



A 21st-Century Permitting Regime for Rooftop Solar and Home Batteries in Virginia

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EXECUTIVE SUMMARY

Between rising home energy consumption and the growth of data centers across the state, Virginia's demand for electricity is threatening to outpace a consistent and affordable supply. As Virginia's energy needs increase, solar and battery systems in homes are going to be ever more valuable for reducing grid strain and improving energy affordability, resiliency and reliability, while protecting our environment. By reducing peak demand and creating a much-needed local energy supply, residential solar and storage technologies are a cost-effective part of a community-oriented grid modernization effort. Many local governments across the country are not set up to efficiently enable this solution, however, and governments in Virginia are no exception. Antiquated steps required at the local level to obtain approval to begin installation add costs to home solar and energy storage systems and increase administrative costs for governments.

Higher costs result in fewer families going solar than otherwise would. In Virginia, 16 percent of residential solar projects that begin the permitting process are canceled before they are completed,¹ largely due to permitting barriers.² Households that do install solar likely end up paying more. A recent report by the International Renewable Energy Agency found that the price for residential solar in the United States is roughly double the price in Europe, where permitting barriers have been effectively eliminated.³ The panels, wires, inverters and batteries being installed in the United States are similar to those used in Europe — much of the difference in cost lies in how these systems are handled by local governments.

2X

Residential solar in the U.S. costs roughly double what it costs in Europe

1-in-6

One-in-six (16%) of residential solar projects in Virginia are canceled before completion, largely due to permitting barriers

Modernizing local government through the use of automated permitting will allow more Virginians to reap the benefits of rooftop solar and energy storage while reducing administrative burdens for localities.

This report relies on firsthand accounts of company representatives currently installing solar across Virginia to uncover some of the common problems facing residential solar and battery storage permitting. It finds that these problems can be resolved through straightforward steps, many of which require few resources for local jurisdictions to implement:

- **Align application submission requirements across jurisdictions and regions.** Installers in Virginia typically operate in several counties at a time and must therefore coordinate with many different jurisdictions, each with its own processes, requirements and preferences. Learning to navigate these systems and tailoring plans to each set of requirements takes staff time and raises costs for customers.
- **Make code interpretations consistent within jurisdictions and across regions.** Interpretations of code requirements can differ among local governments, requiring installers to adapt the content of permit applications to varying sets of rules. Sometimes, even officials within the same jurisdiction disagree with each other about how a code should be interpreted. The multiple resubmissions and project modifications resulting from this ambiguity raise costs and extend timelines.
- **Improve transparency and communication during application review.** Permitting departments are busy, and at times, communication issues leave solar installers in the dark as to the status of their applications and steps required to obtain a permit, exacerbating other problems that may arise during permit review.
- **Shorten review timelines.** It can take a long time to permit residential solar and storage in Virginia. The median wait for obtaining a permit in the Commonwealth is nine business days, with an additional 13 business days to get through an inspection, amounting to a month in all.⁴ This is the median — actual timelines can be much longer. In some cities and counties, the typical permitting wait time is 18 to 24 business days.⁵
- **Right-size permitting fees.** Rooftop solar permit fees vary widely in Virginia but can reach several hundred dollars. While high fees are a barrier in themselves, fee variations between governments also present challenges, making it difficult for solar companies to plan and set expectations for the customer.
- **Update third-party inspection programs.** Building department inspections can be time-consuming, resource-intensive and out of line with the requirements set by plan reviewers. Third-party inspection programs in Virginia address some of these issues, but the programs receive little use due to limited access, shortcomings in program design and high variation between building department requirements.

Streamlining the solar permitting process is an easy, local and rapidly scalable solution for getting more clean energy into our communities while saving families and local governments time and money.



