ENERGY COST BURDENED

A Case for Utility Disconnection Protections in Virginia

ISSUE BRIEF

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INTRODUCTION

As the globe continues to experience more extreme weather events,[1] climate resiliency is becoming more pertinent to modern policy discussions. Different states pursue climate resiliency with varying levels of climate-focused policy levers to adapt and prepare. Most of the 48 states within the contiguous US[2] provide some reprieve in the form of weather-related utility disconnection protections (see **Figure 1**), with the exception of Virginia, Kentucky, Tennessee, Colorado, and Florida. To maximize the reach of protections, all utility owners (investor-owned, municipal, and cooperative) will need to participate in protection implementation, which is most often achieved through state policy.

What are utility disconnection[3] protections?

Most households must pay to receive essential utility services such as water or electricity. However, if a ratepayer's (utility customer's) utility bills are in arrears (behind on payments by typically more than 30 days), the ratepayer is at risk of disconnection from the utility provider. Due to the geographical weather patterns within a state or an individual's medical circumstances, a **utility disconnection protection** is a regulatory provision that provides relief to the ratepayer due to non-payment during or within a period of time, typically related to adverse and extreme weather conditions or health-related conditions.

Electricity, natural gas, water and sewage, telecommunications, and other utility services can be included or excluded from utility disconnection protections, which can vary based on weather-related conditions,

1 US EPA (2022). Climate Change Indicators: Weather and Climate. **https://www.epa.gov/climate-indicators/weather-climate**

2 Flaherty et al. (2020). Electric utility disconnection policy and vulnerable populations. **https://www.sciencedirect.com/science/article/abs/pii/S1040619020301512**

3 Our study uses the broad term *disconnection* as it is an industry-wide term and metric for data analysis. However, we acknowledge that other terms, such as *shutoff* can be used to describe certain types of disconnections. For further details on the emerging use of shutoff, see the University of Michigan's 2022 Energy Equity Project Report (**https://energyequityproject.com/wp-content/uploads/2022/08/220174_EEP_Report_8302022.pdf**).

accessibility, and other factors. These protections provide a social safety net for energy burdened communities[4] (defined as those paying more than six percent of income toward cumulative utility energy bills) and can be implemented through two primary pathways:[5]

- **Supply-side seasonal disconnection protection**: reducing energy insecurity during peak load, high expense weather-related events through arrearage debt direct or indirect subsidization;
- **Demand-side reduction mechanisms:** reducing the load during peak events through incentives, or permanently through energy-efficiency upgrades such as subsidized weatherization for energy overburdened communities.

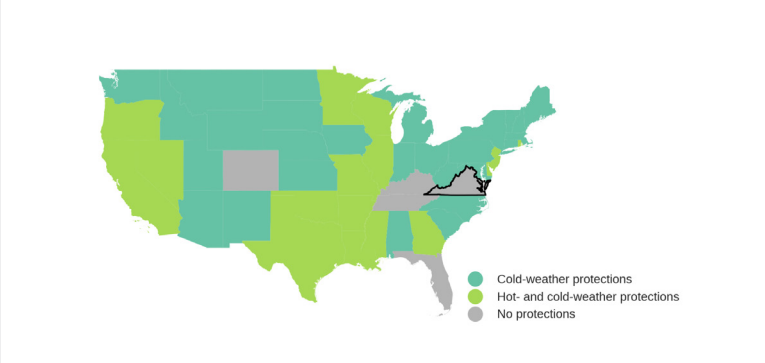

Figure 1: Weather-related utility shutoff protections, by state.[1] Virginia has no weather related utility shutoff protections.

1 Flaherty et al. (2020). Electric utility disconnection policy and vulnerable populations. **https://www.sciencedirect.com/science/article/abs/pii/S1040619020301512**

How does Virginia handle these protections?

Virginia has no permanent extreme heat or cold weather-related disconnection protections for its residents,[6,7] leaving those with limited- or low-incomes most at risk when extreme weather conditions persist. During the COVID-19 health moratorium period, Virginia along with most states, implemented disconnection suspensions[8] to protect public health. However, this left some ratepayers with an insurmountable amount of debt without a clear path to recovery.

Recently introduced Virginia House Bill 2283,[9, 10] would have provided heat-related (at or above 95° F) and cold-related (below 32° F) disconnection protections for any residential customer for nonpayment. While this original

4 American Council for an Energy-Efficient Economy (ACEEE). Understanding Energy Affordability. **https://www.aceee.org/sites/default/files/energy-affordability.pdf**

5 The Climate and Clean Energy Equity Fund (2023). Disconnection policies outside of Virginia. **Memo: Disconnections outside of VA**

6 Appalachian Voices (2022). Pressing pause on utility shutoffs. **https://appvoices.org/resources/reports/Pressing_Pause_on_Utility_Shutoffs_AppalachianVoices.pdf**

7 While this analysis focused on the climate and weather-related protections, additional protections unique to medically vulnerable populations should be further explored. For example, Virginia House Bill No. 1875 (**https://lis.virginia.gov/cgi-bin/legp604.exe?231+sum+HB1875**), which was offered January 11th and tabled January 31st, 2023, could have provided for such populations.

