



Solar Permitting Scorecard

Grading all 50 states on removing obstacles to rooftop solar and home batteries



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Executive summary

THE UNITED STATES IS FACING energy challenges for which rooftop solar and home batteries are a solution. Solar panels and batteries installed on homes can improve the resiliency of the electrical grid and protect homeowners from blackouts, reduce health-harming pollution from electricity production, and provide financial savings for families. In many jurisdictions across the nation, however, the process of obtaining regulatory approval to install a solar energy system or home battery is complex, uncertain and slow.

Red tape associated with the permitting and inspection process adds costs and delays families from adding solar panels or a battery to their homes.¹ Navigating complex permitting and other bureaucratic barriers can add an estimated \$6,000 to \$7,000 to the cost of a typical residential solar energy system.² These unnecessary hurdles can deter some households from accessing these proven energy solutions and savings.

To produce this report, we reviewed policies relating to the permitting and inspection of residential solar energy systems and battery storage in all 50 states. Our review found that a majority of states have done little to adopt common-sense practices that reduce the costs and delays that permitting and inspection requirements impose on families wishing to install solar panels and batteries. Only two states – California and Texas – received a “B” in our scorecard, two received a “C,” 24 received a “D” and the remaining 22 received an “F.” (See table ES-1.)

All states should enact policies to simplify the process of issuing permits and conducting inspections for solar energy and battery storage systems on homes. **The most powerful policy most states could adopt would be to require jurisdictions that oversee residential solar projects to use instant permitting.** Other important

policies include allowing remote and third-party inspections, limiting the role of HOAs, and allowing third-party solar panel ownership arrangements.

We examined a wide variety of policies that influence how quickly and easily a family can receive a permit and inspection to add solar panels and batteries to their home. We sought to answer the following questions:

- **Does the state make it possible for installers to apply for a permit for a solar energy and/or battery project using instant review software?** Instant review software, such as the Department of Energy-designed and industry-supported SolarAPP+ tool, can cut permit approval timelines to zero, reducing time, expense and uncertainty.³ States can ensure access to instant permitting by requiring jurisdictions to use it or by allowing homeowners to hire third-party permit reviewers who are authorized to use such software. (States that ensure access to automated permitting receive 30 points; a full chart with the points assigned to each policy can be found at the end of the methodology.)
- **Has the state adopted other measures to streamline permitting?** States can encourage the use of instant permitting software with funding, adopt instant permitting in areas where the state is the permitting authority, provide guidebooks on best practices in permitting, create uniform permit application forms, and/or encourage jurisdictions to seek SolSmart designation, certifying that they have adopted a series of best practices for simplifying residential solar installation. The impact of these policies can be significant: Communities that have adopted solar-friendly policies and qualified for SolSmart designation experience an 18% to 19% increase

in the amount of solar capacity installed.⁴ (3 to 10 points per policy)

- **Are building codes standardized across the state or do they vary across jurisdictions?** Code variations between one jurisdiction and the next mean that a solar and/or battery installer must design otherwise identical projects differently in each jurisdiction, potentially with different equipment. Standardized statewide building codes can help streamline project design and permitting. (Up to 8 points)
- **Does the state limit the ability of homeowners' associations (HOAs) to block or restrict solar energy projects?** Allowing HOAs to establish their own requirements for solar panels and batteries and to review each project adds costs and delays without improving safety. States can eliminate this problem by removing HOAs from the project review process. (Up to 10 points)
- **Does the state limit permit review to health and safety criteria?** Some jurisdictions include aesthetic factors in their permit review process. This can reduce the efficiency or increase the cost of the system, and adds uncertainty to the permitting process. (10 points)
- **What measures has the state adopted to streamline the inspection process?** Inspecting a completed solar project can promote safety by confirming that the project complies with the codes and conditions of its permit. However, requirements for multiple inspections and for in-person inspections can add costs and delays without delivering safety benefits. States have addressed this problem by limiting jurisdictions to a single inspection upon completion of an installation and by requiring that installers have the option of doing a remote inspection via videocall or with recorded video or photos. In addition, some states have allowed homeowners to hire third-party inspectors who can perform remote inspections, further reducing delay. (Up to 18 points)
- **Has the state limited fees on solar energy permits?** Permit fees add directly to the cost of rooftop solar energy projects. Some states allow jurisdictions to set

fees based on the cost of the solar project, whereas others set a hard cap or require that the fee be based on the jurisdiction's costs to review the plan, issue the permit, and inspect the project. (Up to 10 points)

- **Does the state exempt third-party residential solar and battery ownership arrangements from regulation as utilities?** Third-party ownership arrangements, such as leases, can reduce or eliminate the up-front cost of a solar energy and battery system, a cost that may prevent some homeowners from going solar. However, in some states these contracts can trigger the regulations that apply to private utility companies, effectively banning homeowners from accessing third-party ownership agreements. (Up to 14 points)

Most states have adopted few policies to reduce costs and delays in the permitting and inspection process. A few states, though, have established important policies that demonstrate the feasibility of reducing red tape to streamline rooftop solar and battery installation. (See tables ES-1 and ES-2.)

- **California** and **Texas** both received a "B" grade for their policies to streamline the installation of residential solar energy systems. Most importantly, both states have made it possible for solar and/or battery installers to use instant permitting software for many projects. California requires most jurisdictions to use instant permit review software, while Texas allows solar installers to hire licensed third parties to review permit applications. Those third parties are allowed to use instant permit review software. Both states have adopted a number of other policies to cut red tape. (See Appendix B for details and sources.)
- **New Jersey** and **Colorado** received a "C" for their policies. Similar to the "B" states, the "C" states have turned to instant permitting, but have adopted fewer of the other policies that cut red tape. New Jersey is in the process of developing an instant permitting platform for solar panels and batteries that jurisdictions will be required to use, unless

they adopt a comparable alternative. Colorado’s Department of Regulatory Agencies, which issues electrical permits for home solar and battery projects in many jurisdictions across the state, has adopted

instant permitting. The state has also established a grant program to encourage other jurisdictions to implement instant permitting for all permits related to a home solar and battery project.

TABLE ES-1. HOW THE 50 STATES RATE ON PERMITTING AND INSPECTION POLICIES THAT REMOVE OBSTACLES TO RESIDENTIAL SOLAR ENERGY AND BATTERIES

State	Total points	Grade
California	75	B
Texas	62	B
New Jersey	58	C
Colorado	48	C
Maryland	39	D
Michigan	35	D
Minnesota	34	D
Rhode Island	29	D
Connecticut	28	D
New Hampshire	28	D
New York	28	D
Virginia	28	D
Florida	27	D
Massachusetts	27	D
Nevada	27	D
Washington	27	D
Maine	24	D
Utah	24	D
New Mexico	23	D
North Carolina	23	D
Georgia	22	D
Hawaii	22	D
Arizona	21	D
Delaware	20	D
Illinois	20	D

State	Total points	Grade
Ohio	20	D
Oregon	20	D
Vermont	20	D
Pennsylvania	18	F
Iowa	14	F
West Virginia	13	F
Mississippi	11	F
Montana	11	F
Nebraska	11	F
North Dakota	11	F
Oklahoma	11	F
South Carolina	11	F
Louisiana	10	F
Wisconsin	9	F
Arkansas	8	F
Kansas	7	F
Idaho	6	F
Alabama	4	F
Indiana	4	F
Kentucky	4	F
South Dakota	4	F
Tennessee	4	F
Wyoming	4	F
Missouri	2	F
Alaska	0	F

- Twenty-four states received a “D” for their tentative first steps toward cutting red tape. Eighteen of these states allow third-party ownership agreements

without triggering utility-regulation laws. **Maryland** has done the most to support instant permitting, passing a law that requires jurisdictions to use

TABLE ES-2. THE POLICIES FOR WHICH WE GAVE STATES CREDIT

Policy category	Specific policy
Instant permitting	Instant permitting is available statewide
	State has passed legislation encouraging AHJs to adopt instant permitting
	State has adopted instant permitting where state is the AHJ for certain permits
	State provides funding to support transition to instant permitting
	State allows third-party use of instant permitting, with limitations
Other efforts to streamline permitting	State has a permitting guidebook
	State promotes SolSmart to jurisdictions
	State has unified permit forms
Building codes	Statewide code, no local variation
	Statewide code, but location variations possible
Limits on review by HOAs	HOAs cannot place restrictions
	HOAs can place restrictions that do not increase costs by more than 10% or decrease output by more than 10%
	HOAs can place restrictions with clear limits
	HOAs can place restrictions with vague limits
Review criteria limited to health and safety	State prohibits review based on factors other than health and safety
Third-party and remote inspections	State requires jurisdictions to allow remote inspections (by AHJ or third party hired by installer)
	State allows both third-party inspections (hired by installer) and remote inspections, and sets the standard for who can be an inspector
	State allows third-party inspections (hired by installer), with remote inspections not necessarily explicitly mentioned, and AHJ sets standard for who can be an inspector and/or remains involved in the approval process
Single inspections	State limits AHJs to a single inspection
	Single inspection requirement applies to only a subset of projects
Permitting fees	Firm caps on fees
	Fee caps, but with exceptions
Third-party owned systems	State allows power purchase agreements and leases
	State allows only power purchase agreements
	State allows only leases

For details on the policies graded and the full and partial point options, see the methodology. AHJ means “authority having jurisdiction.”

instant permitting software for rooftop solar and home batteries, but the requirement lacks the level of specificity or enforcement needed to ensure full compliance.

- The remaining 22 states received “F” grades, meaning they have not yet started to adopt most of the policies that will make the solar installation process faster, cheaper or more efficient.

All states, from the “B” states to the “F” states, can do more to simplify and streamline the permitting and inspection process for households that wish to install rooftop solar energy systems and batteries. States should require the use of instant permitting software statewide, either by allowing third-party reviewers to use it, as Texas has, or by requiring jurisdictions to implement it, as California and New Jersey have. The 26 states that subject third-party ownership of

residential solar to utility-level regulation should follow the lead of the 24 states that have cut this red tape. Even top-ranked states can do more: For example, California, Colorado and New Jersey could streamline the inspection process.

Overall, policymakers can support residential solar power and battery storage by:

- Automating and simplifying permitting processes with the adoption of instant permitting,
- Standardizing building codes,
- Ending permitting review not related to health and safety,
- Streamlining inspections, and
- Reducing permitting and inspection costs.

