

MAXIMIZING ROOFTOP SOLAR & DISTRIBUTED GENERATION

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WHY IT MATTERS

Virginia must rapidly decarbonize its electricity sector to protect current and future generations from the worst impacts of climate change.¹ Historically, the clean energy transition has prioritized replacing expensive fossil fuels with utility-scale renewable energy. Distributed energy resources (DERs) are a complementary and underappreciated tool for accelerating this transition while maximizing affordability, equity, energy independence, and resilience. DERs refer to clean energy technologies that produce power or moderate power usage close to where that power is used. These technologies include rooftop, commercial, and community/shared solar, as well as smaller batteries and demand response programs, which provide incentives to decrease electric consumption during peak hours. DERs can be pooled into networks and managed as a collective known as a Virtual Power Plant (VPP). Collectively, these technologies can play the role of gas peaker plants with a much faster installation timeline, lower cost to ratepayers,² and without jeopardizing health or the environment with carbon emissions.

DERs can help Virginia meet energy demand in a way that decarbonizes the power sector, spurs local economic development, protects households from utility rate hikes, and boosts grid resilience and reliability.

DERs provide a wide range of benefits to the public and services to the grid. Homeowners, tenants, local businesses, and governments can use DERs to save money on utility bills; support electricians, home retrofitters, and installers; and improve air and water quality and public health by reducing reliance on fossil fuels. DERs also make the grid more affordable and reliable by minimizing power lost along transmission lines and deferring investments into expensive transmission and distribution infrastructure.³ Additionally, their distributed nature and use of energy storage increase the grid's resilience to large-scale disruptions, like extreme weather and blackouts, providing Virginians with energy independence.

CURRENT LANDSCAPE

Virginia is committed to powering the Commonwealth with 100% carbon-free electricity from investor-owned utilities by 2050.⁴ The Virginia Clean Economy Act (VCEA) requires that Dominion Energy meet one percent of its annual Renewable Portfolio Standard (RPS) requirement through DERs.⁵

Virginia's net metering law⁶ allows customers with solar to be compensated for the electricity they generate. The State Corporation Commission (SCC) is currently re-evaluating net metering rates,⁷ and both Appalachian Power Co. (APCo) and Dominion seek to substantially decrease their compensation rates by undervaluing the benefits of DERs and shifting blame away from the drivers of high

energy costs, like gas price volatility.⁸ Under-compensating net metering would impede the adoption of rooftop solar when the industry is just getting off the ground. Only 1.3% of Virginians net meter,⁹ and Virginia ranks 31st in the nation in per-capita residential solar and 28th in per-capita non-residential solar.¹⁰

In 2024, Dominion's shared solar program was expanded and a program was created for APCo.¹¹ However, high minimum bills disincentivize participation for most customers.¹² The SCC is currently evaluating Dominion and APCo's minimum bills, with a legislative directive to give a full and balanced consideration of costs and benefits.¹³

In April 2024, Virginia received \$156 million under the federal Solar for All program to design and expand residential solar and multi-family solar-plus-storage programs serving marginalized communities.¹⁴ This program will run from January 2026 until December 2029 and will guarantee a minimum 20% total electricity bill savings for participants.¹⁵

In 2024, Virginia Energy published a report exploring incentives to steer shared solar projects onto rooftops, brownfields, landfills, parking lots, and dual-use agricultural facilities.¹⁶ Despite widespread support from the public, parking lot solar and other projects on previously developed sites remain unfunded.¹⁷

OPPORTUNITIES

Virginia imports more energy than any other state, and data center-driven demand is projected to double energy needs in the next 15 years.¹⁸ Accelerated implementation of DERs will quickly connect energy, mitigate the impacts of utility-scale generation on natural resources, and create a more resilient grid. Current rates signal to DER businesses to continue to invest in the state, while saving individual homeowners tens of thousands of dollars on utility bills over time.¹⁹ Asset owners must continue to be fully compensated for the value of the electricity they provide to the grid.²⁰

Virginia law currently limits the amount of DERs on the grid and the size of qualifying facilities. Raising or removing these caps would facilitate more rapid deployment of clean energy, because smaller projects do not face the same interconnection and construction delays as larger centralized projects like gas plants. Increasing the carve-out for facilities built on previously disturbed lands helps avoid impacts to natural resources.

Virginia needs tens of thousands of jobs to deploy clean energy technologies at the speed and scale required. Requirements to pay prevailing wages for these jobs will attract a robust clean energy workforce, and apprenticeship requirements ensure a steady pipeline of Virginians who are well-trained in clean energy technologies.

New permitting software, such as SolarApp+, can decrease permitting times for rooftop solar projects by

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30%,²¹ saving localities significant time and resources, benefitting consumers by decreasing soft costs on solar over time, and speeding up the connection of clean energy to the grid.

In light of reduced federal support for DERs, innovative state-level financing mechanisms are more crucial than ever. Pay As You Save allows homeowners to install DERs without upfront costs through a fixed charge on utility bills. Because the charge is set at a level lower than the savings from the DERs, this program results in day one savings for all participants.

