

# LOWERING COSTS & POLLUTION WITH ENERGY EFFICIENCY

McKenna Dunbar // Sierra Club // [mckenna.dunbar@sierraclub.org](mailto:mckenna.dunbar@sierraclub.org)

Lena Lewis // The Nature Conservancy // [lena.lewis@tnc.org](mailto:lena.lewis@tnc.org)

Joy Loving // Climate Action Alliance of the Valley // [jal\\_1998@yahoo.com](mailto:jal_1998@yahoo.com)

## WHY IT MATTERS

The cleanest, cheapest energy is the energy never generated. We need many tools to decarbonize Virginia's power sector effectively and affordably. We have a powerful, underutilized tool to limit the increase in energy demand in Virginia: energy efficiency. Energy efficiency means performing the same function using less energy. Tapping fully into our energy efficiency potential will make our renewable energy goals more achievable by reducing demand and increasing grid reliability.

Eighty percent of the buildings that will be standing in 2050 have already been built.<sup>1</sup> This paper focuses on these buildings. Improving energy efficiency in homes and businesses lowers energy bills and pollution. It can help low-income households, which can have higher energy bills because their housing tends to have less insulation and less efficient heating and cooling systems. The benefits of energy efficiency and weatherization can extend to improved comfort and health outcomes.<sup>2</sup> Energy efficiency programs can address historic injustices by reducing high energy costs that have disproportionately impacted Black and Latinx families.<sup>3</sup> Over 74,500 Virginians work in energy efficiency,<sup>4</sup> more than in any other sector in the power industry; more are needed.<sup>5</sup>

Related to energy efficiency, demand-side management helps electric utility customers shift their energy use away from peak demand times, so the most polluting, most expensive fossil-fuel plants do not have to be activated. For example, time-of-use rates charge less for electricity use at times when electricity demand is lower, incentivizing customers to wait until lower-demand times to run appliances. Another utility program recruits customers to voluntarily reduce their energy use on very hot or very cold days to decrease overall energy demand.

Energy efficiency and demand side management are wins for the environment, economy, and utility customers. When the overall energy demand is reduced and peak demand is lowered, new sources of generation do not need to be built, keeping electricity bills more affordable for all.

## CURRENT LANDSCAPE

In 2020, the Virginia Clean Economy Act (VCEA) established the Energy Efficiency Resources Standard (EERS),<sup>6</sup> requiring utilities to provide energy efficiency programs for customers and achieve annual energy savings targets. Utilities earn the same percentage profit on these programs as on building new generation. Dominion Energy is not on track to meet

its 2024 and 2025 targets.<sup>7</sup>

Beginning in 2026, the State Corporation Commission (SCC) will set EERS savings targets. Recently passed legislation, the SAVE Act, will strengthen the SCC's ability to set future targets, beginning in 2029.

Virginia Energy is designing the state implementation of two major new energy efficiency programs that are part of the federal Inflation Reduction Act (IRA). The Home Efficiency Rebates (HOMES) will enable rebates for energy efficiency improvements in existing residential homes, and the Home Electric Appliance Rebates (HEAR) will enable rebates for electrification in existing and new residential buildings.<sup>8</sup> The Training for Residential Energy Contractors (TREC) provides funds for state energy offices to train, test, and certify residential energy efficiency and electrification contractors.<sup>9</sup> These programs require dedicating some funds to low-income households.

The Housing Innovations in Energy Efficiency (HIEE) fund was created when Virginia joined the Regional Greenhouse Gas Initiative (RGGI) in 2020. Half the revenue from participation in RGGI was designated by law for energy efficiency programs for low-income housing. Overseen by the Department of Housing and Community Development (DHCD), the HIEE funds can make new affordable and special needs housing more energy efficient. They are also used to repair existing housing so it can safely support energy efficiency improvements. The Governor illegally removed Virginia from RGGI in 2023. There are no plans to replace the approximately \$125 million annual energy efficiency funds that the program would have generated.

## OPPORTUNITIES

Homes and businesses waste 35% of the energy they pay for.<sup>10</sup> This energy inefficiency presents tremendous opportunities to reduce energy usage and save money. Energy customers cannot take full advantage of this opportunity because of several barriers. Upfront costs of energy efficiency retrofits are prohibitively expensive for lower-income households and businesses, although they are investments that will more than pay for themselves through lower energy bills. Many consumers lack knowledge about the benefits of energy efficiency. Landlords do not have incentives to improve energy efficiency when tenants pay the utility bills. Though the best time to add energy efficiency measures is when a structure is built, builders often prefer to lower their costs by minimizing energy efficiency features.

# LOWERING COSTS & POLLUTION WITH ENERGY EFFICIENCY

McKenna Dunbar // Sierra Club // [mckenna.dunbar@sierraclub.org](mailto:mckenna.dunbar@sierraclub.org)  
 Lena Lewis // The Nature Conservancy // [lena.lewis@tnc.org](mailto:lena.lewis@tnc.org)  
 Joy Loving // Climate Action Alliance of the Valley // [jal\\_1998@yahoo.com](mailto:jal_1998@yahoo.com)

These barriers present opportunities for lawmakers and regulators to decrease obstacles for residents and business owners and reduce the strains of growing energy demand.

