking process to adopt a temperature-based moratorium based on specific criteria) or more permissive (e.g., simply ask the commission to consider potential disconnection reform). This has implications for the scope of reform and for which venue makes the most sense for developing a new or updated disconnection policy. For example, more prescriptive legislation might implicate a specific policy reform and venue, while more permissive legislation might leave that to the commission's discretion.

In the absence of a clear legislative directive, it is helpful to take stock of the commission's enabling statute to determine an appropriate scope and process for reform. For example, if the commission believes it has expansive authority on disconnection reform, it might consider steps toward broader reform; if it believes its authority is limited, it might consider narrower reform options. Having this sense can help the commission establish the right objectives and vision for reform, such as within the opening order of a new proceeding to consider disconnection reform.

During this phase, it may be helpful to also revisit the state's current disconnections policy framework. Reviewing current policies and practices, available disconnection data, and any prior stakeholder input can help understand what information the PUC already has and what gaps might exist that it can address during later steps in the process. Formulating key questions for further investigation may be a helpful exercise during this time.

Key questions

- Does the commission have a clear legislative directive to adopt disconnection reform?
- What is the commission required or authorized to do with respect to affordability programs?
- What are the state's current disconnection policies, and how might procedures and practices vary by utility?
- What disconnections and arrearage data reporting is already required in the state?[xiv]
- What information has the commission already gathered on the record from stakeholders with respect to disconnection challenges and potential reform strategies?

Process considerations

- This review can be conducted internally by staff as a precursor to a formal proceeding.
- Findings can inform the framing of an investigative docket or working-group process.

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xiv The National Consumer Law Center has developed a set of disconnection-related metrics that state policymakers can require utilities to report on to improve transparency around disconnection trends. These metrics include data on arrearages, disconnections, and repayment such as the number of customers with past-due balances, the number of disconnection notices issued, and the average duration of disconnection. (Karen Lusson, *Protecting Access to Essential Utility Service during Extreme Heat and Climate Change, National Consumer Law Center,* July 16, 2024, **https://www.nclc.org/resources/protecting-access-to-essential-utility-service/**).

Step 2

Assess the Scale and Nature of Disconnection Challenges

With the legal and policy groundwork established, the next step is to understand the scale and shape of disconnections and energy poverty in the state. Analyzing disconnection and arrearage data can reveal important trends. Are disconnections rising overall? Are certain customer groups such as low-income households or residents of specific census blocks or zip codes more affected than others? How do seasonal changes or extreme weather events correlate with shutoff patterns?

The commission can use this data to identify potential gaps in its current disconnection policies and reporting requirements. For example, spikes in shutoffs during summer heat may suggest the need for seasonal moratoriums, while rising arrears among vulnerable customers could indicate insufficient affordability programming. By identifying patterns alongside stakeholders, the commission can start developing hypotheses about what kinds of reforms are needed.

Key questions

- What are the trends in disconnections and arrearages across different customer segments?
- How do those trends vary by utility, geography, or season?
- Given these specific trends, what gaps might exist in the state's policy framework?

Process considerations

- Data analysis can occur in a dedicated investigative proceeding or within distribution system planning.
- Stakeholder input on both the data and its implications is critical and can be gathered through workshops and information requests.
- Informal engagement at this stage may help bring a wider range of perspectives to the table.

Step 3

Define Clear Reform Outcomes

Once the commission has a clear understanding of the distribution of disconnections across the state, it can begin defining the specific outcomes it wants disconnection reform to achieve. These outcomes can serve as critical touchstones throughout the remainder of the reform process, providing a shared vision for stakeholders, a basis for evaluating proposed policies, and a framework for tracking long-term success.

Effective outcomes are both ambitious and actionable. They could reflect the commission's statutory duties as well as the real-world needs and lived experiences of utility customers. Articulating these goals clearly and early in the process can help streamline decision-making and avoid fragmented policy development. Example outcomes could include:

- **Electricity as a basic human right:** All customers should have consistent access to electricity for health, safety, and quality of life.
- **Protection for vulnerable populations:** Reforms should minimize harm to medically vulnerable individuals, seniors, and other at-risk groups.
- **Equity in access:** Disconnections should not disproportionately affect any community based on income, race, geography, or housing type.
- **Transparency and oversight:** Utility disconnection practices and trends should be clear, accessible, and subject to public oversight.
- **Affordability and economic stability:** Disconnection reforms should work in tandem with efforts to reduce energy burdens and prevent arrearage accumulation.

Commissions can use this phase to explore trade-offs among various outcomes. For example, expanding disconnection protections may increase short-term administrative or program costs, which could raise questions about cost recovery or rate impacts. Being transparent about these trade-offs allows for more informed, balanced policymaking in the next phase. Developing outcomes collaboratively with stakeholders — including utilities, consumer advocates, public health experts, and community organizations — can help ensure outcomes are grounded in customer realities and broadly supported by key constituencies.