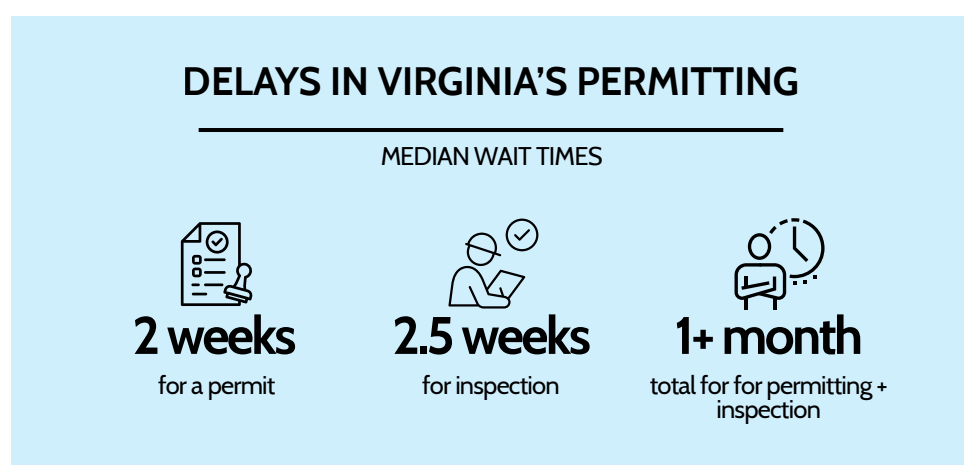
POLICY RECOMMENDATIONS

State and local governments should make it easier, faster and cheaper for families to install code-compliant rooftop solar and energy storage systems while protecting health and safety.

One of the most effective ways to do so is to issue permits through an automated permitting platform that expedites the process without compromising quality or safety. Automated permitting platforms ask the contractor a series of questions to verify that the solar system's design is up to code and then approve the permit application automatically, allowing installation to begin.

The most common automated permitting platform is Solar Automated Permit Processing+ (SolarAPP+), which was developed by the U.S. Department of Energy's National Renewable Energy Laboratory in 2019 and is now run by the nonprofit SolarAPP+ Foundation.⁶ Since SolarAPP+ launched in 2021, 277 cities and counties in 16 states across the country have adopted the platform.⁷ Many other cities and counties offer automated solar permitting using private-sector platforms such as Symbium or by building their own software.⁸

Virginia should also update its third-party inspection program for solar. Local governments should allow contractors to use qualified third parties at their discretion, and the Commonwealth should set the qualification requirements for third parties. Third parties should also be able to use remote inspection tools.





INTRODUCTION

Virginia's electric system is experiencing unprecedented load growth in the 2020s, but the Commonwealth lacks a clear plan for how to meet the demand for additional energy. In 2023, the Commonwealth had more net imported electricity than any other state in terms of megawatt-hours.⁹ A 2024 report from the Joint Legislative Audit and Review Commission projected that unrestricted data center growth would double Virginia's electricity demand within a decade, a projection in line with analysis from the regional grid operator PJM.¹⁰ Nine of the 13 states within the PJM region are net importers of electricity, indicating a level of reliance on out-of-state electricity that is not sustainable.

VIRGINIA HAD MORE NET IMPORTED ELECTRICITY IN 2023 THAN ANY OTHER STATE IN THE U.S.

Virginia's peak demand is also rising. In 2024, Dominion Energy recorded six new all-time peak demand records across its service territory in the Commonwealth.¹¹ In the first month of 2025, it set records three more times. In traditional grid planning, energy flows in only one direction (from power plants to consumers). As peak demand increases, the grid must expand its ability to serve, often with more and larger power lines.

Local distributed energy resources (DERs), such as residential solar and battery storage, can help the Commonwealth address its energy challenges. In contrast to other ways to generate electricity, DERs offer affordable, reliable energy¹² while helping to offset peak demand and reducing the need for ratepayers to fund expensive electric grid expansion projects. Additionally, by alleviating grid congestion, DERs further help defer, reduce or eliminate distribution-system upgrade costs. DERs can come online more quickly than fossil fuel-based generation systems, and depending on how they are set up, they provide resiliency benefits in the event of an electrical outage. A new Virginia law created a virtual power plant pilot program: a network of decentralized DERs that can provide capacity and services to the grid to lower ratepayer costs in other ways. Residential solar and energy storage systems are expected to play a major role in this program.¹³ For Virginia to fully harness the benefits of virtual power plants, the Commonwealth needs to have ample distributed solar and storage capacity installed.