8 Energy and Policy Institute (2021). LIVE: Utilities that have and have not suspended disconnects amid COVID-19. **https://www.energyandpolicy.org/utilities-disconnect-coronavirus/**

9 Virginia House Bill No. 2283. Offered January 11, 2023. **https://lis.virginia.gov/cgi-bin/legp604.exe?231+ful+HB2283+pdf**. This bill was left in the Commerce and Energy Committee February 7, 2023.

10 A companion bill to amended HB 2283, Senate Bill 1447 (**https://lis.virginia.gov/cgi-bin/legp604.exe?231+sum+SB1447**) would have provided weather-related or public health-related protections, and was left in the Commerce and Energy Committee February 22, 2023.

bill broadly covered all Virginians[11] during extreme weather conditions, more focused protections for those with limited financial resources could provide an outsized positive impact toward reducing energy cost burdens experienced by those populations. Our analysis investigates this phenomenon by identifying where energy is the most unaffordable, which households are most likely in need of assistance paying their energy bills, how many customers are behind on energy bill payments, and how many customers are being disconnected and when. Through this analysis, we develop a suite of policy recommendations targeted at minimizing the health and safety impacts of utility disconnections in general, and involuntary non-payment shutoffs[12] in particular.

ENERGY COST BURDENS AND AFFORDABILITY

Access to reliable energy at home is important for multiple aspects of modern life, including refrigeration of medicines, vital medical equipment, space heating/cooling, and running devices to keep homes safe and healthy. However, energy is not affordable for everyone who needs or wants it. Without protections, unaffordable energy can lead to some human needs not being met. Households that struggle to pay their home energy bills, or **energy-cost-burdened** households, are commonly defined as paying six percent or more of income[13] on home energy bills. These households predominately earn lower incomes, and may be financially burdened by energy bills. We estimate that in 2021, roughly 24 percent of all Virginia households are energy cost burdened. Moreover, of the roughly 870,000 Virginia households earning below 200 percent of the federal poverty level, around 82 percent of these households are energy cost burdened.

Throughout this report, we use custom estimates of energy costs combined with demographic indicators for each household in Virginia to investigate the extent of the energy affordability challenge in Virginia. These data are used to calculate two related energy affordability metrics; the **energy cost burden** is the percentage of income spent on home energy use and the **energy affordability gap** is the dollar amount spent on home energy needs beyond a budgeted six percent of income. The household annual energy bills we report include the total cost of energy use from all fuel sources which are predominantly natural gas, electricity, and propane. Home energy uses include space heating, space cooling, water heating, and all other appliances. To estimate the energy use needed, we use models built from detailed energy surveys[14] applied to fine scale data regarding home attributes[15] such as the structure type and climate. We further use optimization methods to assign microdata of household socioeconomic indicators such as number of household members and income[16] to homes and their associated energy costs. Through this dataset, we are able to investigate how various groups of households are affected by their energy bills in Virginia. For a more detailed description of methods, see our previous works.[17]

11 The original bill covered all Virginians, however, the amended bill from the Commerce and Energy Subcommittee #1 recommended January 24, 2023 that only State Corporation Commission regulated utilities be covered, while the remaining municipal utilities are encouraged to ensure the same protections. (**https://committees.lis.virginia.gov/forconsiderationsubs.aspx?ses=231&bil=HB2283&hou=H**)

12 We use the industry-wide term *disconnections* to include all voluntary and involuntary ratepayer disconnections throughout our work. However, for policy recommendations we focus on a subset of disconnections specifically related to *involuntary non-payment shutoffs*, where the energy cost burden is so high compared to the relative household income of a ratepayer, that the ratepayer is unable to make timely payments.

13 The 6 percent threshold is derived from combining a 1981 amendment to the 1969 Housing and Urban Development Act, which states that housing costs, including utilities, should not exceed 30 percent of gross income, with the conventional rule of thumb that energy-related expenses should not exceed 20 percent of housing costs.

14 U.S. Energy Information Administration (2015). *Residential Energy Consumption Survey*. **https://www.eia.gov/consumption/residential/data/2015/**

15 United States Census Bureau. American Housing Survey (2015-2019). **https://www.census.gov/programs-surveys/ahs.html**

16 United States Census Bureau. American Community Survey Microdata (2015-2019). **https://data.census.gov/mdat/#/**

17 For a detailed description of estimation methodology of household energy bills, see Appendix of the following report: Makhijani, A. et al. **Energy Affordability in Maryland**. February 2023.

Impacts of High Energy Bills

High energy cost burdens often force households to make financial choices about paying for necessities, such as rent or mortgage, medicine, and the fuel needed to heat homes. When electric bills go unpaid, utility companies may cut off electricity or natural gas and families may face eviction. These events have ripple effects, both throughout the economy and to the health of those experiencing utility disconnection.