TOP TAKEAWAYS

Distributed energy resources (DERs) refer to local, clean energy like rooftop solar and battery storage. DERs are a critical component of our clean energy future, spurring local economic development, protecting households from utility rate hikes, and boosting grid resilience and reliability.

Virginia should improve shared solar programs, implement the Solar for All grant, and incentivize the installation of DERs on previously developed sites like parking lots. Asset owners must receive full compensation for the electricity they provide to the grid.

ENDNOTES

1. AR6 Synthesis Report: Climate Change 2023. (2023). Intergovernmental Panel on Climate Change. <https://www.ipcc.ch/report/ar6/syr/>
2. Hledik, R., & Peters, K. (May 2023). *Real Reliability: The Value of Virtual Power*. Brattle. https://www.brattle.com/wp-content/uploads/2023/04/Real-Reliability-The-Value-of-Virtual-Power_5.3.2023.pdf
3. Hausman, N. (June 2024). *State Strategies for Valuing Distributed Energy Resources in Cost-Effective Locations*. National Renewable Energy Laboratory. <https://docs.nrel.gov/docs/fy24osti/90128.pdf>
4. Virginia Clean Economy Act, Va. Code § 56-585.5 C (2020). <https://law.lis.virginia.gov/vacode/title56/chapter23/section56-585.5/>
5. Virginia Clean Economy Act, Va. Code § 56-585.5 C (2020). <https://law.lis.virginia.gov/vacode/title56/chapter23/section56-585.5/>
6. Va. Code § 56-594.
7. Order, In Re: Future net energy metering proceedings of Appalachian Power Company and Virginia Electric and Power Company pursuant to Code § 56-594, Case No. PUR-2024-00047 (May 6, 2024).
8. Petition of Appalachian Power Company for approval to revise its net metering program pursuant to § 56-594 of the Code of Virginia, Case No. PUR-2024-00161 (Aug. 30, 2024)
9. Direct Testimony of Trenton E. Feasel, Petition of Appalachian Power Company for approval to revise its net metering program pursuant to § 56-594 of the Code of Virginia, Case No. PUR-2024-00161 (Aug. 30, 2024) at 4:4-5 (citing 2023 EIA-861 data).
10. VA Solar: State Spotlight. (2025 June). Solar Energy Industries Association. <https://seia.org/wp-content/uploads/2025/06/Virginia.pdf>
11. Va. Code §§ 56-594.3 & 56-594.4.
12. Kennedy, R. (2022, July 11). *Virginia Approves \$55 Minimum Bill for Community Solar – the Highest Nationwide*. PV Magazine. <https://pv-magazine-usa.com/2022/07/11/virginia-approves-55-minimum-bill-for-community-solar-the-highest-nationwide/>
13. 2024 Va. Acts chs. 715, 716, 763 765, Enactment cl. 3
14. *Virginia Department of Energy awarded \$156 million for Solar for All program*. (2024, Apr. 22). Virginia Department of Energy. https://energy.virginia.gov/public/documents/newsroom/2024/Press_Release_Virginia_Energy_Receive_SolarforAll20240419_.pdf
15. Vaughan, N. (2024 Apr. 22). *Solar for All, and \$156M for Virginia*. Virginia Conservation Network. <https://vcnva.org/solar-for-all-and-156m-for-virginia/>
16. *Virginia Shared Solar Incentive Work Group Report*. (2024 Nov.). Virginia Energy. <https://rga.lis.virginia.gov/Published/2024/RD963/PDF>
17. Senate Bill No. 234. A Bill to amend the Code of Virginia by adding in Chapter 17 of Title 45.2 an article numbered 10, consisting of a section numbered 45.2-1735, relating to Parking Lot Solar Development Pilot Program and Fund. (2024). <https://legacylis.virginia.gov/cgi-bin/legpp604.exe?241+ful+SB234+pdf>
18. Yancey, D. (2025, Jan. 21). *Virginia now imports more electricity than any other state*. Cardinal News. <https://cardinalnews.org/2025/01/21/virginia-now-imports-more-electricity-than-any-other-state/>
19. *Virginia Solar Panels: the complete guide in 2025*. (2025). Energy Sage. <https://www.energysage.com/local-data/solar/va/>
20. Calssa. (2023, December 22). *Significant loss of solar jobs in every part of California following CPUC cuts to solar incentives — CA Solar & Storage Association*. CA Solar & Storage Association. <https://calssa.org/press-releases/2023/12/22/significant-loss-of-solar-jobs-in-every-part-of-california-following-cpuc-cuts-to-solar-incentives>
21. Rickard, J. (2024, June 12). *Safe and fast permitting using NREL's SolarAPP+ continued to grow throughout 2023*. NREL. <https://www.nrel.gov/news/detail/program/2024/automated-permitting-with-solarapp-grew-in-2023>