It's critical to set high standards for energy savings, incentivize those standards, and make the progress toward them transparent and understandable to the public. One approach is to tie part of utilities' rate of return to their success in energy efficiency programs (see page 135). Another way is to share energy usage information of commercial buildings with potential tenants, incentivizing landlords to improve their buildings' efficiency.

Federal IRA funding has created additional responsibilities for state agencies. State funding for departments like Virginia Energy and DHCD should sustain staffing levels sufficient to manage programs smoothly and to distribute funds quickly.

Rejoining RGGI (see page 101) would allow Virginia to regain access to the millions of dollars that reduce spending gaps in low-income energy efficiency that

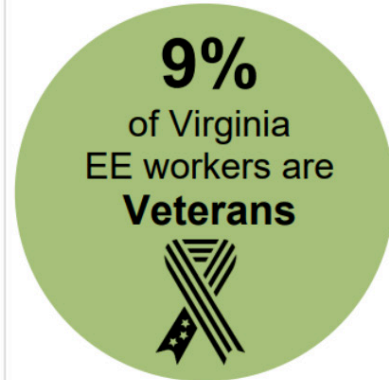
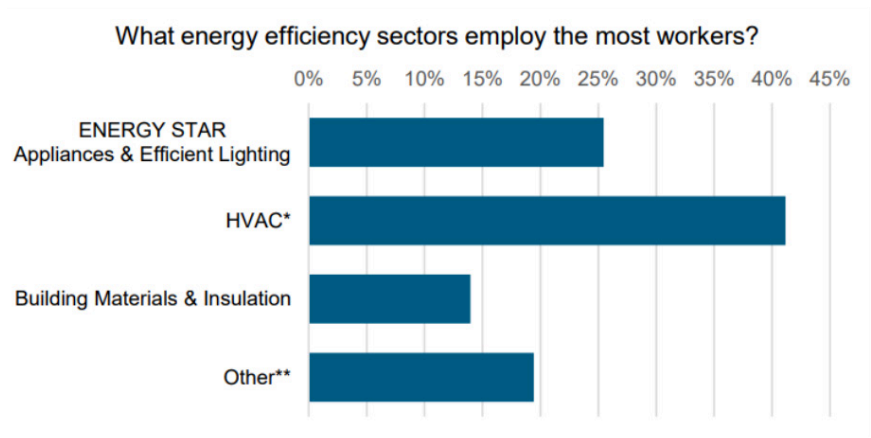
other funding streams don't cover. The HIEE funds from previous RGGI auctions that have not yet been spent are needed for their intended purpose and should not be redirected.

## TOP TAKEAWAYS

Improving energy efficiency in buildings is a cost-effective strategy that significantly reduces energy usage, peak demand, air pollution, and utility bills.

To overcome barriers like upfront cost, lack of information, and misaligned incentives, government policy, assistance, and incentives can maximize access to energy efficiency.

Legislators and regulators have the authority to set appropriate expectations for utilities to save energy and hold them accountable for their performance.



## ENDNOTES

- Blanco, Jose Luis, et. al "Seizing the Decarbonization Opportunity in Construction," (2021). <https://www.mckinsey.com/industries/engineering-construction-and-building-materials/our-insights/call-for-action-seizing-the-decarbonization-opportunity-in-construction>.
- "Occupant Health Benefits of Residential Energy Efficiency," (2016). <https://e4thefuture.org/wp-content/uploads/2016/11/Occupant-Health-Benefits-Residential-EE.pdf>.
- Drehobl, Ariel, and Lauren Ross, "Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities," (2016). <https://www.aceee.org/sites/default/files/publications/researchreports/u1602.pdf>.
- "MILLION AMERICANS WORK in ENERGY EFFICIENCY," Energy Efficiency Jobs in America Energy Efficiency Jobs in America, (2023). <https://e4thefuture.org/wp-content/uploads/2023/10/Energy-Efficiency-Jobs-in-America-2023.pdf>.
- "Report: Energy Efficiency Remains Energy Industry's Largest Workforce and Its Numbers Are Growing, but Many More Trained Workers Are Needed," E2, (2023), <https://e2.org/releases/report-energy-efficiency-remains-energy-industrys-largest-workforce-and-its-numbers-are-growing-but-many-more-trained-workers-are-needed/>.
- "Energy Efficiency Resource Standards," American Council for an Energy Efficient Economy, (2022), <https://database.aceee.org/state/energy-efficiency-resource-standards>.
- Demitri, Anna. "Commission Staff Response to the Company's Legal Memorandum Introduction CASE NO.PUR-2023-00217," (April 9, 2024). <https://www.scc.virginia.gov/docketsearch/DOCS/7y%24q01!PDF>.
- "Home Energy Rebates Programs," U.S. Department of Energy, <https://www.energy.gov/scep/home-energy-rebates-programs>.
- "Training for Residential Energy Contractors Grants (Formula)," U.S. Department of Energy, <https://www.energy.gov/scep/training-residential-energy-contractors-grants-formula>.
- "Energy Flow Charts," Lawrence Livermore National Laboratory, <https://flowcharts.llnl.gov/commodities/energy>.