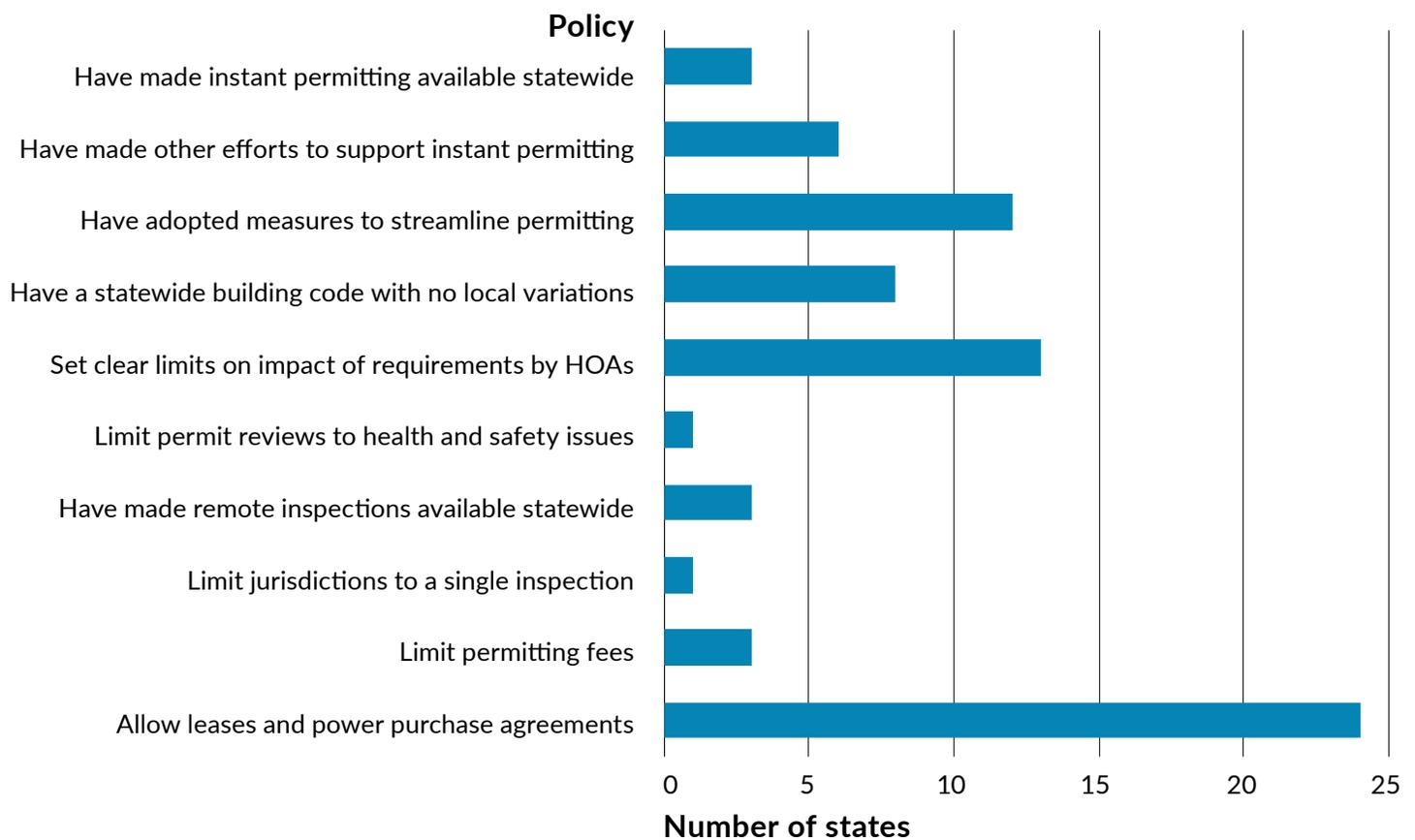


Figure ES-1. A number of states have adopted a range of policies to reduce permitting and inspection costs and delays for home solar and battery projects

Many factors influence adoption of residential solar panels and batteries

THIS REPORT LOOKS at some of the most important state-level policies that determine how much red tape families face when they try to install solar panels and batteries on their homes, but there are multiple additional factors and policies that also influence families' decisions. Additional important factors include:

- **Utility interconnection policies.** The process of requesting approval from a utility to install a home solar and/or battery system can often be expensive and time consuming. In addition, some utilities limit the ability of some homeowners to install solar and battery systems or charge them exorbitant fees for upgrading the utility's distribution grid.
- **How well jurisdictions implement existing state policies.** The impact of a statewide policy that streamlines rooftop solar and battery installations will be muted if local jurisdictions don't follow the state's requirements and if the state doesn't enforce those requirements.
- **Whether a jurisdiction's permitting is difficult or easy, independent of state intervention.** Local governments differ significantly in how they handle permits. Some offer a streamlined experience, while others remain

heavily burdened by bureaucracy, regardless of policies adopted at the state level. Hundreds of jurisdictions do not require a permit for solar and storage at all.

- **The price of electricity and the solar radiance of a location.** In a state with a combination of expensive power and abundant sunshine, homeowners will reap greater financial benefits from generating their own electricity with solar panels, and thus more families may add solar. Families in states with lower solar radiance will have less incentive.
- **How much consumers are paid for electricity and the services they provide to the grid.** If the local utility pays homeowners a fair rate for the surplus electricity they feed into the power grid and the benefits they provide to the power grid, more families will install solar panels. On the other hand, lower reimbursement rates will cause fewer households to install solar panels and batteries.

Notwithstanding these factors, it is clear that simplifying the permitting and inspection process for solar panels and batteries can make it possible for far more households to generate their own electricity.

Introduction

A QUARTER OF THE WAY through the 21st century, the U.S. electricity system is facing a number of challenges. After decades of steady demand for electricity, that demand is now growing. Our aging electrical grid is vulnerable to outages, and the cost of maintaining that system in the face of increasingly intense weather is raising costs for ratepayers. And our electricity system continues to be too reliant on polluting energy sources that threaten our health and environment.

Rooftop solar and home batteries are key solutions to many of these challenges. These technologies reduce our dependence on polluting fuels, ease strain on the grid during periods of high demand, increase resilience against threats like extreme weather, and save families money on their utility bills – all at prices that have fallen over the last decade.⁵

Today, solar panels have been safely installed on the roofs of millions of homes nationwide and hundreds of thousands of homes have batteries.⁶ Too often, though, local rules and permitting processes still treat these common technologies as novel and unfamiliar, with unknown risks to health and safety. Making matters worse, the permit review and project inspection processes are often implemented inefficiently. In many jurisdictions permit applications must be manually reviewed by busy staff in the planning department, while mandatory

inspections may entail scheduling and meeting with multiple different inspectors.

Additionally, many rules guiding the installation of solar panels and batteries have little to do with safety. Some states ensnare homeowners in rules meant to regulate large utilities, effectively blocking access to contracts in which the homeowner leases solar panels from a third party. Other rules may limit the design of a rooftop solar system to align it with a community's aesthetic standards. In some communities, a homeowners' association may be allowed to demand changes to the placement of rooftop panels that render them less effective at producing clean electricity, or ban them altogether.

Leading states are unlocking the potential of rooftop solar and home batteries by cutting regulations that unnecessarily raise the cost, reduce the efficiency, or slow the deployment of these technologies.

While most states have not updated their permitting and inspection requirements for residential solar and batteries, momentum for reform is growing. This scorecard evaluates states on roughly a dozen policies that affect the cost and speed of installing residential solar power and batteries, highlighting states that are making it cheaper and easier for their residents to incorporate rooftop solar energy and home batteries systems into their lives.

Residential solar energy and battery storage systems provide broad benefits

RESIDENTIAL ROOFTOP SOLAR – solar panels installed on or at homes – generate electricity directly where it is used. When coupled with batteries, these panels can provide electricity day and night. These distributed solar energy and battery systems benefit families and the environment by helping to keep the lights on during blackouts or extreme weather events, providing savings on energy bills, and reducing air pollution.

Rooftop solar and batteries increase electricity reliability

Residential solar energy can improve reliability for the entire electrical grid, and, when coupled with battery storage, also protect individual households when grid power goes out.

Power outages can be caused by a combination of aging electricity infrastructure, high energy demand, wildfire risk and extreme weather events (like heat waves, hurricanes, winter storms and tornadoes) that disrupt grid electricity production and distribution.⁷

Solar panels with batteries at homes can reliably provide power in many conditions even when other electricity generators aren't able to operate or when major transmission lines are down. For example, in February 2021 in Texas, a winter storm brought freezing temperatures that led to methane gas shortages at power plants and froze electricity-generating equipment, forcing the state to order rolling blackouts – leaving nearly 10 million people in the dark at one point.⁸ If solar panels had been installed on every Texas

rooftop suitable for generating power, they could have helped prevent these blackouts, potentially meeting the state's energy shortfall for 11 of the 13 days and reducing the deficit by 40 to 60% on the remaining two days.⁹

In addition to helping the broader electrical grid, solar panels and batteries can insulate individual families from the impacts of power outages.¹⁰ An estimated 63% of U.S. households could maintain some power during blackouts by installing rooftop solar panels (with special inverters), a battery, or both.¹¹ Solar panels are also highly dependable: Between 2000 and 2015, only about five panels out of every 10,000 (less than a 10th of a percent) failed annually, underscoring the energy source's reliability.¹²

Rooftop solar and batteries save families money

In many states, rooftop solar and home batteries can save homeowners money on power bills. Though homeowners may need to make a substantial initial investment, most receive long-term financial benefits and can break even after several years.¹³ In fact, depending on an area's electricity costs, a family could save between \$37,000 and \$148,000 over 25 years after installing solar panels.¹⁴ With the addition of batteries, families can save the energy harnessed by their rooftop solar panels for later, such as a cloudy day or at night, when the sun isn't shining.

The cost savings from solar energy and batteries depend, in part, on state policies. Many states offer

incentives to reduce costs associated with installation or pay an incentive based on how much electricity a system produces and the services the solar and battery system provides to the grid.¹⁵ The housing market also recognizes the value of solar panels: One study found that homebuyers across six states paid an average sales premium of \$14,329 on houses with rooftop solar systems.¹⁶

Rooftop solar and batteries decrease air pollution and water waste

Increasing electricity production from solar energy means less need for electricity produced at coal- and gas-fired power plants – and less of the environmental damage created by those generators.

Less reliance on coal and natural gas means less air pollution, such as sulfur dioxide and nitrogen oxides, which contribute to the formation of smog and haze.¹⁷ Breathing smoggy air can cause a variety of health problems, including shortness of breath, decreased lung function and greater risk of respiratory infections.¹⁸ More than 100 million Americans live in regions where they are exposed to unhealthy levels of smog.¹⁹

Solar energy also reduces climate-warming emissions produced by power plants. By installing a 5 kW solar system on a rooftop, a household can avoid about 4.5 metric tons of carbon dioxide (CO₂) emissions per year, which is about the same amount produced by one gas-powered car annually.²⁰

Solar energy also saves water. Coal- and gas-fired power plants use trillions of gallons of water to produce electricity for residential use each year in the U.S.²¹ By installing rooftop solar, an average household could therefore prevent 16,200 gallons of water from being consumed during electricity generation annually.²²

Although home batteries don't directly produce energy, they allow homeowners to save the electricity they harnessed from their rooftop solar panels for later, allowing them to power their lives with clean, locally harvested renewable energy for more hours of the day.