The cost of solar technology has fallen dramatically over the last 15 years, making it a more viable option for consumers. But permitting remains a significant obstacle to widespread residential solar and battery deployment in Virginia. Cumbersome and uncertain permitting processes discourage the adoption of solar and increase costs.

The Solar Energy Industries Association (SEIA) estimates that permitting and related bureaucratic costs, such as in-person inspections, add \$6,000 to \$7,000 to the typical residential solar system.¹⁴

Wait times of multiple weeks and months also deter families looking to install solar and battery systems and lead to cancellations, which total more than one in seven projects (16 percent) once the permitting process begins.¹⁵ The median wait time for a solar permit in Virginia is nine business days, meaning that half of all solar customers in the Commonwealth wait longer than two weeks for a permit.¹⁶ Some jurisdictions have even longer wait times. In Loudoun County, for example, the median timeline is 16 business days — more than three weeks. One in four permit applicants in the county wait more than 24 business days. In Loudoun, approximately 31 percent of homeowners who begin the solar permitting process end up cancelling the project. In Carroll County, 34 percent are cancelled. SEIA estimates that a one-week delay in system installation due to permitting, inspection, and interconnection processes increases the cancellation rate by 10 percent.¹⁷ It is possible to improve these processes — to reduce costs, speed up timelines, and help more families go solar — while also supporting the integrity of permit review and inspection.

A one-week delay in system installation due to permitting, inspection, and interconnection processes increases the cancellation rate by 10%



During the permitting process, the plan review of residential solar and battery storage installation ensures that the project is built to code and doesn't create health or safety risks. However, this review can be slow. Approval might be contingent on arcane clerical specifications that have no bearing on the function of the system. It might include requirements unrelated to health and safety. Frequently, the processes and rules are unclear. In some cases, different reviewers may have a different understanding of the same code. Inconsistent permit review processes among or between jurisdictions can add costs and delays. Accelerated adoption of solar in recent years is straining the capacity of local jurisdictions to process permit applications efficiently. As solar and storage systems become more common in homes, local governments can adapt to this growing preference, just as they have with other appliances and technologies in decades past.

Widespread adoption of new technologies often requires local governments to take a different approach. By automating the review of residential solar and storage installations, jurisdictions can streamline the permitting process for solar consumers and installers. Automated permitting allows installers to instantly verify whether an installation meets electrical and building codes and receive a permit immediately. It also reduces staff time at local jurisdictions by removing the need for individual permit reviews. All this can be done without changing the rigor of the application review, ensuring that safety remains a guiding principle of the permitting process.

The most commonly used automated permitting solution is SolarAPP+, a platform developed by the National Renewable Energy Laboratory with funding from the U.S. Department of Energy and now administered by the nonprofit SolarAPP+ Foundation. There are other automated permitting software options on the market as well, such as Symbium, and some local governments have developed their own. A handful of Virginia jurisdictions have already streamlined their solar permitting process using these platforms. Culpeper County and the city of Harrisonburg currently use SolarAPP+.¹⁸ Prince William County, a jurisdiction with which the solar industry engaged early on to update the permitting process, adopted the platform in late 2024.¹⁹

Updating automated solar permitting processes can allow for faster installations, reduce the cost of a solar system by thousands of dollars and increase homeowner satisfaction. More efficient processes also benefit local building departments, as staff can shift their attention to more complex projects.

A close-up photograph of solar panels, showing the grid lines and the blue surface of the photovoltaic cells. The panels are arranged in rows, and the image is slightly blurred, giving a sense of depth.

AN OVERVIEW OF PERMITTING IN VIRGINIA

There are two phases to the traditional permit approval process for a residential solar system in Virginia. First, the installer contracted to build the system submits plans to the city or county in which the property is located for review, generally to the building department. Reviews are designed to ensure that solar panels and batteries are installed safely and do not pose a threat to homeowners or others. Plan reviewers typically take into account whether the solar contractor has the correct licenses to perform the work, whether the project complies with applicable building and electrical codes and whether the project is properly designed in relation to the electrical grid.