Key questions:

- What are the core values that should drive disconnection reform in this state?
- How do these values align with the commission's legal mandate and public interest goals?
- What specific, measurable outcomes should the reform process aim to achieve?
- What trade-offs might arise among different priorities, and how should they be managed?

Process considerations:

- Outcomes can be developed and refined in an investigative proceeding or stakeholder working-group process.
- Informal engagement — such as listening sessions with directly affected customers or collaboration with community-based organizations — can ensure a more inclusive and representative vision for reform.

Step 4

Develop and Test Policy Options

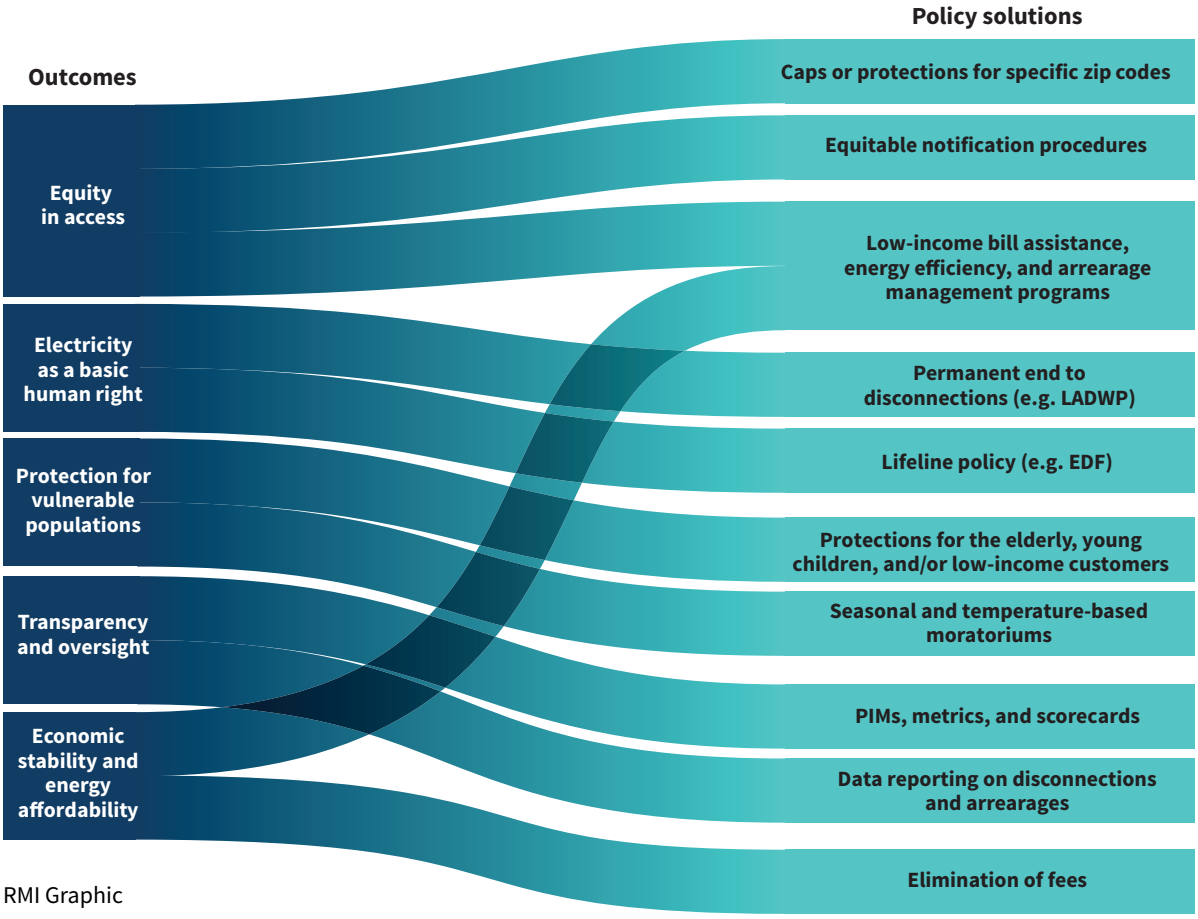
With clear outcomes in place, the commission can begin developing and evaluating concrete policy options that advance those goals. This step marks the transition from problem diagnosis and goal setting to solution design, a critical and collaborative phase when trade-offs are explored, costs assessed, and ideas tested before full-scale implementation.