Permitting and inspection policies affect the cost and timeline for installation of rooftop solar panels and batteries

PERMITTING AND INSPECTION POLICIES help determine the cost and speed of projects for families wanting to add solar panels and batteries to their homes. These policies typically are adopted by counties, cities and other local jurisdictions, in accordance with rules established by the state.

Four-fifths of the costs of a typical solar energy system are “soft costs,” such as permitting, financing, marketing, labor and overhead expenses, with the panels, racking and other hardware representing only one fifth of the cost.²³ (See Figure 1.) The time and direct expenses of permitting and other bureaucratic barriers account for an estimated \$6,000 to \$7,000 for a typical residential system.²⁴ Many solar installers reported in a national survey that they either avoid jurisdictions with onerous permitting, inspection or interconnection requirements, or they charge a price premium. One-third of those who charge a premium increase their price by more than 10%.²⁵

Permitting and inspection red tape stymies families in states across the nation who are trying to add solar power and batteries to their homes. Convoluted permitting processes, criteria unrelated to safety, high permitting fees, inconsistencies between jurisdictions, and long review and inspection timelines have been documented in Arizona, Colorado, Illinois, Maryland, Minnesota, New Jersey, Texas and Virginia.²⁶

Complicated permitting requirements slow down the process of installing solar, and can cause some

households to cancel their plans entirely. Permitting delays are the largest source of project cancellations, according to a 2021 national survey of solar companies.²⁷

State and local policies can add time and expense to homeowners’ efforts to go solar – or make the process easier.

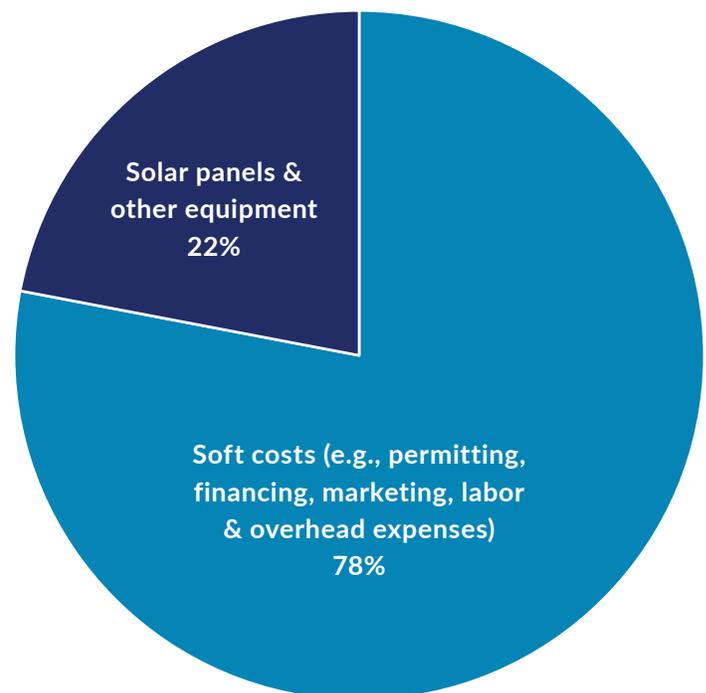


Figure 1. “Soft costs,” including permitting and inspection expenses, are larger than the cost of solar panels and other hardware²⁸

Instant permitting reduces delays and costs

In most jurisdictions, a homeowner wanting to add solar panels or a battery to their home needs to obtain a building permit from the city, county or other relevant authority. Permits are issued once the authority has confirmed that the planned project will comply with zoning laws, building codes and other regulations.²⁹ However, traditional, manual permit approval processes can take weeks or even months, driving up installers' overhead costs – costs that ultimately fall on homeowners.³⁰

Technological progress has created a new option that didn't exist until recently: instant permitting software that helps the jurisdiction review and approve residential solar and battery projects faster and more efficiently than it could with traditional methods.³¹ An instant permit review process requires the solar installer to submit detailed information about the proposed project – system design, equipment specifications, installation plans and other pertinent information – to a software platform, which evaluates the application to ensure compliance with the relevant building codes and safety standards. If the application meets all of the requirements, permit approval is granted immediately. If corrections are needed, instant permitting software can respond as soon as the installer provides additional or corrected information. With instant permitting, most applications can be approved as soon as they are complete, reducing both time and cost.

SolarAPP+, an online instant permit review platform developed by the Department of Energy, has cut approval timelines from about seven business days to zero (based on median timelines between permit submission and permit issuance).³² It is available in more than 300 jurisdictions across the country. Symbium, another instant permitting platform, is available in more than 250 jurisdictions.³³

Adoption of instant permitting can increase the number of households who can add solar energy and batteries to their homes. In Arizona, for example,

roughly 19% of residential solar projects that begin the conventional, manual permitting process are canceled prior to completion, in part because of permitting barriers. According to one estimate, 14% more families would install solar energy systems if the state required all jurisdictions to use instant permitting.³⁴

Some states require local governments to adopt instant permitting for residential solar and battery storage projects, either by providing it as a standard option available to everyone who applies for a permit or by allowing third-party permit reviewers to use instant permitting software.³⁵ Other states may provide funding to help local jurisdictions set up instant permitting or otherwise encourage its adoption.³⁶ By expediting the permitting process, governments eliminate the unnecessary red tape that slows down solar energy and battery adoption and drives up costs.

Permitting guidebooks, SolSmart designation and unified permitting forms streamline permitting processes

States can adopt other measures to streamline permitting to improve efficiency and accelerate approvals for solar energy and battery projects.

Solar permitting guidebooks provided by the state can help local governments understand the best practices for permitting and inspections. These guides often contain information, tools and step-by-step instructions that support local jurisdictions in adopting the most efficient practices for permitting solar energy projects.³⁷ Guidebooks can also increase consistency between jurisdictions. However, unless the state requires recommendations in the guidebooks to be used, there is often little adoption.

Some states also encourage local governments to participate in SolSmart, a national program that offers technical assistance and implementation of best practices to expand solar energy adoption in localities.³⁸ SolSmart outlines actionable steps across categories such as permitting and inspection, planning and zoning, and community engagement.³⁹ Recommended improvements in permitting and inspection include

simplifying permit applications, training staff and establishing clear inspection procedures. The impact of these policies can be significant: Communities that have adopted solar-friendly policies and qualified for SolSmart designation experience an 18% to 19% increase in installed solar capacity.⁴⁰

Adopting a statewide, unified permitting form is another strategy for simplifying the solar permitting process. Such a form may consolidate all necessary permits – such as building and electrical – into a single submission.⁴¹ A standardized permit application form means that solar and/or battery installers know what information to include in their application. This minimizes administrative burdens involved in completing and tracking multiple permit applications.

Statewide building codes reduce variation between jurisdictions that add to costs

Building codes are rules governing how buildings are designed and constructed to protect safety and health.⁴² These codes govern aspects of solar panel and home battery installation, including electrical and structural safety and fire prevention.⁴³

States do not develop building codes from scratch. Instead, if they have a code, they typically rely on a model code developed by a national organization with expertise in building design and construction. These codes are updated every three years.

Even if permitting and building oversight is carried out by local jurisdictions, a state may adopt one building code that all localities must enforce. In other cases, a state may adopt a code but allow local governments to amend the code as they see fit, to amend only with more restrictive versions, or to set their own codes entirely.⁴⁴ Some states do not have any statewide code.

Lack of consistency from one jurisdiction to another within a single state has downsides. A 2021 article evaluating the economic impacts of building codes across the building industry overall found that the “unevenness of state and local building codes may be a greater source of compliance costs than their existence in general.”⁴⁵ For installers of residential

solar energy and battery systems, variation adds costs and complexity because they must keep track of code requirements from one city to another and design each project accordingly. If the code variation is great enough, installers may need to use different equipment in different jurisdictions.

Limits on the role of homeowners’ associations reduce delays and costs

In many neighborhoods, homeowners’ associations (HOAs) use contractual agreements like covenants, conditions or restrictions to regulate how residents can use or modify their properties.⁴⁶ Homeowners who violate these agreements could face fines, loss of access to common areas, or even legal action.⁴⁷

These agreements may hinder residents from easily or affordably installing solar panels or home batteries on their own properties. Associations can restrict where panels can be placed, dictate their appearance, or in some instances reject proposals entirely.⁴⁸ Commonly, associations mandate that solar panels be mounted parallel to the roof (instead of at a different angle that might maximize exposure to sunlight), require all equipment to match the color of the roof, forbid ground-mounted solar panels, or order that equipment not be visible from the street.⁴⁹ Such restrictions, which have nothing to do with health or safety, can delay solar projects for months as homeowners go through the HOA approval process, and can increase installation costs or reduce energy output, preventing homeowners from fully reaping the benefits of rooftop solar and battery storage and causing some to simply walk away from the project.⁵⁰

In response, some states have enacted laws that limit how much input community associations – such as homeowners’ associations and cooperative housing agreements – have regarding the placement and design of residential solar panels.⁵¹ Some states prohibit associations from banning solar but allow them to impose “reasonable restrictions.” In some states, “reasonable restrictions” are broadly defined as rules that don’t significantly raise costs or reduce a system’s performance in producing energy.⁵² In other cases, the

definition is more precise, with explicit thresholds on cost and efficiency changes. For example, Michigan prohibits restrictions that increase solar costs by over \$1,000 or decrease the system's production of electricity by more than 10%.⁵³ By setting these limits, solar access laws help reduce the impact of burdensome and prohibitive association rules and opaque approval processes on homeowners wishing to add solar panels and batteries to their homes.

Focusing permit review criteria on health and safety speeds up review

During the permit review process, local governments may seek to assess proposed solar energy projects on factors other than their impact on health and safety. This may include reviewing features like the color of solar panel frames and hardware, whether conduits and panel boxes match the house color, or the visibility of panels from the street.⁵⁴ These criteria are not related to system safety or performance – they're visual considerations. If such requirements dictate the placement of panels, they can reduce the total energy collected by the systems and curb residents' potential savings on energy costs.⁵⁵ In addition, negotiating over the appearance of a proposed system to obtain approval can add months of delay to a project.⁵⁶ Such review may be justified to protect the visual integrity of a historic district, but when extended across entire jurisdictions it will increase costs and delays significantly, often based on subjective aesthetic criteria.