The National Energy Assistance Directors' Association conducts periodic surveys of families who have received federal assistance to help pay their heating bills. The findings of a 2018 survey [18, 19] were stark:

- Over one out of seven households surveyed had their electricity or natural gas supply cut off due to their inability to pay their utility bills—and nearly half of these households resorted to using alternative means (e.g. candles or lanterns) for lighting;
- Nearly one in three families were using alternative heating sources, specifically the stove or oven for heating—a problem known to contribute to indoor air pollution;
- More than one in three households went without food for at least a day and nearly a third of families surveyed were unable to afford medicine at all or were unable to purchase the full doses of medicines they needed at least once in the past five years.

Loss of homes due to conflicts between paying utility bills or paying the rent or mortgage is among the most devastating outcomes. The survey found that 23 percent—nearly one in four—of the households who received assistance at least once in the past five years had lost their homes within that time due to a variety of financial stresses, including utility bills and rent/mortgage payment conflicts. This is an average of nearly five percent every year. About three-fourths of affected households found shelter with friends and family; one-fourth became homeless.

Energy Affordability Landscape

As we demonstrate here, households that have higher energy cost burdens struggle to pay their bills, thus making them more susceptible to disconnection. Since incomes typically are more variable than energy costs, they are the primary determinant of high energy cost burdens. Low-income households typically spend a larger fraction of their income on energy bills compared to other income groups, even though low-income households tend to consume less energy per household on average.[20] However, energy costs themselves are still an important factor in determining energy cost burdens and vary substantially across different geographic regions, climate zones, utility service areas, home types, and fuel types.

In **Figure 2**, we present energy affordability statistics at the county scale regarding typical annual energy costs (**a**) and household incomes (**b**) and the resulting affordability metrics of the median energy cost burden (**c**) and the sum of the energy affordability gap across all households in each county (**d**). High energy cost burdens

18 APPRISE. *2018 National Energy Assistance Survey: Final Report* (page ii). Prepared for National Energy Assistance Directors' Association. Washington, DC: NEADA, December 2018. **http://www.appriseinc.org/wp-content/uploads/2019/02/NEADA-2018-LIHEAP-Survey.pdf**

19 The 2018 report is the final pre-COVID full report available. The January 2023 Midwinter Energy Update (**https://neada.org/wp-content/uploads/2023/01/Midwinter-2022-23-Update-1_30_23.pdf**), provides further post-COVID outlooks on utility arrearage and the inadequacy of financial assistance.

20 Krieger, E., Lukanov, B., et al. (2020). **Equity-Focused Climate Strategies for Colorado: Socioeconomic and Environmental Health Dimensions of Decarbonization**. *PSE Healthy Energy*.

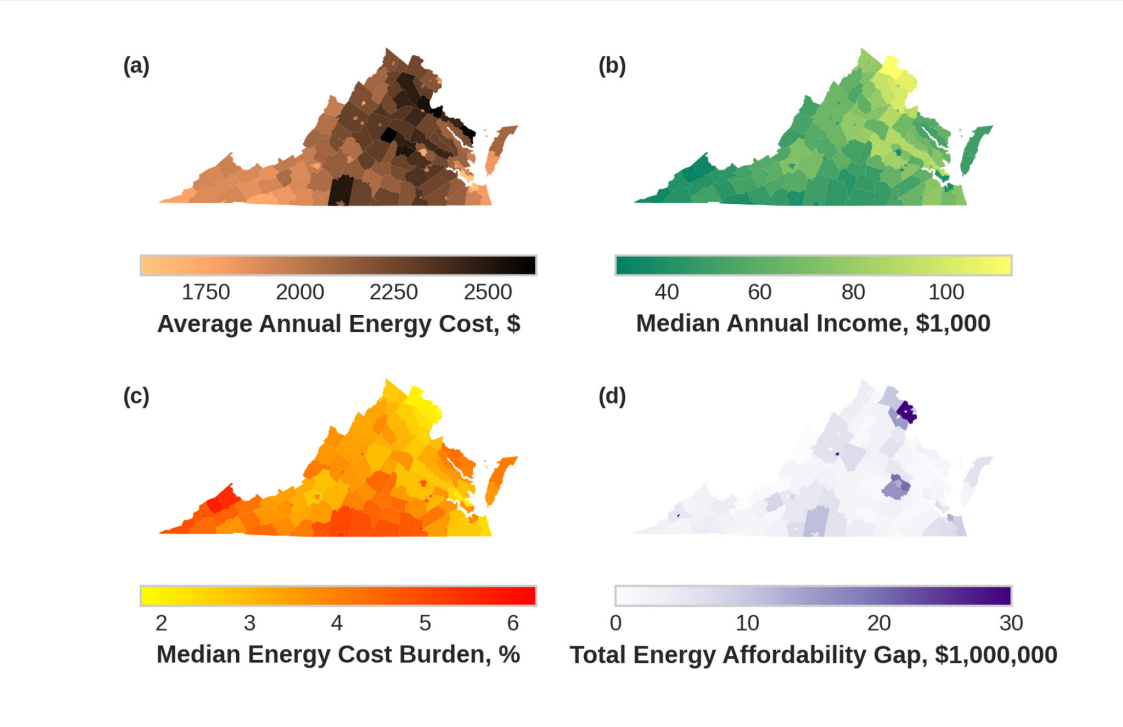

Figure 2: County scale maps of energy affordability in Virginia using custom estimates.[1] (a) Average annual home energy cost (in $); (b) Median annual household income (in $1,000), (c) Median energy cost burden (as percent, %, of total household income); (d) Total energy affordability gap (in $1,000,000).