To guide this process, the commission may draw from the three primary categories of disconnection reform — targeted disconnection protections, broad disconnection protections, and affordability programs — and invite stakeholders to map specific reforms to the priority outcomes developed in Step 3. For instance, if the commission prioritizes "electricity as a basic human right," it might evaluate broad reform options. If the commission wants to protect vulnerable customers, it might adopt seasonal protections or targeted protections for the elderly and those with medical conditions.

A fuller example can be seen in Exhibit 13. To ensure robust policy design and build buy-in among key stakeholders, the commission can engage utilities, consumer advocates, and community organizations in working sessions as part of this process. Stakeholders can be invited to map specific policy ideas back to the outcomes established earlier in the process, facilitating shared understanding and joint ownership of the reform vision.

Exhibit 13

Sample Sankey diagram to map outcomes to policy solutions



RMI Graphic

In cases where there is uncertainty about cost, administrative burden, or customer impacts, piloting selected reforms with one or more utilities may offer valuable insights. Pilot programs can surface implementation challenges early, refine operational details, and provide the commission with confidence about scalability. In parallel, this stage presents an opportunity to assess cost implications and determine the most appropriate cost-recovery mechanisms.

Key questions:

- How well does each proposed policy align with the reform outcomes identified in Step 3?
- Which types of protections (targeted or broad) and affordability strategies are most responsive to the specific needs of customers in this state?
- What benefits — whether to households, public health, or system equity — are expected from each reform option?
- What are the administrative and financial implications of implementing different policy approaches?
- How should associated costs be recovered, and through which mechanism(s)?

Process considerations:

- This phase can be conducted through an investigative docket, structured working-group process, or pilot framework.
- A visual tool, such as a Sankey diagram, can help connect reform goals with specific policy levers.
- Coordination with rate cases may provide an opportunity to address cost recovery in a holistic and efficient manner.

Step 5

Implement Reforms and Monitor Progress

With reform options developed and tested, the commission can then establish and implement the chosen policies and adopt a structure for ongoing oversight and refinement. In most cases, formal implementation will require a rulemaking or similar proceeding to codify new or revised disconnection policies. Clarity in rule language, timelines, and compliance mechanisms can help ensure consistent application across utilities and minimize confusion for customers.

Equally important is the establishment of a framework for monitoring progress and evaluating success. Defining reported metrics or other data-reporting requirements aligned with the outcomes developed in Step 3 — such as changes in disconnection rates, arrearage trends, program enrollment, or geographic equity — enables the commission to track the impacts of reform over time. These metrics can be used not only to assess whether reforms are working, but also to guide midcourse adjustments, identify unintended consequences, and reinforce accountability. The commission may wish to define a specific timeline for evaluating the new policies, for example, 12 to 24 months after implementation.

Key questions:

- What metrics will be used to evaluate the success of reform?
- What mechanisms should be adopted to assess and refine disconnection policies over time?
- How will implementation and evaluation be communicated to stakeholders?

Process considerations:

- Actual policy adoption and implementation could occur in a formal proceeding, such as a rulemaking process, to ensure enforceability.
- Evaluation and refinement may be embedded in existing regulatory processes, such as rate cases, annual filings, or distribution system planning.
- Ongoing stakeholder input can strengthen the legitimacy, transparency, and responsiveness of the reform process.[146]

Conclusion

As energy affordability challenges intensify and extreme weather events become more frequent, millions of households across the United States remain at risk of utility disconnections. These shutoffs are not merely administrative consequences of unpaid bills. They are profound disruptions that undermine health, housing stability, and basic human dignity. Disconnections are deeply tied to the broader cycle of energy poverty and disproportionately affect low-income households and communities of color. They reflect systemic inequities that have long gone unaddressed, and their consequences are growing more severe.

PUCs have an opportunity to take proactive steps to limit disconnections. This report has outlined a comprehensive approach to reform, beginning with grounding actions in a state-specific statutory context and followed by assessing the scope and drivers of disconnections, setting clear and outcomes-oriented goals, collaboratively designing policy reforms, and establishing robust implementation and oversight mechanisms. Together, these steps provide a roadmap for commissions aiming to mitigate the harms of existing utility disconnection practices and support access for all customers.

Importantly, effective disconnection reform can support customer affordability and access while maintaining utility financial health. By pairing stronger disconnection protections with well-designed affordability programs, commissions can reduce uncollectible debt, improve payment stability, and ensure that vulnerable households are not pushed into deeper poverty or forced to choose between energy and other basic needs.

Each jurisdiction will face unique challenges and opportunities, shaped by legislative mandates, existing utility practices, and the voices of community stakeholders. But across all contexts, the imperative remains the same: to reimagine disconnection policies in a way that recognizes electricity as an essential service — not a luxury to be revoked in times of hardship. By acting decisively, regulators can help dismantle the cycle of energy poverty and promote safe, reliable, and affordable energy access for all customers.

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