States can protect residents from such rules by explicitly prohibiting local governments from evaluating rooftop solar installations on criteria unrelated to health and safety. California, for instance, bars local jurisdictions from imposing “design review for aesthetic purposes” on solar projects, calling these reviews “unreasonable barriers to the installation of solar energy systems.”⁵⁷ The state limits the review of a proposed solar project to “whether it meets all health and safety requirements of local, state and federal law. The requirements of local law shall be limited to those standards and regulations necessary to ensure that the

solar energy system will not have a specific, adverse impact upon the public health or safety.” This measure removes an unwarranted obstacle for residents wanting to install solar at their homes.

Remote inspections and inspections by third parties reduce delays

The government authority that issues a permit for a solar or a home battery project will also inspect the project to confirm that it complies with all elements of the building code and the conditions of the permit. Inspections are typically completed by an employee of the authority or a third party hired by the authority.⁵⁸ Historically, inspections have been conducted in person at the project site: A building inspector, electrical inspector and also perhaps a fire inspector come to the home to look at the electrical panel, wiring, panel mounts and other components of the installation.

For an in-person inspection, the installer often needs to have a staff person on site when the inspector arrives. An inspection may be scheduled for a two- or four-hour window, however. That means the installer is paying a qualified employee but not able to assign them to an active installation project.

Thanks to technological advances, inspections can now be conducted remotely. An inspection can be live, with the installer on site providing a live video stream to an off-site inspector.⁵⁹ Alternatively, an inspection can be asynchronous, with the installer submitting photos and video for the inspector to view later. Remote inspections allow inspectors to complete inspections on faster timelines – sometimes even performing the inspection on the same day the installer requests it – removing delays that slow the installation process.⁶⁰

Another option for reducing inspection delays is to allow homeowners and installers to hire an authorized third-party inspector. This inspector may have more availability than an inspector from the permitting authority. In addition, third-party inspectors can be authorized to perform inspections remotely, further reducing delays.

Caps on the number of inspections reduce delays

An inspection by the permitting authority or another inspector is often a required final step in the solar panel and battery installation process. Many jurisdictions carry their own requirements for inspection procedures: Some mandate separate building and electrical inspections, or require one inspection while a project is under construction and another once it is completed.⁶¹ Each inspection adds costs and delays. The installer must schedule the inspection, pause work until that stage of construction receives approval, and perhaps assign an employee to wait on site for the inspector during the scheduled inspection period. Waiting for numerous inspections prolongs the process and raises costs.

States can reduce this problem by limiting jurisdictions to one inspection per project (unless the project fails that inspection). For example, California orders that just a single inspection shall be required for solar panel installations.⁶² This policy reduces waiting periods within the permitting process, especially delays associated with scheduling multiple rounds of inspections.

Limits on permitting fees reduce costs for homeowners

Fees charged by a building department for issuing a permit for rooftop solar panels or batteries add to the cost of putting these systems on a home. Jurisdictions take different approaches to setting permitting fees, such as charging a percentage of the total cost of the project, charging for every hour of staff time spent on review, or using a set fee structure. In some jurisdictions, permitting fees can be more than \$1,000.⁶³ The high degree of variance in fees between neighboring jurisdictions for similar projects creates difficulties for solar installers in setting expectations for customers and suggests that jurisdictions with higher fees can reduce them to be in line with jurisdictions that charge lower fees.

The states that are most supportive of residential solar and home batteries have set firm caps on permitting fees, prohibiting jurisdictions from charging more than a certain amount for a permit.⁶⁴ Other states have softer restrictions, such as precluding jurisdictions from basing

fees on factors unrelated to the cost of permitting services.⁶⁵ Caps on permitting fees for solar energy and battery projects can make the construction process less expensive, putting solar and batteries in reach for more residents. Unfortunately, many states have no limits on fees.

Exempting third-party ownership arrangements from regulation as utilities avoids red tape

Third-party ownership and financing of solar panels and batteries increases access to solar by reducing or eliminating the large initial investment required of homeowners.⁶⁶ However, in some states, third parties who own solar panels located on a customer's roof may meet the definition of a "utility" and become subject to the same regulatory oversight as electric utilities serving thousands or even millions of customers via the grid. In states where this is the case, third-party ownership arrangements are effectively impossible.

Third-party ownership means a solar company owns and maintains the physical infrastructure – the solar panels and batteries – located on a homeowner's property. Homeowners receive the benefits in one of two ways: The homeowner can lease the system itself or purchase the energy the system produces through a power purchase agreement (PPA).

Under a solar lease, a homeowner pays a fixed amount for the system per month, including the right to the electricity generated by the panels.⁶⁷ Under a PPA, the homeowner purchases the electricity by the kilowatt-hour, typically at a rate lower than prevailing utility rates.⁶⁸

Some states explicitly exempt solar PPAs or lease arrangements from their definition of utility energy sales, thus giving homeowners access to these financing tools. (The exemption requirement applies in areas overseen by state utility regulators, which monitor private, investor-owned utilities, and not in areas with municipal utilities, which may continue to set their own rules governing third-party ownership.) Other states, however, still treat third-party arrangements as regulated utility transactions.⁶⁹ Doing so entangles homeowners in red tape that puts alternative financing methods for rooftop solar and home batteries out of reach, effectively prohibiting PPAs or leases.

Grading states on their solar energy and battery permitting and inspection policies

ENVIRONMENT AMERICA Research & Policy Center and Frontier Group evaluated each state's policies that affect the speed and expense of obtaining approval for residential solar panels and batteries for single-family homes. We looked for statutes and administrative rules, as well as materials posted on official websites. We did not attempt to evaluate how well these state policies have been implemented.

Our review found that a majority of states have done little to adopt common-sense permitting and inspection practices that reduce costs and delays for families wishing to install solar energy systems. Only two states – California and Texas – received a “B” in our scorecard, two received a “C,” 24 received a “D” and the rest received an “F.” See the methodology for the full details of the analysis, Appendix A for a detailed scorecard, and Appendix B for a state-by-state explanation of the policies we found.

A states

No states received an “A” grade.

B states

Two states received “B” grades: California and Texas. Both have made significant efforts to streamline the process of installing rooftop solar and home batteries by eliminating unnecessary barriers that drive up costs, prolong timelines, and limit solar adoption – but their strategies differ. California has established statewide guidelines to ensure that jurisdictions make rooftop solar and home batteries accessible, while Texas has provided more flexibility directly to homeowners and installers.

Both states are making permitting and installation more efficient. California requires most jurisdictions to use instant permit review software, while Texas allows installers to hire licensed third parties to review permit applications for home backup power systems, including rooftop solar and home batteries. (See Appendix B for citations.) Those third parties are allowed to use instant permit review software.

Both states have established a statewide building code, a choice that can bring a degree of uniformity to the standards installers must comply with. However, both California and Texas permit local government authorities to adopt amendments to these codes, a flexibility that can make the permitting process more complicated.

Both states have adopted policies that reduce the cost of going solar. By allowing third-party financing through PPAs and lease arrangements, they create an opportunity to reduce the high upfront costs that can deter residents from installing solar panels. The states also limit the fees municipalities may charge for solar permits and inspections, though they take different approaches. California imposes firm caps on fees, but allows a jurisdiction to exceed them if it issues a written finding and adopts a resolution or ordinance providing “substantial evidence of the reasonable cost to issue the permit.” Texas doesn't set a fixed cap on fees, but prohibits jurisdictions from basing fees on factors unrelated to the cost of permitting and inspection.

Residents in each state have only limited protections against HOA restrictions on solar installations. California allows HOAs to impose “reasonable restrictions” on planned solar panels, so long as those restrictions do not increase the system cost by more than \$1,000 or decrease its efficiency by more than 10%. Similarly, HOAs in Texas may limit where solar panels can be placed unless the homeowner can show that an alternate location would increase production by 10% or more.

California has taken a few additional steps to remove barriers to rooftop solar energy and battery adoption. The state prohibits jurisdictions from reviewing permits for reasons not related to health or safety, eliminating subjective visual criteria. It also prevents local governments from requiring multiple rounds of inspections for projects that involve only solar panels and that were permitted in accordance with the state’s solar permitting guidebook. Additional inspections are still allowed for projects that were approved with instant permitting or that include batteries.

Both states still have opportunities to further streamline the permitting process by increasing the uniformity of building codes, fully restricting the ability of HOAs to block or force changes to proposed solar energy projects, and requiring remote inspections. Additionally, Texas could set a firm fee cap on how much jurisdictions can charge for permit applications and California could close the loophole that allows jurisdictions to increase their fee, limit the number of inspections required for projects approved with instant permitting or that have a battery, and provide installers with the option to use remote inspections. Both states could also improve enforcement of existing rules.

TABLE 1. STATES THAT RECEIVED A “B”

State	Total points	Grade
California	75	B
Texas	62	B

C states

Only New Jersey and Colorado received “C” grades. Both states have begun to streamline the permitting process for rooftop solar and home batteries and to eliminate some red tape. However, both could do more to remove barriers.

New Jersey is working to increase the efficiency of permitting by developing an instant permitting platform for solar panels, batteries and other system components, as required by legislation adopted in late 2025. Jurisdictions will need to use the state instant permitting platform or adopt a comparable alternative. Once implemented, this will allow households to obtain permits without delay. New Jersey has also adopted a uniform building code that is not subject to local amendments. Together, these measures create a consistent framework for solar permitting, construction and inspection across the state.

The Colorado Department of Regulatory Agencies, which issues electrical permits for solar energy and battery projects in many jurisdictions across the state, has adopted instant permitting. To encourage other jurisdictions that do their own permitting to implement instant permitting, the state has established a grant program to help cover transition costs. The grant program began making awards in 2024 and will continue until 2033, with the size of the award related to the population of the jurisdiction. Colorado is also the only state in the nation that has set a firm cap on the permit fees that jurisdictions can charge. Permit fees for residential solar energy systems must be the lesser of the local government’s actual cost of issuing the permit or \$500.

Both New Jersey and Colorado have made efforts to reduce hurdles involving utility regulation and homeowners’ associations. Both allow third parties to finance solar installations through PPAs or lease agreements, thereby reducing upfront expenses that make going solar costly. Both also block HOAs from establishing rules that would increase panel installation or maintenance costs by 10% or reduce a system’s efficiency below its intended maximum, allowing residents to fully benefit from their solar investments.

Despite this progress, both states still create red tape that makes solar and home battery installation more expensive and time consuming than it needs to be. To address this, Colorado could require jurisdictions that do their own permitting to implement instant permitting or allow installers to hire third-party reviewers who can use instant permitting. New Jersey could impose firm, statewide caps on permit fees to eliminate some unnecessary costs associated with solar permitting. Both states could require jurisdictions to allow third-party and remote inspections, and limit projects to a single inspection, cutting down on administrative delays. Finally, both states could prohibit jurisdictions from reviewing permit applications based on aesthetic considerations.