1 Methodology for estimation of energy costs and incomes described above and, in greater detail, in Appendix of the following report: Makhijani, A. et al. **Energy Affordability in Maryland**. February 2023.

are found throughout Virginia, but are especially concentrated in certain areas. In more rural areas such as Pittsylvania County in southern Virginia, high energy cost burdens are due in part to higher than average energy bills, while in urban areas like Richmond, higher energy cost burdens are found in neighborhoods of particularly low income. For example, in the 10 census tracts in Richmond with the lowest median household incomes, the median energy cost burden is 10 percent; this is despite these census tracts having lower than average energy bills (i.e. $1,700) as compared to the statewide average energy bill in Virginia (i.e. $2,100). The lower bills in these census tracts are due in part to lower-income households occupying smaller homes that require less energy for heating and cooling. Importantly, we note that this analysis does not capture exceptionally high energy bills that are due to the most inefficient homes. These outlier homes are often occupied by tenants that may not have the ability to make home improvements to bring down energy bills.[21]

21 Surveys of energy bills in Virginia were not available for this report. However, in studies of other states, we have observed that some low-income households have far higher energy bills than our model predicts due to the tendency of our model to predict the most typical energy usages rather than outlier driven by leaky or inefficient homes. See discussion in Makhijani, A. et al. **Energy Affordability in Maryland**. February 2023.

Households with the Greatest Energy Cost Burdens

Difficulty in paying energy bills is driven by various causes which leads to uneven impacts on households. To identify the extent of affordability challenges for various subgroups of households in Virginia, we identify trends in energy affordability metrics in **Figure 3**. Specifically, we break down households in Virginia by the type of home they live in, whether the home is renter or owner occupied, and the type of fuel they use for space heating. Although we consider energy used for all home needs, we group homes according to the fuel used for space heating because space heating is the leading usage of residential energy, and is a variable reported directly to the US Census. Then, we shade these areas by the median energy cost burden for such households. The size of the areas are proportional to the **energy affordability gap***:* the total dollar amount that all households in each category pay for residential energy beyond six percent of their income. This gap metric characterizes both the total number of households that fit the description of a category and the typical household-level energy cost burden of households within that category. For example, mobile homes typically have the highest energy cost burdens represented by their redder shading, but have a smaller total energy affordability gap than single family homes because they are less common. From analysis of the affordability in these subgroups, we can target areas that are most burdened and determine potential solutions to improve energy equity.