Most cities and counties have their own processes and requirements, though the fundamental standards are rooted in the state's electrical and building codes. When a reviewer determines that a plan does not meet the code or fails to fulfill some other requirement, the plan is sent back to the installer for revision. This back and forth can be time-consuming, driving up costs in both staff time and fees for resubmission. Some small governments outsource the plan review process to a third party. The permit is issued when the system is approved by reviewers, with turnaround times ranging from one day to several weeks. The contractor pays the permitting fee.

After receiving the permit, the installer is cleared to install the system, which typically takes only one to three days. In the second phase of the approval process, the installer must coordinate with the local government to schedule an inspection. The role of the inspector is to verify that the installation conforms with the plan and meets building codes. While the inspection itself takes only around an hour, the total timeline for this phase can be several weeks. In Virginia, the median wait time between the request for an inspection and the inspection itself is 13 business days.²⁰

Automated permitting allows localities to automate the plan review phase. The installer submits information pertaining to the system to an online portal that contains all the safety codes and standards required. If any item in the plan is out of compliance, the portal instantly informs the installer and gives them the opportunity to revise and resubmit. If a submission is compliant, the installer receives approval immediately.

The most common automated permitting platform, SolarAPP+, also provides checklists to help inspectors verify installation procedures and adherence to the approved design.²¹ This process has the potential to make inspections far more consistent and standardized.

In addition to obtaining a permit and system approval from the local government, the installer needs to go through a parallel process with the local utility to obtain approval for interconnection with the electrical grid.



COMMON PERMITTING ISSUES AND PROPOSED SOLUTIONS

This report considers common issues that local solar installers encounter through the residential solar and battery storage permitting process and explores how automated systems can improve this process. In the development of this report, the authors consulted solar installers and local permitting authorities to discuss the issues that impact their ability to help families in Virginia efficiently and affordably obtain solar systems. While some governments in Virginia have already adopted automated permitting, the following discussion focuses primarily on those still employing traditional permitting processes. We propose solutions to some of the most common problems reported in the Commonwealth.

Align application submission requirements across jurisdictions and regions

Residential solar and storage installers in Virginia typically operate in several counties at a time and must therefore coordinate with many different jurisdictions. One installer said he worked with 95 different jurisdictions. Each of these governments has its own processes, requirements and preferences, making the permitting landscape difficult to navigate. In some cases, project managers spend more time preparing plans to upload for review than they do actually designing the system.²²

Nearly every local government has its own permitting software, portal (or paper forms) and permit applications. For solar installers, this means managing scores of different logins, systems and jurisdiction-specific requirements. Frederick County, for instance, requires a mail-in application and in-person pickup, which for many installers turns a seemingly simple administrative task into a four- to five-hour round-trip drive.²³ Spotsylvania and Rappahannock require plans to be saved to a thumb drive and sent in the mail.²⁴ While most jurisdictions require an electrical permit application, some jurisdictions, such as Loudoun County,²⁵ require a building permit application as well. Others require only a solar permit application.²⁶

Jurisdiction-specific administrative requirements present other challenges. For instance, while most Virginia jurisdictions require a structural engineering stamp on plan submissions, the city of Lynchburg requires a stamp from an electrical engineer as well.²⁶ Henrico County does not require any engineering stamps.²⁸

Permitting variability hampers the growth of solar generally by increasing compliance costs and permitting timelines. Learning to navigate permitting systems takes time, as does preparing the plans to meet highly detailed specifications. Standardizing these requirements would save homeowners money.