TABLE 2. STATES THAT RECEIVED A “C”

State	Total points	Grade
New Jersey	58	C
Colorado	48	C

D states

Compared to the B and C states, the 24 states that received “D” grades have done less to address the red tape in their permitting and inspection processes. Unlike “B” and “C” states, “D” states lack statewide policies on the use of instant permitting. These states have taken a variety of initial steps to reduce red tape but still have significant room for improvement.

“D” states have adopted some initiatives to reduce red tape and thus make solar and home battery installation less expensive. Eighteen of the states allow third-party ownership agreements without triggering utility-regulation laws, while the other six allow leases but not PPAs.

Seven states limit the requirements HOAs can impose on residential solar installations, although their protections vary. Illinois, Maryland, Minnesota,

Michigan, Nevada, New York and Virginia set firm, quantified limits on how much HOAs rules may impact costs or efficiency. The rest of the “D” states have weaker or no protections.

Six states – Connecticut, Maine, Michigan, Minnesota, Rhode Island and Virginia – have established statewide building codes without allowing any local amendments.

Only three states have caps on permit fees. Arizona and Michigan authorize fees only with reasonable relation to the costs of services relating to permitting, while Nevada limits fees to an inflation-adjusted amount based on a state-set baseline, unless the jurisdiction can show that its costs are higher.

On the whole, “D” states have not done much to simplify permitting procedures. Maryland adopted legislation in 2024 that requires jurisdictions to use instant permitting software for rooftop solar and home batteries, but the requirement has a large loophole that has resulted in low compliance. Maryland, Minnesota and Washington provide or have provided financial assistance to support jurisdictions that want to adopt instant permitting, but without a statewide requirement to deliver permits instantly too few jurisdictions have done so. Connecticut, Massachusetts, Michigan and New York have published guidebooks to help local governments streamline solar permitting and inspections, but few jurisdictions have adopted their voluntary recommendations.

“D” states have many opportunities to make the installation process faster and less expensive, starting with requiring instant permitting. The majority have not done anything to allow inspections by private, third-party inspectors or to allow remote inspections. Further, these states could require jurisdictions to limit projects to a single inspection and prohibit jurisdictions from considering factors other than those that affect health and safety when issuing permits.

TABLE 3. STATES THAT RECEIVED A “D”

State	Total points	Grade
Maryland	39	D
Michigan	35	D
Minnesota	34	D
Rhode Island	29	D
Connecticut	28	D
New Hampshire	28	D
New York	28	D
Virginia	28	D
Florida	27	D
Massachusetts	27	D
Nevada	27	D
Washington	27	D

State	Total points	Grade
Maine	24	D
Utah	24	D
New Mexico	23	D
North Carolina	23	D
Georgia	22	D
Hawaii	22	D
Arizona	21	D
Delaware	20	D
Illinois	20	D
Ohio	20	D
Oregon	20	D
Vermont	20	D

F states

The remaining 22 states received “F” grades, indicating they have many pathways to make the solar installation process faster, cheaper or more efficient.

None of these states have meaningfully improved their permitting procedures. No “F” state requires, funds or encourages instant permitting. Only Wisconsin has created a voluntary uniform permit form, while none of the rest have a permit guidebook or promote SolSmart to their jurisdictions. Further, not a single “F” state has banned review of aesthetic criteria for solar projects.

Red tape persists throughout “F” states’ inspection processes. No states limit jurisdictions to a single inspection, and none support third-party or remote inspections.

While a majority of “F” states have state building codes that provide an element of standardization, only Louisiana prohibits local amendments outright. Seventeen others allow jurisdictions to modify the statewide code, introducing variation and complexity in solar installation procedures.

Iowa and Pennsylvania allow third-party financing of solar panels through both PPAs and lease arrangements; seven states allow leasing only, West Virginia allows only PPAs.

In general, “F” states have made minimal progress toward reducing barriers to solar and home battery adoption, leaving residents and installers to navigate slow, costly and inefficient installation procedures. Yet these gaps point to where states have opportunity for significant improvement.

TABLE 4. STATES THAT RECEIVED AN “F”

State	Total points	Grade
Pennsylvania	18	F
Iowa	14	F
West Virginia	13	F
Mississippi	11	F
Montana	11	F
Nebraska	11	F
North Dakota	11	F
Oklahoma	11	F
South Carolina	11	F
Louisiana	10	F
Wisconsin	9	F

State	Total points	Grade
Arkansas	8	F
Kansas	7	F
Idaho	6	F
Alabama	4	F
Indiana	4	F
Kentucky	4	F
South Dakota	4	F
Tennessee	4	F
Wyoming	4	F
Missouri	2	F
Alaska	0	F

Policy recommendations

STATE GOVERNMENTS SHOULD remove the many obstacles that limit families' ability to install solar panels and batteries at their homes.

Leading states have adopted policies that reduce or eliminate costs and delays. They've demonstrated how state governments can make it easier and less costly for families to install solar panels and batteries.

States should adopt the policies identified in this report to streamline the permitting and inspection process for residential solar energy and battery systems. These policies include:

Automate and simplify permitting processes by requiring instant permitting. States can simplify the permitting process with several approaches that enable homeowners to get permits for solar and battery projects instantly. For example, California requires most jurisdictions to adopt software that automates the review and issuance of a solar and battery permit. Recent legislation in New Jersey requires the state to adopt software that similarly automates the review and issuance of a solar and battery permit, and requires local governments to adopt the state's platform or deploy their own equivalent platform. Texas accomplishes a similar goal by giving installers of solar systems and home batteries the option of hiring a licensed third party to review permit applications, thereby avoiding delays in busy permitting offices; third-party reviewers have the option of using instant permit review software.

Standardize building codes. States can reduce the variation between jurisdictions that solar companies contend with by standardizing building codes statewide.

End permitting reviews not related to health or safety. Reviewing permit applications based on factors other than health or safety creates uncertainty, delays and increases costs as installers spend additional time navigating the requirements in different jurisdictions. States can solve this problem by removing homeowners' associations from any role in reviewing proposed solar energy and battery projects and by banning jurisdictions from considering criteria not related to health or safety (with limited exemptions, such as for historic districts).

Streamline inspections. States should streamline inspections, including by limiting the number of inspections and allowing remote inspections and third-party inspections. North Carolina requires jurisdictions to develop criteria and procedures for remote conduct of "certain inspections as required by the North Carolina State Building Code," a criterion that appears to include solar and battery systems, while Florida allows installers to hire a third-party inspector and explicitly says that the inspector may conduct a remote inspection of residential solar energy and/or battery systems. California limits jurisdictions to a single inspection once solar panels are installed, banning inspections during the construction process. (California doesn't ban multiple inspections for battery projects, though.)

Reduce costs. States can directly reduce costs by setting a cap on permitting fees for solar and home battery projects, or requiring the fees be linked to the amount of government staff-time involved in reviewing permits. States can ban jurisdictions from charging fees that are based on the value of a project. In addition, states can legalize third-party ownership arrangements, such as power purchase agreements and leases, that help reduce the up-front cost of solar energy and battery systems for homeowners.

Methodology

WE EVALUATED STATES for the policies that they have adopted through legislation or regulation as of December 31, 2025, that apply to single-family residential solar panels and batteries statewide. We did not evaluate whether these policies are followed or enforced, and our evaluation includes recently adopted policies that have not yet been fully implemented.

To identify policies in each state, we searched the web, using multiple search terms to identify statutes, regulations and resources that might lead us to specific policies or regulations. Except where noted, we confirmed policies by finding the relevant statute or regulation. In some cases, before we concluded that a state did not have a particular policy that reduces red tape, we searched for evidence that the opposite was happening in the state (e.g., if we did not find a policy limiting jurisdictions to a single inspection of solar projects, we then looked for evidence that jurisdictions perform multiple inspections).

A table listing the full and partial points available in each category is provided at the end of the methodology.

Instant permitting

We looked for two general categories of state policies regarding instant permitting: 1) policies that ensure solar installers statewide have access to instant permitting for residential solar energy and battery projects (either because the state requires jurisdictions to use instant permitting or because installers may hire third-party reviewers who use instant permitting), and 2) policies that encourage but do not require instant permitting.

Instant permitting in all jurisdictions

A statewide requirement that all jurisdictions allow instant review of permits for residential solar energy projects is a relatively new policy, one that has been adopted in only a handful of states.

Full credit:

- State requires jurisdictions to adopt instant permitting for review of residential solar photovoltaic (PV) projects, including those with a battery; or
- State requires jurisdictions to use a state-created instant permitting platform (or a comparable alternative) for residential solar PV projects, including those with a battery; or
- Third-party permitting is allowed at the discretion of the installer/homeowner, the state allows the third party to use an instant permitting platform or tool, the state sets standards for who is qualified to be hired as a third-party reviewer, and construction can begin once the authority having jurisdiction (AHJ) is notified that the permit has been approved.

Encouraging instant permitting

To identify states that have adopted policies supportive of instant permit review for residential solar systems, we started with states where at least one jurisdiction uses the SolarAPP+ instant permitting tool, on the theory that the state may have encouraged the jurisdiction's adoption of the tool. We performed web searches for "solar automated permitting," "rooftop solar instant permitting," "solar automated permitting grant," and "SolarAPP grant" combined with "[state] energy office."

Partial credit (not available to states that received full credit above):

- State has passed legislation encouraging jurisdictions to adopt instant permitting for residential solar and/or batteries, and the legislation is separate from a grant program; and/or
- State has adopted instant permitting where the state is the authority having jurisdiction for certain permits; and/or
- State provides or has provided funding for AHJs to adopt instant permitting for residential solar projects, either from state funds or through a federal grant; funding must have been provided in 2024, 2025 and/or be ongoing; and/or
- State statute allows third-party permittees to use instant permitting tools for residential solar projects, but
 - The jurisdiction must give approval before construction can begin, or has the ability to object to the third-party reviewer’s decision; OR
 - The local jurisdiction, rather than the state, sets standards for who can be hired as a third-party reviewer (local standards create more variation for solar/battery installers who work in multiple jurisdictions).

No credit: No evidence of any requirement or incentive for instant permitting.

Other permitting policies and practices

We examined three criteria within the general category of streamlined permitting. States received full credit for these policies if they received full credit for requiring instant permitting.

Permitting guidebook

We looked to see if the state has invested resources, either funding or staff time, in producing a guidebook for local governments to explain how they can simplify the permitting process and facilitate adoption of rooftop solar. The guidebook has to include information about residential PV systems, be directed at local governments rather than consumers, and include more than a model ordinance. The guidebook can have been written by a third party, but it must have the name of a state agency

on it or acknowledge that it involved state resources. We searched the web for “solar permitting guidebook,” “residential solar permitting guidebook” and “solar permitting guidebook for local governments” for each state before we concluded that the state did not have a permitting guidebook.

Full credit: State has a permitting guidebook that meets the criteria above. We included guidebooks regardless of their age.