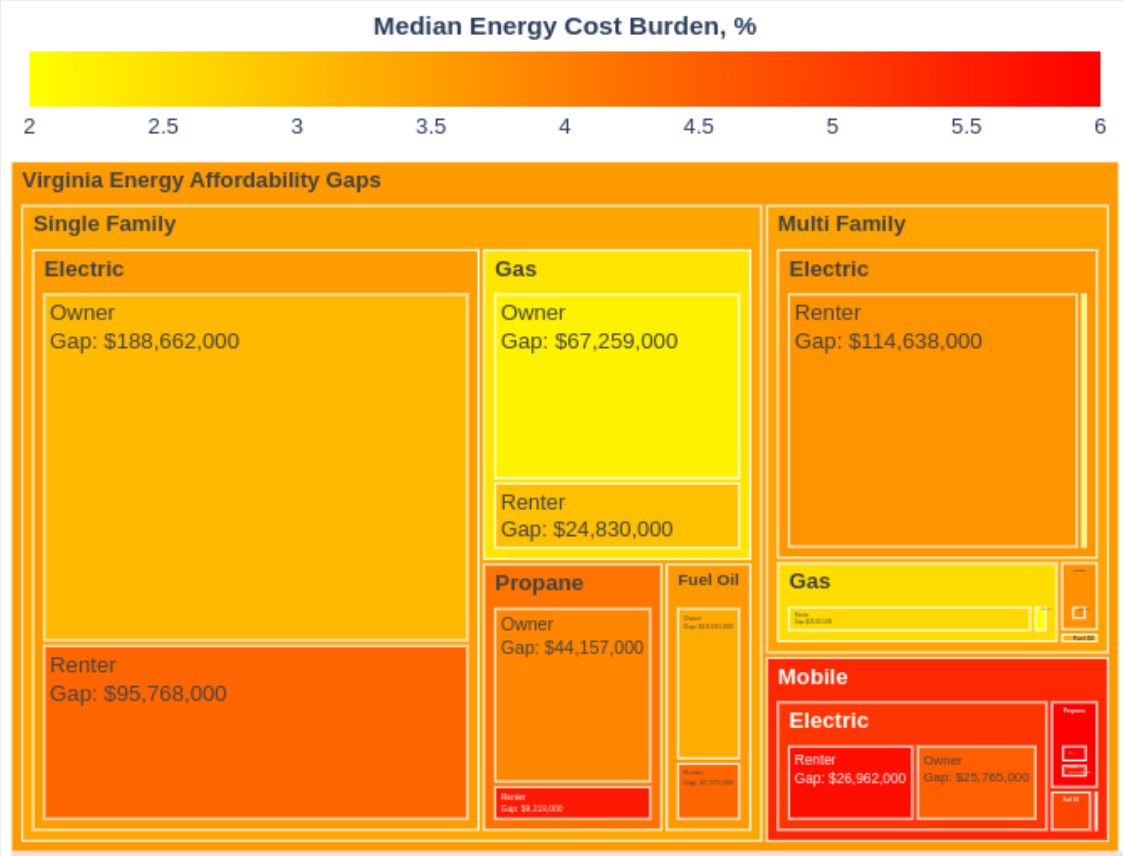

Figure 3: Treemap of the breakdown of the total energy affordability gap for all Virginia households categorized by home type, fuel used for space heating, and renter versus owner occupied status. Color shading indicates the median energy cost burden and areas of rectangles are proportional to the total energy affordability gap (the dollar sum of the spending of all households beyond 6 percent of their income for each category of households). Categories with more energy cost burdened households and/or with higher degrees of cost burdens will have greater areas. Annual energy bills include all at-home energy spending.

Energy Equity

Energy equity acknowledges that historically marginalized populations typically have less access to safe, affordable, and reliable energy. In the case of affordability and disconnections, multiple home and demographic indicators affect whether a household is more likely to receive a disconnection notice or actual disconnection. Using national data from the Energy Information Administration, a recent study[22] found that a household is significantly more likely to receive a disconnection notice if they identify as Black or Hispanic, have less than 4 years of college education, earn lower incomes, rent their home, have children in the home, or live in a mobile home. In Virginia, we find similar trends in energy cost burden data with respect to race, income, mobile homes, and renter status.[23] In **Table 1**, with the exception of households identifying as Hispanic, we see significantly higher energy cost burdens for all these socioeconomic indicators than the state of Virginia overall. These are only some of the indicators available to us and it is likely that additional types of communities also experience higher energy cost burdens and/or more threats to their energy security.

To achieve energy equity, systems must be put in place to ensure all households have the ability to meet their energy needs. Such systems must include that individuals reliant on energy for health either due to medical equipment or to maintain safe temperatures do not experience interruptions and those who have difficulty making home improvements to reduce their energy bills such as renters or low-income households should receive assistance to improve the safety and efficiency of their home energy systems.

Subset of Virginia Households	Median Energy Cost Burden (%)
All	3.0
Non-Hispanic Black	3.8
Hispanic	3.0
Mobile Home	5.0
Renter Occupied	3.8
Household Income <200 percent Federal Poverty Level	9.6

Table 1: Median energy cost burden for multiple socioeconomic indicators in Virginia.

22 Hernández, D., & Laird, J. (2022). Surviving a shut-off: US households at greatest risk of utility disconnections and how they cope. American Behavioral Scientist, 66(7), 856-880.

23 We did not track additional indicators such as whether children were in a home, or educational attainment.

211 Utility Assistance Requests

Energy cost burdens lead to a greater need for assistance in paying utility bills. When a household struggles to make a payment, one resource often used to receive help is the 211 assistance program.[24] The 211 organization shares data on frequent (top) requests - both about the zip code the request is made from and what assistance category the request is for.[25] Shown in **Figure 4 (top)**, we see top requests are more concentrated in certain areas than in others. In **Figure 4 (bottom)** we see a correlation between the number of top requests for assistance with utility bills per person and the energy cost burden. Some of these areas struggle due to lower than average incomes, while other areas struggle more because their energy bills are higher.