Make code interpretations consistent within jurisdictions and across regions

Just as clerical requirements differ among local governments, so do interpretations of code requirements, so installers must adapt the content of each permit application to varying sets of rules. For example, some jurisdictions require critter guards to keep birds, squirrels and other animals from entering the spaces between solar panels and a roof; other jurisdictions have no such requirement.²⁹

Sometimes, plan reviewers and inspectors working within the same jurisdiction disagree with each other about how a code should be interpreted, which results in inconsistent feedback and can be frustrating for installers. “Some solar interpretation issues are so misunderstood that officials across the state disagree with each other on whether certain installation methods are mandatory or prohibited,” said an installer based in Falls Church.³⁰

In especially thorny cases, resolving disagreements over code interpretation requires an appeal to the Virginia State Building Code Technical Review Board (SBCTRB).³¹ Once issued, the SBCTRB’s interpretations are legally binding for all jurisdictions. The Falls Church installer recalled an inter-jurisdictional dispute about a grounding and bonding issue that was ultimately resolved by the SBCTRB.³² He noted that one jurisdiction said, “You have to bond the ground in the neutral. You must do it.” Other jurisdictions said, “I forbid you from doing it.” The SBCTRB issued an interpretation to settle the issue.

Plan reviewers and inspectors might disagree as well. Another installer remarked, “Inspectors don’t always agree with the reviewers, or they’ll add in additional things from the code that the reviewer has already approved. There’s a disconnect there, and they don’t usually pick up the phone and talk to one another.”³³ The installer added that some inspectors will fail an inspection if stickers aren’t placed in certain ways, even if a reviewer has already approved the plan. In other cases, inspectors dispute previously approved electrical wiring plans, claiming they are not up to code.³⁴ In these situations, the installer is stuck in the middle and is responsible for talking to both parties to reach a resolution.

Sometimes an installation involves a system product that is not commonly used or known in the area. In such cases, the contractor or manufacturer and the permit reviewers might not agree on whether the product is compliant with the current code. The delays and resubmissions that result from these misunderstandings generally add costs. They can also be very frustrating on the customer side and on the installer side. One installer explained that he had a plan rejected because the reviewer was not familiar with the racking included and assumed it was not a code-compliant product.³⁵ In fact, the racking was code compliant, and the manufacturer had to step in to resolve the issue.

“We were sitting for like seven weeks trying to submit and paying these \$90 fees over and over again, not knowing what the heck they were talking about,” the installer recounted.³⁶ “It turned out that they just didn’t know what that trademarked product was, and they assumed it was something different and weren’t giving us good feedback.” He added, “Code-enforcing officials are oftentimes not adequately confident in their ability to determine a proposed solar system’s compliance with the Virginia Uniform Statewide Building Code (USBC), which can result in failed reviews, requirements to use a third-party inspector or requirements to hire a third-party engineer.”

Multiple installers reported that they occasionally deal with a plan reviewer who seems to be resistant to rooftop solar altogether.³⁷ One installer reported that in 2022, his Fairfax-based company drew up a plan for a customer with a home in Prince William County and submitted it to the county’s building development division for review.³⁸ The structural plan reviewer sent it back for corrections multiple times, claiming that the solar panel spacing and attachments were unsafe. Despite what the installer believed were conservative numbers used to calculate various load factors (such as snow load), reflecting a structurally safe installation method, the plan was not approved and the project was never completed. The customer’s neighbor, meanwhile, had no trouble with getting a permit for his solar installation. According to the installer, the primary difference between these two projects was the particular plan reviewer involved.

Improve transparency and communication during application review

Communication issues can also cause aggravation. “One of the largest frustrations is when communication is in the dark,” explained one installer. “If you’re applying for a permit and you have to mail it in and then two weeks later you haven’t heard anything and you have to leave voicemails or play phone tag and you don’t know the status of the permit — that’s probably my biggest frustration.”³⁹

Sometimes feedback is unclear, making it hard to make proper corrections. Some plan reviewers issue corrections in the form of difficult-to-understand dropdown or copy and paste comments rather than supplying clear feedback specific to the design in question.⁴⁰ Some use opaque language when communicating corrections that installers struggle to understand.⁴¹ Miscommunication can result in high fees, project delays and in some cases cancellations.



Shorten review timelines

All of the challenges detailed so far add delays to what is already, in many cases, a lengthy timeline. The median wait for obtaining a permit in Virginia as a whole is nine business days, with an additional 13 business days to get through an inspection.⁴² These are only averages — timelines for local governments and individual projects vary widely. In the cities of Manassas and Waynesboro and the county of Spotsylvania, the median permit timeline is between 16 and 25 business days.⁴³ Installation and utility approval add additional time.