No credit: We could not find a qualifying guidebook.

State promotion of SolSmart

We searched for evidence that the state promotes SolSmart to local governments. This ranged from explicit encouragement for cities to apply for SolSmart designation to inclusion of SolSmart on a list of additional resources. We searched “SolSmart,” “SolSmart guide,” “agency SolSmart” and “government SolSmart” coupled with each state’s name before we concluded that the state did not promote SolSmart.

Full credit: We found evidence that the state promotes SolSmart to its jurisdictions.

No credit: We could not find evidence that the state promotes SolSmart.

Unified permit application

We sought a standardized statewide permit application that solar and/or battery installers could use when applying for a permit for a residential solar energy project. Depending on the state, we found statewide forms for solar, electrical or building permits. We did not give credit where states provided a list of links to various local permits. We searched the web using at least four different terms for each state before we concluded that the state did not have a unified permit application.

Full credit: We found a standardized statewide form as described above. In some states, local jurisdictions may not be required to use the form.

No credit: We could not find evidence of a uniform statewide form as described above.

Building codes

We based our assessment of residential building codes on U.S. Department of Housing and Urban Development, *Resilient Building Codes Toolkit, Appendix B: State-by-State Amendment Procedures, 2022*, available at <https://files.hudexchange.info/resources/documents/Resilient-Building-Codes-State-by-State-Governance-Supplemental.pdf>.

We simplified building codes into a few categories, though codes are complex and show great variation from state to state. Standardized statewide building codes are simpler for installers to deal with. When states allow local variations in building codes, installers must keep track of more information and potentially even use different equipment to meet local requirements.

Full credit: Statewide code.

Partial credit: Statewide code, but local variations are allowed.

No credit: State does not have a uniform safety code.

Role of homeowners' associations

We concluded that a state did not have a policy limiting the influence of HOAs on the installation, placement and/or appearance of solar PV systems if the state did not appear in two lists of HOA solar regulations (Jillian Block and Matthew Willis, Kansas Legislative Research Department, *State Regulations of Homeowners Association's Abilities to Restrict Solar Panels, 2024*, available at <https://klrd.gov/2024/02/01/state-regulations-of-homeowners-associations-abilities-to-restrict-solar-panels/>, or Andrew Blok, Palmetto Solar, *Solar Access Laws by State: Can Your HOA Stop Your Solar Panels?*, July 2025, available at <https://palmetto.com/policy/solar-access-laws-by-state>). We then did an additional web search to confirm the absence of a statute.

Full credit: HOAs are prohibited from restricting or modifying the installation of residential solar energy, with or without a battery.

Partial credit:

- High partial: HOA restrictions cannot reduce efficiency by more than 10% or increase cost by more than 10%.
- Medium partial: HOA restrictions are subject to some clear, specific efficiency or cost protections but HOAs have more leeway than in criteria above.
- Low partial: Protections are vague (e.g., “cannot unreasonably affect” cost or efficiency).

No credit: State sets no limits on role of HOAs regarding solar energy and/or batteries.

Limits on aesthetic considerations

To find policies that limit review of solar energy and battery projects on aesthetic criteria, we used various queries in Google search for each state, such as “[state] solar aesthetic review,” “[state] solar aesthetic design review statute” and “[state] solar architectural review process.”

Full credit: State statute explicitly prohibits review of factors other than health and safety. We would have given full credit for a policy that exempts historic districts.

No credit: State does not prohibit review of residential solar and/or batteries for reasons other than health and safety.

Third-party and remote inspections

To find out about third-party and remote inspection policies, we searched using terms including “remote solar inspection,” “virtual inspection” and “third-party inspection.” We also used Google’s Gemini AI tool to search for “third-party inspection residential construction statute,” “private inspection residential solar statute” and “independent inspection rooftop solar statute” for each state. We conducted additional searches if any results looked promising.

We included policies that apply to all construction projects, and excluded policies that relate only to modular or off-site construction.

Full credit:

- State requires the option of remote inspections (by the authority having jurisdiction or a third party hired by the solar/battery installer); or
- State allows inspections by a third party hired by the solar/battery installer, allows remote inspections, AND the state sets the standard for who can be a third-party inspector. (Allowing local jurisdictions to determine who can be an inspector adds complexity for solar/battery installers because the list of approved inspectors will be different in each location.)

Partial credit: State allows inspections by a third party hired by the solar/battery installer and may allow a remote option BUT local jurisdictions set the standard for who can be a third-party inspector OR retain the ability to reject the third-party inspector's decision. (Requiring or allowing the authority having jurisdiction to review the completed inspection adds delays.)

No credit: State is silent on the questions of remote inspections and on third-party inspections. Remote inspections may be happening in certain jurisdictions in these states, but we could not find evidence that state policy explicitly allows it.

Number of inspections

We identified which states limit the number of inspections performed on rooftop solar and battery installations by searching for policies that place limits and also ruling out states that clearly allow multiple inspections. We performed at least four web searches for each state, including the terms “single inspection,” “single solar inspection,” “single building inspection” and “solar inspection laws,” and followed up on promising results as appropriate.

If we could not find a policy limiting the number of inspections, we searched for evidence that multiple inspections happen. We looked for:

- A state website or other document that mentioned either a requirement for multiple inspections or a described a process involving multiple inspections; and/or

- A local jurisdiction's website detailing a permitting process that included multiple inspections; and/or
- A third-party resource (e.g., rooftop solar installer) that indicated the process requires multiple inspections.

Full credit: State limits the authority having jurisdiction to a single inspection of a solar PV and battery project. (A project that fails its initial inspection can be inspected again.)

Partial credit: State limits the authority having jurisdiction to a single inspection of a solar PV project, but does not limit the number of inspections for projects that include batteries.

No credit: The state does not limit the number of inspections.

Permitting fees

We looked for policies that limit how much money AHJs can charge for review and other activities related to permits for residential solar energy and battery projects. We relied on web searches for each state, using terms including “solar permitting fee caps,” “building permitting fee limits,” and “solar permit fee limit.”

Full credit: State has a firm fee cap.

Partial credit: State has a firm cap on fees, except that jurisdictions are allowed to exceed the state's fee cap if their costs are higher than the cap.

No credit: We could not find a statute that sets a limit on permitting fees.

Limits on third-party ownership in private utility territory

We relied on the assessment of third-party ownership policies governing private utilities presented in Ingrid Behrsin, Institute for Local Self-Reliance (ILSR), *The 2025 Community Power Scorecard*, February 19, 2025, available at <https://ilsr.org/article/energy-democracy/2025-community-power-scorecard/>. ILSR examined state policies regarding third-party financing and power-purchase agreements (PPAs) for residential rooftop solar energy. ILSR also noted whether those

options were available to all entities interested in rooftop solar or just to some (e.g., schools, nonprofits). We translated ILSR’s grading scale as follows:

- 6 points: Leases and PPAs available to all entities.
- 5 points: Leases and PPAs available to some entities. We gave this full credit in our scoring system if these third-party ownership options were available to residential customers.
- 3 points: State allows leases or PPAs, but not both.

We confirmed this interpretation by looking at ILSR’s detailed policy tracking spreadsheet, rather than relying solely on the assigned points.

Full credit: State allows both PPAs and leases for residential rooftop solar.

Partial credit: State allows only PPAs or only leases for residential rooftop solar.

No credit: State does not allow PPAs or leases for residential rooftop solar statewide.

Points assigned to each policy

The table below explains how many points we assigned to each policy that received full or partial credit. AHJ means “authority having jurisdiction.”

Policy category	Full credit options	Full credit points	Partial credit options	Partial credit points	Notes
Instant permitting	State requires instant permitting for solar and batteries	30	State has passed legislation encouraging AHJs to adopt instant permitting	10	Partial credit points are available only if the state does not receive full credit. States can receive credit for more than one policy, but only up to 15 partial credit points are allowed
	State has created an instant permitting platform and requires the use of it or a comparable alternative		State has adopted instant permitting where state is the AHJ for certain permits	10	
	State allows third-party reviewers to use instant permitting, state sets standards for who can be a third-party reviewer, and construction can begin once the AHJ is notified		State provides funding to support transition to instant permitting	10	
			State allows third-party use of instant permitting, with limitations	10	
Other efforts to streamline permitting			State has a permitting guidebook	4	Partial credit points are available only if the state has not adopted instant permitting; states with instant permitting do not need these policies. States can receive points for more than one policy
			State promotes SolSmart to jurisdictions	3	
			State has unified permit forms	3	

Policy category	Full credit options	Full credit points	Partial credit options	Partial credit points	Notes
Building codes	Statewide code, no local variation	8	Statewide code, but location variations possible	4	
Limits on review by HOAs	HOAs cannot place restrictions	10	HOAs can place restrictions that do not increase costs by more than 10% or decrease output by more than 10%	6	
			HOAs can place restrictions with clear limits	4	
			HOAs can place restrictions with vague limits	2	
Review criteria limited to health and safety	State prohibits review based on factors other than health and safety	10			
Third-party and remote inspections	Requires AHJs to allow remote inspections (by AHJ or third party hired by installer)	10	Allows third-party inspections (hired by installer), remote not necessarily explicitly mentioned, AHJ sets standard for who can be an inspector and/or remains involved in the approval process	4	
	Allows third-party inspections (hired by installer) with remote inspections and state sets standard for who can be an inspector				
Single inspections	State limits AHJs to a single inspection	8	Single inspection requirement applies to only a subset of projects	4	
Permitting fees	Firm caps on fees	10	Fee caps, but with exceptions	7	
Third-party owned systems	Power purchase agreements and leases allowed	14	Only power purchase agreements allowed	7	
			Only leases allowed	7	

Appendix A: State permitting and inspection scorecard

Instant permitting										
State	Total points	Grade	Full credit options				Partial credit points are available only if the state does not receive full credit, and only up to 15 partial credit points are allowed			
			30	30	30	10	10	10	10	10
Alabama	4	F	State requires instant permitting for solar and batteries	State has created an instant permitting platform and requires the use of it or a comparable alternative	State allows third-party reviewers to use instant permitting, state sets standards for who can be a third-party reviewer, and construction can begin once the AHJ is notified	State has passed legislation encouraging AHJs to adopt instant permitting	State has adopted instant permitting where state is the AHJ for certain permits	State provides funding to support transition to instant permitting	State allows third-party use of instant permitting, with limitations	0
Alaska	0	F	0	0	0	0	0	0	0	0
Arizona	21	D	0	0	0	10	0	0	0	0
Arkansas	8	F	0	0	0	0	0	0	0	0
California	75	B	30	0	0	0	0	0	0	0
Colorado	48	C	0	0	0	0	10	10	0	0
Connecticut	28	D	0	0	0	0	0	0	0	0
Delaware	20	D	0	0	0	0	0	0	0	0
Florida	27	D	0	0	0	0	0	0	10	10
Georgia	22	D	0	0	0	0	0	0	0	0
Hawaii	22	D	0	0	0	0	0	0	0	0
Idaho	6	F	0	0	0	0	0	0	0	0
Illinois	20	D	0	0	0	0	0	0	0	0
Indiana	4	F	0	0	0	0	0	0	0	0