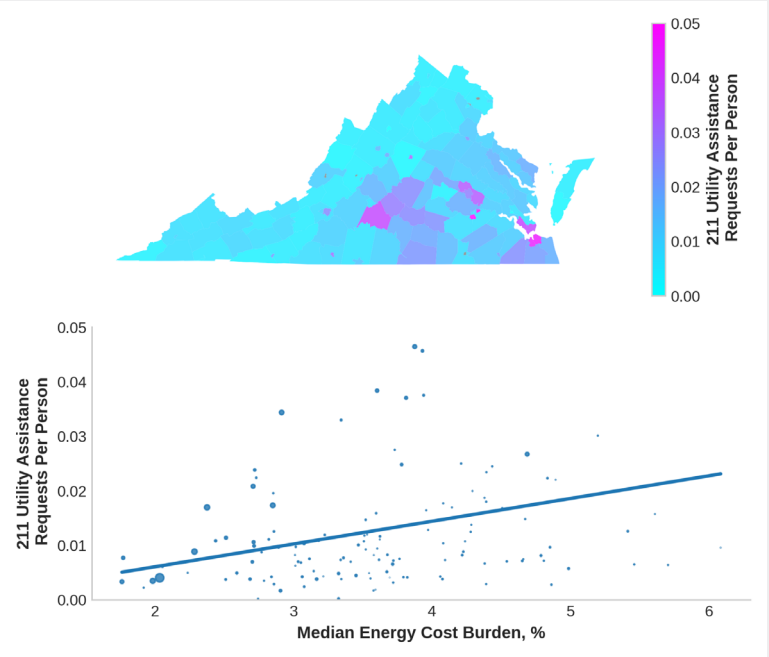

Figure 4. (**top**) Per-capita 211 top assistance requests by county; (**bottom**) Correlation of per-capita 211 utility assistance requests for each county compared to median energy cost burden (percent, %) in Virginia. Areas of circles are proportional to the total population of counties. Source: 211 Counts, Virginia.[1]

1 Virginia 211 counts dashboard. **https://va.211counts.org/**

Households Disconnected or in Arrears

Currently, there are limited statewide regulations of utility disconnections of households in arrears leading to variable treatment depending on the utility a household is serviced by. Using data made available upon request from the Virginia State Corporation Commission,[26] we investigated the number of households in significant amounts of arrears greater than $500.

Climate plays a leading role in energy bills. In Virginia, January is typically the coldest month and July the hottest as shown in **Figure 5**. These months then result in the highest heating and cooling bills, respectively. Natural gas, which is used predominantly for space heating, has the highest consumption in the winter. According to **Figure 6 (top row)**, we see that arrearage and disconnections for natural gas begin increasing in the coldest month,

24 About 2-1-1 Virginia. **https://www.211virginia.org/consite/about/index.php**
25 Virginia 211 counts dashboard. **https://va.211counts.org/**
26 Request for utility disconnection data was filled by Mike Cizenski, Deputy Director at Virginia State Corporation Commission (SCC). 2022-2023 email correspondence.

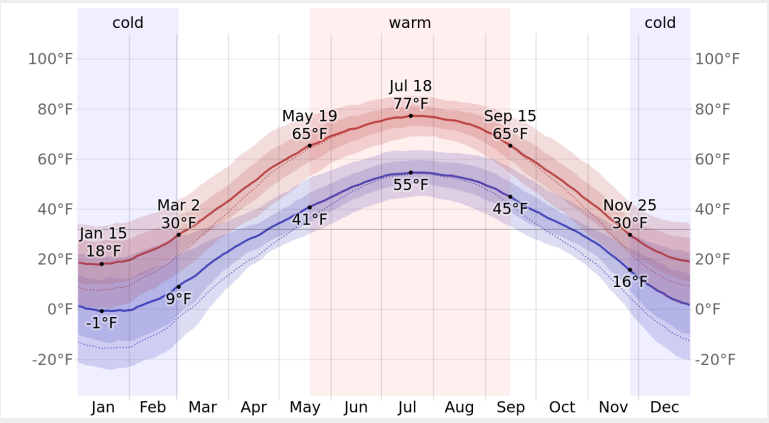

Figure 5: High and low temperatures in Virginia. ©WeatherSpark.com[1]

1 Virginia Climate and Weather Year Round. **https://weatherspark.com/y/11126/Average-Weather-in-Virginia-Minnesota-United-States-Year-Round**

January. The number of disconnections increase to roughly 0.4 percent in April when average low temperatures are still less than 40 degrees and heat is still needed to maintain a comfortable home. For electricity, consumption throughout the year depends on whether or not a home relies on electricity to heat their homes and whether they have air conditioning. Homes with air conditioning will have a peak in their energy bills in the Summer and homes with electric space heating will have a peak in their energy bills in the Winter. In **Figure 6 (bottom row)**, we see that Dominion Energy, the utility with the greatest number of customers in Virginia, has delayed peaks in the number of accounts in arrears one to two months after the hottest and coldest times of the year for that utility. The fact that reported arrearages for both natural gas and electricity begin to increase months after heating and cooling are first needed likely results from the required accumulation of multiple unpaid bills before households reach the $500 threshold. For electric disconnections, however, we see that, for nearly all utilities, months with the most disconnections are between May and October which includes the hottest months of the year. **This data suggests that customers are most often being disconnected from the energy needed to cool their homes during the times of the year they are most susceptible to extreme heat events.** Importantly, the number of these extreme heat days are expected to increase, potentially quadrupling by the year 2050[27], making the prevention of summer disconnections even more vital for public health in the future.