One installer, whose company works in multiple states, said it takes an average of around 30 days for her company to pull a rooftop solar permit in Virginia, even longer than the statewide average reported by Ohm Analytics.⁴⁴ The longest timeline her company experienced was 163 days in Prince William County.

An installer with offices in both Falls Church and Bumpass claimed that reviews in Fairfax County can be lengthy, even though the jurisdiction places an emphasis on quick turnaround. One application in early 2024 was in review for more than two months. Online portal records show that it took four days for the application to move from “plans received” to “accepted for plan review” and another two months to make its way through “review distribution,” “building review,” “review coordination,” and, finally, “permit issuance.”⁴⁵

Long timelines can be the result of a high volume of permit applications, staffing issues or both. The review itself takes only around an hour — it’s waiting for someone to get around to doing it that slows the process. When asked why the turnaround time for a permit is four to six weeks in her jurisdiction, a representative from Franklin County Development Services said the department was short-staffed.⁴⁶ Complicated processes and multiple stages of review also add time.

Tom Grimes, a plan reviewer, is one of around half a dozen staffers at the Loudoun County Department of Building and Development who process solar permit applications.⁴⁷ He explained that the permitting process involves multiple steps and multiple departments: It starts with intake by the county’s permit coordinators and then moves to the building, electrical, and zoning departments. The county gives each department 10 business days to complete its review. Grimes, who works in the building department, said he tries to expedite solar permit reviews because they are relatively straightforward. He said he typically completes his part of the process within five business days. Still, due to the need for multiple departmental reviews, the median time for permit approval in Loudoun County is 16 business days.⁴⁸

Right-size permitting fees

Rooftop solar permit fees vary widely in Virginia and can reach up to several hundred dollars. High fees are a barrier in themselves, but the variation and lack of transparency also present challenges, making it difficult for solar companies to plan and set expectations for the customer.

At the low end, Blacksburg charges a flat fee of around \$30.⁴⁹ Permitting fees in Alexandria, by contrast, average \$475, and in Manassas, \$517.⁵⁰ These are median totals, so the actual permitting fees can be much higher. Some governments charge additional fees for every plan correction, and these fees can add up quickly. “I paid \$1,350 for a permit in Prince William County,” said the Falls Church–based installer. “In South Hill, in the same week, I paid 70 bucks for an electrical permit to put up an equivalent or a similar-sized system.” In 2024, Prince William supervisors approved a plan to spend \$1.2 million to establish a temporary solar fee reduction program,⁵¹ but the program expired and does not appear to have been renewed.⁵²

Update third-party inspection programs

Once the contractor installs the solar system, most building departments send an inspector to the job site to verify that the system is up to code and matches the approved plans. Inspectors generally give a multiple-hour window for their arrival time. If the job site is far from the contractor’s office or traffic is heavy, a qualified installation crew member might have to spend half a workday or more on a single inspection. Communication between the contractor and inspector to schedule the inspection can also be poor, and many inspectors do not climb onto rooftops to assess the panels, racking, and mounting hardware due to balance or liability concerns.

Some jurisdictions have too few inspectors. One solar installer reported that the city of Hampton has a single inspector for solar projects. If the inspector is out of the office, the homeowner can wait several extra weeks with the panels on their roof, unable to turn the system on. For some homeowners, the inspection has been delayed three or four times.⁵³

As previously noted, plan reviewers and inspectors don’t always agree on the requirements for a solar system. During inspection, the plan reviewer is not at the job site, so if the inspector has an issue with the installation, even though the plan reviewer approved it, the installer might have no option but to alter the installation to conform with the inspector’s preferences. This can involve significant additional resources.

To alleviate these problems, some Virginia jurisdictions have qualified third parties conduct solar inspections, but these programs have shortcomings. Third-party inspection programs in some jurisdictions do not pertain to solar. When they do, there is often an added net cost. Local rather than state building departments set the qualifications for the third parties, creating a lack of statewide uniformity and consistency. Finally, after the third party inspects the installation, the building department will conduct a review of the third party’s assessment, adding a layer of bureaucracy and duplication.⁵⁴

Prince William County SolarAPP+ Success Story

Within Virginia, one jurisdiction stands out from the others for its history of solar permitting obstacles: Prince William County. After years of barriers stymieing the adoption of rooftop solar, the county took initiative to update its review process.