Instant permitting									
State	Total points	Grade	Full credit options			Partial credit points are available only if the state does not receive full credit, and only up to 15 partial credit points are allowed			
			30	30	30	10	10	10	10
Iowa	14	F	State requires instant permitting for solar and batteries	State has created an instant permitting platform and requires the use of it or a comparable alternative	State allows third-party reviewers to use instant permitting, state sets standards for who can be a third-party reviewer, and construction can begin once the AHJ is notified	State has passed legislation encouraging AHJs to adopt instant permitting	State has adopted instant permitting where state is the AHJ for certain permits	State provides funding to support transition to instant permitting	State allows third-party use of instant permitting, with limitations
Kansas	7	F	0	0	0	0	0	0	0
Kentucky	4	F	0	0	0	0	0	0	0
Louisiana	10	F	0	0	0	0	0	0	0
Maine	24	D	0	0	0	0	0	0	0
Maryland	39	D	0	0	0	10	0	10	0
Massachusetts	27	D	0	0	0	0	0	0	0
Michigan	35	D	0	0	0	0	0	0	0
Minnesota	34	D	0	0	0	0	0	10	0
Mississippi	11	F	0	0	0	0	0	0	0
Missouri	2	F	0	0	0	0	0	0	0
Montana	11	F	0	0	0	0	0	0	0
Nebraska	11	F	0	0	0	0	0	0	0
Nevada	27	D	0	0	0	0	0	0	0
New Hampshire	28	D	0	0	0	0	0	0	0
New Jersey	58	C	0	30	0	0	0	0	0
New Mexico	23	D	0	0	0	0	0	0	0
New York	28	D	0	0	0	0	0	0	0

Instant permitting									
State	Total points	Grade	Full credit options			Partial credit points are available only if the state does not receive full credit, and only up to 15 partial credit points are allowed			
			30	30	30	10	10	10	10
North Carolina	23	D	State requires instant permitting for solar and batteries	State has created an instant permitting platform and requires the use of it or a comparable alternative	State allows third-party reviewers to use instant permitting, state sets standards for who can be a third-party reviewer, and construction can begin once the AHJ is notified	State has passed legislation encouraging AHJs to adopt instant permitting	State has adopted instant permitting where state is the AHJ for certain permits	State provides funding to support transition to instant permitting	State allows third-party use of instant permitting, with limitations
North Dakota	11	F	0	0	0	0	0	0	0
Ohio	20	D	0	0	0	0	0	0	0
Oklahoma	11	F	0	0	0	0	0	0	0
Oregon	20	D	0	0	0	0	0	0	0
Pennsylvania	18	F	0	0	0	0	0	0	0
Rhode Island	29	D	0	0	0	0	0	0	0
South Carolina	11	F	0	0	0	0	0	0	0
South Dakota	4	F	0	0	0	0	0	0	0
Tennessee	4	F	0	0	0	0	0	0	0
Texas	62	B	0	0	30	0	0	0	0
Utah	24	D	0	0	0	0	0	0	0
Vermont	20	D	0	0	0	0	0	0	0
Virginia	28	D	0	0	0	0	0	0	0
Washington	27	D	0	0	0	0	0	10	0
West Virginia	13	F	0	0	0	0	0	0	0
Wisconsin	9	F	0	0	0	0	0	0	0
Wyoming	4	F	0	0	0	0	0	0	0

State	Other efforts to streamline permitting				Building codes		Limits on review by HOAs				
	Credit for these policies is available only if the state has not adopted instant permitting; states with instant permitting do not need these policies				Full credit	Partial credit	Full credit	Partial credit options			
	4	3	3	3	8	4	10	6	4	2	
	State has a permitting guidebook	State promotes SolSmart to jurisdictions	State has unified permit forms	Statewide code, no local variation	Statewide code, but location variations allowed	HOAs cannot place restrictions	HOAs can place restrictions that do not increase costs by more than 10% or decrease output by more than 10%	HOAs can place restrictions with clear limits	HOAs can place restrictions with vague limits		
Alabama	0	0	0	0	4	0	0	0	0	0	
Alaska	0	0	0	0	0	0	0	0	0	0	
Arizona	0	0	0	0	0	0	0	4	0	0	
Arkansas	0	0	0	0	4	0	0	0	0	0	
California	4	0	0	0	4	0	6	0	0	0	
Colorado	0	3	0	0	0	0	6	0	0	0	
Connecticut	4	0	0	8	0	0	0	0	0	2	
Delaware	0	0	0	0	0	0	0	0	0	2	
Florida	0	0	0	0	4	0	0	0	0	2	
Georgia	0	0	0	0	4	0	0	0	0	0	
Hawaii	0	0	0	0	4	0	0	4	0	0	
Idaho	0	0	0	0	4	0	0	0	0	2	
Illinois	0	0	0	0	0	0	6	0	0	0	
Indiana	0	0	0	0	4	0	0	0	0	0	
Iowa	0	0	0	0	0	0	0	0	0	0	
Kansas	0	0	0	0	0	0	0	0	0	0	
Kentucky	0	0	0	0	4	0	0	0	0	0	
Louisiana	0	0	0	8	0	0	0	0	0	2	

State	Other efforts to streamline permitting			Building codes		Limits on review by HOAs				
	4	3	3	Full credit	Partial credit	Full credit	Partial credit options			
							6	4	2	
	Credit for these policies is available only if the state has not adopted instant permitting; states with instant permitting do not need these policies									
Maine	0	0	0	8	0	0	0	0	0	2
Maryland	0	0	0	0	4	0	6	0	0	0
Massachusetts	4	0	3	0	4	0	0	0	0	2
Michigan	4	3	0	8	0	0	6	0	0	0
Minnesota	0	3	0	8	0	0	6	0	0	0
Mississippi	0	0	0	0	4	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0	0	2
Montana	0	0	0	0	4	0	0	0	0	0
Nebraska	0	0	0	0	4	0	0	0	0	0
Nevada	0	0	0	0	0	0	6	0	0	0
New Hampshire	0	0	0	0	4	0	0	0	0	0
New Jersey	0	0	3	8	0	0	6	0	0	0
New Mexico	0	0	3	0	4	0	0	0	0	2
New York	4	0	0	0	4	0	6	0	0	0
North Carolina	0	0	0	0	4	0	0	0	0	2
North Dakota	0	0	0	0	4	0	0	0	0	0
Ohio	0	0	0	0	4	0	0	0	0	2

State	Other efforts to streamline permitting				Building codes		Limits on review by HOAs				
	Credit for these policies is available only if the state has not adopted instant permitting; states with instant permitting do not need these policies				Full credit	Partial credit	Full credit	Partial credit options			
	4	3	3	3	8	4	10	6	4	2	
Oklahoma	0	0	0	0	0	4	0	0	0	0	
Oregon	0	0	0	0	0	4	0	0	0	2	
Pennsylvania	0	0	0	0	0	4	0	0	0	0	
Rhode Island	0	0	3	3	8	0	0	0	0	0	
South Carolina	0	0	0	0	0	4	0	0	0	0	
South Dakota	0	0	0	0	0	4	0	0	0	0	
Tennessee	0	0	0	0	0	4	0	0	0	0	
Texas	0	3	0	0	0	4	0	0	4	0	
Utah	0	0	0	0	0	4	0	0	0	2	
Vermont	0	0	0	0	0	4	0	0	0	2	
Virginia	0	3	0	0	8	0	0	6	0	0	
Washington	0	0	0	0	0	4	0	0	0	2	
West Virginia	0	0	0	0	0	4	0	0	0	2	
Wisconsin	0	0	3	3	0	4	0	0	0	2	
Wyoming	0	0	0	0	0	4	0	0	0	0	

Review criteria limited to health and safety		Third-party and remote inspections		
		Full credit	Full credit options	Partial credit
	10	10	10	4
State prohibits review based on factors other than health and safety		State requires jurisdictions to allow remote inspections (by AHJ or third party hired by installer)	State allows both third-party inspections (hired by installer) and remote inspections, and sets the standard for who can be an inspector	State allows third-party inspections (hired by installer), with remote not necessarily explicitly mentioned, and AHJ sets standard for who can be an inspector and/or remains involved in the approval process
Alabama	0	0	0	0
Alaska	0	0	0	0
Arizona	0	0	0	0
Arkansas	0	0	0	4
California	10	0	0	0
Colorado	0	0	0	0
Connecticut	0	0	0	0
Delaware	0	0	0	4
Florida	0	0	0	4
Georgia	0	0	0	4
Hawaii	0	0	0	0
Idaho	0	0	0	0
Illinois	0	0	0	0
Indiana	0	0	0	0
Iowa	0	0	0	0
Kansas	0	0	0	0
Kentucky	0	0	0	0
Louisiana	0	0	0	0

Review criteria limited to health and safety		Third-party and remote inspections		
Full credit	Full credit options	Full credit options	Partial credit	
10	10	10	4	
State prohibits review based on factors other than health and safety	State requires jurisdictions to allow remote inspections (by AHJ or third party hired by installer)	State allows both third-party inspections (hired by installer) and remote inspections, and sets the standard for who can be an inspector	State allows third-party inspections (hired by installer), with remote not necessarily explicitly mentioned, and AHJ sets standard for who can be an inspector and/or remains involved in the approval process	
State				
Maine	0	0	0	0
Maryland	0	0	0	0
Massachusetts	0	0	0	0
Michigan	0	0	0	0
Minnesota	0	0	0	0
Mississippi	0	0	0	0
Missouri	0	0	0	0
Montana	0	0	0	0
Nebraska	0	0	0	0
Nevada	0	0	0	0
New Hampshire	0	0	10	0
New Jersey	0	0	0	0
New Mexico	0	0	0	0
New York	0	0	0	0
North Carolina	0	10	0	0
North Dakota	0	0	0	0
Ohio	0	0	0	0
Oklahoma	0	0	0	0

Review criteria limited to health and safety		Third-party and remote inspections		
		Full credit	Full credit options	Partial credit
	10	10	10	4
State prohibits review based on factors other than health and safety		State requires jurisdictions to allow remote inspections (by AHJ or third party hired by installer)	State allows both third-party inspections (hired by installer) and remote inspections, and sets the standard for who can be an inspector	State allows third-party inspections (hired by installer), with remote not necessarily explicitly mentioned, and AHJ sets standard for who can be an inspector and/or remains involved in the approval process
Oregon	0	0	0	0
Pennsylvania	0	0	0	0
Rhode Island	0	0	0	4
South Carolina	0	0	0	0
South Dakota	0	0	0	0
Tennessee	0	0	0	0
Texas	0	0	10	0
Utah	0	0	0	4
Vermont	0	0	0	0
Virginia	0	0	0	4
Washington	0	0	0	4
West Virginia	0	0	0	0
Wisconsin	0	0	0	0
Wyoming	0	0	0	0