Due to a lack of a consistent state policy, it is difficult to attribute causes to the trends in disconnections shown in **Figure 6** since decisions to disconnect customers are subject to the discretion of utilities. For example, amongst electric utilities, Old Dominion Power typically has the most reported number of disconnections despite having the fewest reported number of accounts in arrears. Such differences could be due to varying thresholds in arrears for when utilities issue a disconnection request, or it could be due to different assistance programs put in place to help those in arrears or those with low-incomes find ways to pay their bills. Alternatively, trends could result from seasonality of assistance programs such as public assistance resulting in more strained finances at different times of the year. Without more data, we cannot be sure that customers are being treated equitably across Virginia. Given current policy, it is possible that the utility disconnection[28] of a vulnerable Virginian is dependent on where they happen to live.

27 States at Risk Scorecard. **https://reportcard.statesatrisk.org/report-card/virginia/extreme_heat_grade**

28 Specifically, disconnections related to *involuntary non-payment shutoffs*, where the energy cost burden is so high compared to the relative household income of a ratepayer, that the ratepayer is unable to make timely payments. However, the data within our analysis does not discern between types of non-payment disconnections, therefore we use *disconnections* broadly.

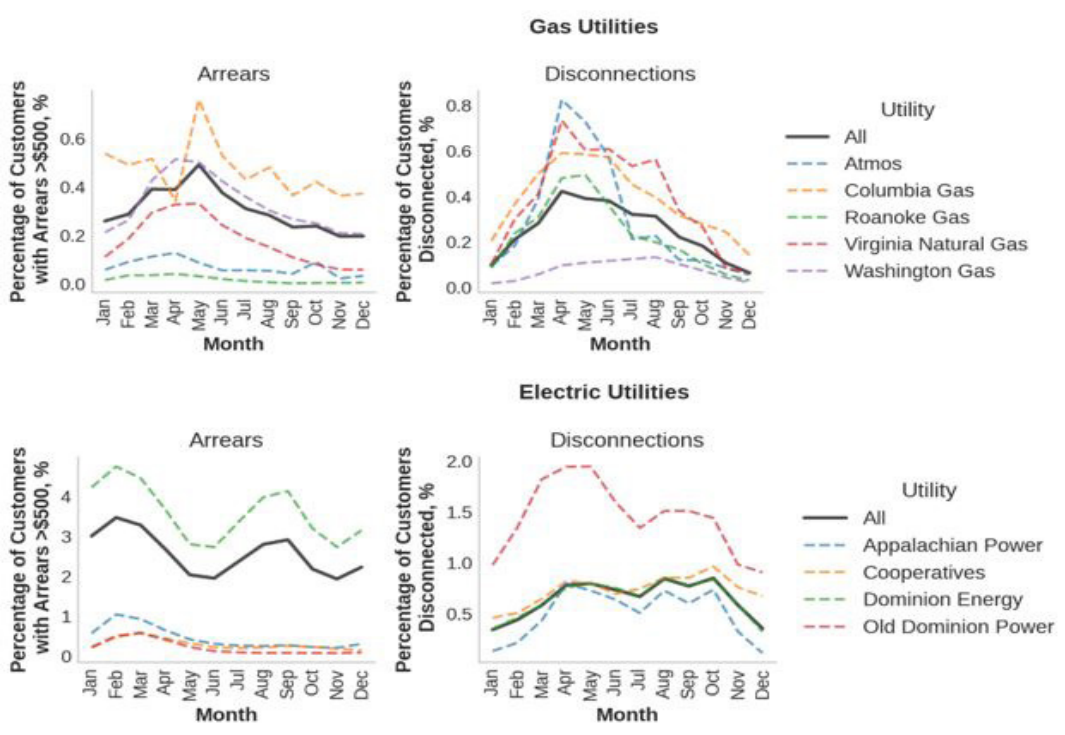

Figure 6: Percentages of customers in arrears or disconnected average by month over the years from 2012-2019. Top row are natural gas utilities, bottom row are electric utilities. Post-COVID years are excluded due to disruptions to incomes and temporary disconnection policies set in place. Solid black lines are averages weighted by the number of each utility's reported customers. Source: Virginia State Corporation Commission (SCC).[1, 2]

1 Request for utility disconnection data was filled by Mike Cizenski, Deputy Director at Virginia State Corporation Commission (SCC). 2022-2023 email correspondence.

2 Per the SCC, the arrearages that were provided are only for those customers in arrears and not disconnected, as of the last day of the month in question. Once they are disconnected, their arrears amount would no longer show in the dataset used to create **Figure 6**. Additionally, utility disconnections represent when services are shut off, not when the notice is sent, as defined by the SCC.

SUMMARY RECOMMENDATIONS

Decrease energy cost burdens

The most sustainable long-term solution is to decrease energy burdens so that households do not fall into arrears. These burdens can be decreased through either increasing incomes and/or decreasing energy bills. Energy bills can be lowered through targeted, increased energy efficiency and other targeted interventions.[29] The strong dependence of disconnections and arrears on climate indicates that minimizing heating and cooling

29 Makhijani, A. et al. **Energy Affordability in Maryland**. February 2023.

energy use through weatherization and conversion to efficient heat pumps could decrease bills significantly and drastically reduce the number of customers behind on their bills. Customers falling into arrears should be directed early on to weatherization resources and such programs should be well funded. These retrofits can be subsidized in part by the Inflation Reduction Act for low-income households[30] but policies should be in place to ensure renters have equal access to home upgrades as those who own their homes. Those most susceptible to extreme heat and cold, such as the elderly, should be further prioritized for any such interventions. Moreover, such home improvements have additional co- benefits such as reducing carbon emissions and improving the health and safety of homes.