In 2022, Solar United Neighbors, an advocacy organization with roots in Virginia, and the Chesapeake Solar and Storage Association, a Mid-Atlantic trade group, began working with Prince William to simplify its permitting requirements and boost transparency.⁵⁵ County officials implemented a series of changes aimed at making the permitting process faster, more efficient and easier for residents, developers and contractors.⁵⁶ As part of this initiative, the building department launched a SolarAPP+ pilot program in February 2024. It announced the county's official adoption of SolarAPP+ at the end of October 2024, albeit only for solar (not storage) and with additional requirements.⁵⁷

The county's stated goals include shorter permitting times, reduced costs, process improvements, reduced staff time per project, and faster service.⁵⁸ The adoption of SolarAPP+, plus a simplified review process for applications that don't go through SolarAPP+ and greater process transparency, is set to address the past challenges installers faced in applying for residential solar permits in the jurisdiction.





CONCLUSION

Residential solar going mainstream will benefit all Virginians. Getting there will require an “All of Virginia” approach, including updating local permitting processes into a more modern paradigm. Reducing the time and the cost involved in moving a solar project through the permitting process, from application through inspection, is critical to expanding residential solar usage in Virginia. Allowing installers to obtain permits for code-compliant solar systems through an automated permitting platform and to receive a remote inspection from a qualified third party would help this expansion.

Solar installers and localities across the Commonwealth recognize the need for a more efficient system. One installer, when asked what she would do differently, said, “Mandate automated solar [permitting], because the nature of roof-mounted solar tends to be pretty standard.” Another installer pointed to application standardization, expedited review times, reduced product confusion, uniform code interpretation, increased code confidence and uniform professional opinions — nearly all of which would be included with the adoption of automated permitting. “It would be great if we could standardize how inspections work too,” he added.

Cutting through the red tape of the solar permitting process and allowing for automated permitting will make it easier for solar installers to understand the process, follow the steps, and receive approval of their plans instantly, without the risk of costly delays. It will help more Virginia families enjoy the freedom of going solar, saving them money and reducing air pollution. It will save local governments time and money and help relieve permitting backlogs that can limit the growth of new construction and other industries. Streamlining solar permitting in Virginia will also free up resources to process more solar projects, bringing more energy into the grid to meet demand. The bottom line is that by making residential solar and storage adoption easier, Virginia can realize local grid and energy benefits while reducing harmful pollution at a time when energy affordability and availability are needed the most.

METHODOLOGY AND ACKNOWLEDGEMENTS

Research for this report relied on video and phone interviews with representatives from nine solar companies, whose residential photovoltaic operations together cover the majority of geographical regions in Virginia. Interviewees were typically those most familiar with an organization's permitting practices — usually the company's permitting coordinator. Researchers also reached out to eight local governments with additional questions stemming from discussions with installers (five responded) and reviewed those governments' websites. Representatives who gave feedback included permit technicians, city planners, and electrical inspectors. Interviews took place from October 2024 through September 2025. All names of solar installers interviewed have been omitted from this report.

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CHESSA is the Chesapeake Solar and Storage Association. We are a solar and energy storage trade association committed to an effective and equitable clean energy transition across Maryland, Virginia, and the District of Columbia. A 100% clean energy transition that sees mainstream adoption of local solar, large-scale solar, and battery storage throughout the electric grid will realize a stable and affordable grid for all consumers.

Environment Virginia has one mission: to protect the natural world. We advocate ideas and actions to guide our country onto a greener, healthier path. Our network of 30 state environmental groups promotes clean air, clean water, clean energy, wildlife and open spaces, and a livable climate. Our members put grassroots support behind our research, public education, advocacy and litigation.

Permit Power is a nonprofit organization making it easy for American families to power their lives cheaply. We do research, education, and advocacy to break down the bureaucratic barriers that get in the way of American families installing rooftop solar, home batteries, and other energy upgrades.

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