Enact Climate- and Health-based Protections

According to our analysis, utility disconnections are partially driven by peak energy demand during hot and cold weather events. For example, electric disconnections are high all summer in Virginia when space cooling is needed most.

Populations most vulnerable to the adverse health effects associated with utility disconnections (including involuntary shut offs) during peak heating and/or peak cooling days include older adults (65+ years old) and children.[31] Children experience greater health risks during heat waves compared to adults, as they are physiologically less adept at regulating body temperature, have a higher surface area relative to body weight, and faster heart and breathing rates.[32] Additionally, sweating capacity and blood flow to the skin reduces with age. Older individuals are also much more likely to be reliant on at-home medical devices that require electricity to operate. As such, individuals older than 65 years of age experience greater health risks and increased rates of hospitalization (both in admissions and deaths) during extreme heat events.[33] **Therefore, protections from disconnections should be in place based on projected and current climate conditions in an effort to protect those most vulnerable to the impacts of utility disconnections during these extreme weather events.**

Make data publicly accessible

Currently, utility disconnection and arrears data for Virginia is available upon request. We recommend this data be made publicly available, with easily accessible tools about disconnections and utility arrears, such as an online database or interactive map. For example, the Michigan Public Service Commission publishes a tool that provides information related to investor-owned utility disconnections that includes breakdown by income group.[34] Incorporating arrears data would allow researchers and other members of the public to assess important questions, such as whether disconnections are greater for utilities due to greater non-payment or due to utility policies. Data on the month of disconnections, customer incomes, and monthly energy bills would further allow for better policy development.

30 The HOMES and HEEHRA components of the Inflation Reduction Act passed in 2022 that are among the programs that provide grants for efficiency improvements for homes housing low-income households. See, for example, **https://www.rewiringamerica.org/policy/high-efficiency-electric-home-rebate-act**.

31 Flaherty et al. (2020). Electric utility disconnection policy and vulnerable populations. **https://www.sciencedirect.com/science/article/abs/pii/S1040619020301512**

32 O'Sullivan & Chrisholm (2020). Baby it's hot outside: Balancing health risks and energy efficiency when parenting during extreme heat events. **https://doi.org/10.1016/j.erss.2020.101480**

33 Millyard et al. (2020). Impairments to thermoregulation in the elderly during heat exposure events. **https://journals.sagepub.com/doi/pdf/10.1177/2333721420932432**

34 Michigan Public Service Commission (2023). Utility Customer Data. **https://www.michigan.gov/mpsc/regulatory/reports/other/utility-customer-data**

Evaluate alternative regulatory frameworks

While utility disconnections protect ratepayers from losing a vital service, they do not unequivocally alleviate the financial debt incurred. Policy makers should consider how the debt from disconnections will be repaid,[35] amongst multiple options:

- payment plans for the ratepayers in arrears, with the costs carried by the utility
- redistributed to other ratepayers through higher rates, as the debts is written off by the utility owner as a cost of doing business
- repaid by state or utility commission programs to the utility on behalf of overburdened communities

In order to achieve broader adoption in a state that has no current permanent climate-related protections, it would be beneficial to avoid debt recovery being solely borne by a single stakeholder, and multiple policy levers could help alleviate this. For consideration, an alternative regulatory environment such as performance-based regulation[36] (as opposed to the current cost-of-service model) could be helpful in aligning climate and societal benefits to the solvency, and profitability, of utility owners.

In Virginia's current cost-of-service regulatory model, there are limitations in governmental interventions to keep rates affordable and sustainable to the ratepayer, while competitive for the utility. A 2018 Virginia Poverty Law Center[37] report determined that Dominion (which covers two-thirds of the state) focused efforts on rate adjustment clauses (transmission, distribution, and capital expenditures), which increased the total ratepayer bill while keeping the base rate low. Furthermore, the report highlights that the SCC has limitations in final rates determination, as the current process of "rate case" determinations favor the utility provider, Dominion. In this framework, the SCC is limited in rate reductions and final authority to adjust rates. This is a rarity compared to other state commissions. Evaluating the appropriateness and feasibility of a performance-based regulation could alleviate these limitations and provide an incentivized framework for the utility owners, SCC, ratepayers, and Virginia legislative representatives to move towards maximizing climate and societal benefits.

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35 Utility Dive (2021). US utilities have billions in unpaid customer balances. What should they do? **https://www.utilitydive.com/news/us-utilities-have-billions-in-unpaid-customer-balances-what-should-they-do/607682/**

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