State	Single inspections		Permitting fees		Third-party owned systems		
	Full credit	Partial credit	Full credit	Partial credit	Full credit	Partial credit only power purchase agreements	State allows only leases
Alabama	0	0	0	0	0	0	0
Alaska	0	0	0	0	0	0	0
Arizona	0	0	0	0	0	0	7
Arkansas	0	0	0	0	0	0	0
California	0	4	0	7	14	0	0
Colorado	0	0	10	0	14	0	0
Connecticut	0	0	0	0	14	0	0
Delaware	0	0	0	0	14	0	0
Florida	0	0	0	0	0	0	7
Georgia	0	0	0	0	14	0	0
Hawaii	0	0	0	0	14	0	0
Idaho	0	0	0	0	0	0	0
Illinois	0	0	0	0	14	0	0
Indiana	0	0	0	0	0	0	0
Iowa	0	0	0	0	14	0	0
Kansas	0	0	0	0	0	0	7
Kentucky	0	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0	0
Maine	0	0	0	0	14	0	0
Maryland	0	0	0	0	14	0	0

State	Single inspections		Permitting fees		Third-party owned systems		
	Full credit	Partial credit	Full credit	Partial credit	Full credit	Partial credit only power purchase agreements	State allows only leases
Massachusetts	0	0	0	0	14	0	0
Michigan	0	0	0	0	14	0	0
Minnesota	0	0	0	0	0	0	7
Mississippi	0	0	0	0	0	0	7
Missouri	0	0	0	0	0	0	0
Montana	0	0	0	0	0	0	7
Nebraska	0	0	0	0	0	0	7
Nevada	0	0	0	7	14	0	0
New Hampshire	0	0	0	0	14	0	0
New Jersey	0	0	0	0	14	0	0
New Mexico	0	0	0	0	14	0	0
New York	0	0	0	0	14	0	0
North Carolina	0	0	0	0	0	0	7
North Dakota	0	0	0	0	0	0	7
Ohio	0	0	0	0	14	0	0
Oklahoma	0	0	0	0	0	0	7
Oregon	0	0	0	0	14	0	0
Pennsylvania	0	0	0	0	14	0	0
Rhode Island	0	0	0	0	14	0	0
South Carolina	0	0	0	0	0	0	7

State	Single inspections		Permitting fees		Third-party owned systems		
	Full credit	Partial credit	Full credit	Partial credit	Full credit	Partial credit	State allows only leases
	8	4	10	7	14	7	7
	State limits AHJs to a single inspection	Single inspection requirement applies to only a subset of projects	Firm caps on fees	Fee caps, but with exceptions	State allows power purchase agreements and leases	State allows only power purchase agreements	State allows only leases
South Dakota	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0
Texas	0	0	0	0	14	0	0
Utah	0	0	0	0	14	0	0
Vermont	0	0	0	0	14	0	0
Virginia	0	0	0	0	0	0	7
Washington	0	0	0	0	0	0	7
West Virginia	0	0	0	0	0	7	0
Wisconsin	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0

Appendix B: State-by-state scoring explanations

BELOW IS A STATE-BY-STATE LIST of explanations for point allocations beyond the information provided in the scorecard in Appendix A.

All building code information comes from U.S. Department of Housing and Urban Development, *Resilient Building Codes Toolkit, Appendix B: State-by-State Amendment Procedures, 2022*, available at <https://files.hudexchange.info/resources/documents/Resilient-Building-Codes-State-by-State-Governance-Supplemental.pdf>. All information about third-party owned systems comes from Ingrid Behrsin, Institute for Local Self-Reliance, *The 2025 Community Power Scorecard*, February 19, 2025, available at <https://ilsr.org/article/energy-democracy/2025-community-power-scorecard/>.

Citations for all other policies are specific to each state and are provided below.

Alabama

Building code: Statewide code that local jurisdictions may amend.

Alaska

Building code: No statewide code for residential buildings with one to four units.

Arizona

Instant permitting: Arizona says authorities having jurisdiction (AHJs) “may use a qualified online automated permitting platform to verify code compliance,” which we scored as supporting but not requiring instant permitting. (Ariz. Rev. Stat. § 9-468 (2024))

HOA protections: “An association may adopt reasonable rules regarding the placement of a solar energy device if those rules do not prevent the installation, impair the functioning of the device or restrict its use or adversely affect the cost or efficiency of the device.” (Ariz. Rev. Stat. § 33-1816 (2025))

Third-party owned systems: State allows leases but not PPAs for residential customers. PPAs are restricted to schools, governments and nonprofits.

Arkansas

Building code: Statewide code that local jurisdictions may amend.

Third-party and remote inspections: Installers are allowed to hire a private professional inspector for any inspection required by a local government. (Ark. Code Ann. § 14-1-507 (2025))

California

Instant permitting: California requires AHJs to adopt and use instant permitting software, such as SolarAPP+ or Symbium, for solar energy systems, with or without batteries. Smaller communities, defined as municipalities with a population of less than 5,000 and counties with a population less than 150,000, are exempt. (Cal. Gov’t Code § 65850.52 (2025))

Building code: Statewide code that local jurisdictions may amend. In 2025, California placed a six-year moratorium on local amendments for residential units, with limited exceptions.

HOA protections: An HOA can impose reasonable restrictions, defined as “not to exceed one thousand dollars (\$1,000) over the system cost as originally specified and proposed, or a decrease in system efficiency of an amount exceeding 10 percent as originally specified and proposed.” (Cal. Civ. Code § 714 (2025))

Limits on aesthetic review: California says AHJs may “not adopt ordinances that create unreasonable barriers to the installation of solar energy systems [including when paired with a battery], including, but not limited to, design review for aesthetic purposes.” Furthermore, “[r]eview of the application to install a solar energy system shall be limited to the building official’s review of whether it meets all health and safety requirements of local, state, and federal law. The requirements of local law shall be limited to those standards and regulations necessary to ensure that the solar energy system will not have a specific, adverse impact upon the public health or safety.” (Cal. Gov’t Code § 65850.5 (2025))

Single inspection limit: California receives partial points, for several reasons. The state limits the number of inspections only for some projects: those that are solar only, that were permitted using the rules of the Solar Permitting Guidebook rather than through automated permitting, and that are served by a single AHJ for building and fire inspection or where separate building and fire AHJs have signed an agreement for a single inspection. (Cal. Gov’t Code § 65850.5 (2025))

Caps on permit fees: For solar projects, with or without a battery, AHJs “shall not charge a residential permit fee that exceeds the estimated reasonable cost of providing the service for which the fee is charged.” Permit fees for solar PV systems cannot exceed \$450 plus \$15 per kilowatt for each kilowatt above 15kW. However, if the jurisdiction issues a written finding and adopts a resolution or ordinance providing “substantial evidence of the reasonable cost to issue the permit,” the fee can be higher. (Cal. Gov’t Code § 66015 (2025))

Third-party owned systems: State allows residential PPAs and leases. Municipal utilities are allowed to have different rules.

Colorado

Instant permitting: The Colorado Department of Regulatory Agencies, which is the AHJ for many communities in the state, has adopted SolarAPP+ and Symbium to process electrical permits. Colorado provides grant support to local jurisdictions that wish to transition to instant permitting. Funding is planned for 2024-2033. (Adoption by Department of Regulatory Agencies: SolarAPP Foundation, *SolarAPP+ Automates Electrical Permitting for Over 200 Colorado Jurisdictions with the Department of Regulatory Agencies* (press release), October 28, 2025, available at <https://www.globenewswire.com/news-release/2025/10/28/3175658/0/en/SolarAPP-Automates-Electrical-Permitting-for-Over-200-Colorado-Jurisdictions-with-the-Department-of-Regulatory-Agencies.html>; funding: Colo. Rev. Stat. § 24-38.5-119 (2024).)

Streamlined permitting (promoting SolSmart): Colorado lists SolSmart as an “additional resource” on its page promoting instant permit processing. (Colorado Energy Office, *Automated Permit Processing for Solar (APPS) Grant*, accessed January 2026 at <https://energyoffice.colorado.gov/apps/>.)

Building code: Building code is adopted locally.

HOA protections: An HOA may not require changes to a solar energy system that increase the cost by more than 10% or reduce efficiency by more than 10%. (Colo. Rev. Stat. § 38-33.3-106.5 (2024) and Colo. Rev. Stat. § 38-30-168 (2024))

Caps on permit fees: Permit fees for residential solar energy systems may not exceed the lesser of the local government’s actual cost of issuing the permit or \$500. (Colo. Rev. Stat. § 24-48.5-113 (2024))

Third-party owned systems: State allows residential PPAs and leases.

Connecticut

Streamlined permitting (guidebook): Though Connecticut’s permitting guidebook was funded with a federal grant, we included it because the

project was led by Connecticut’s Clean Energy Finance and Investment Authority. (Energize Connecticut, *Connecticut Rooftop Solar PV Permitting Guide*, May 2014, available at <https://www.cesa.org/wp-content/uploads/CT-Rooftop-Solar-PV-Permitting-Guide.pdf>)

Building code: Statewide building code with no local amendments. Connecticut recently clarified solar setback requirements in its code to help all AHJs interpret the code in the same way.

HOA protections: “An association may adopt rules governing ... the size and manner of affixing, installing or removing a solar power generating system.” (Conn. Gen. Stat. § 47-261b (2024))

Third-party owned systems: State allows residential PPAs and leases.

Delaware

Building code: Building code is adopted locally.

HOA protections: An HOA can impose a “reasonable restriction” on the installation of solar panels, provided it does not “significantly increase the cost of the system or significantly decrease its efficiency.” (25 Del. C. § 318 (2025))

Third-party and remote inspections: All electrical work in Delaware “shall receive a certificate of inspection issued by a Board-licensed inspection agency.” (24 Del. C. § 1420 (2025))

Third-party owned systems: State allows residential PPAs and leases.

Florida

Instant permitting: A private provider reviewing solar energy plans, with or without batteries, “may use an automated or software-based plans review system designed to determine compliance with one or more applicable codes, including, but not limited to, the National Electrical Code and the Florida Building Code.” The private reviewer then submits a permit application to the AHJ, which must “issue the requested permit or provide a written notice to the permit applicant identifying the specific plan features

that do not comply with the applicable codes.” Because the AHJ still can review the permit, Florida does not receive full points for adopting instant permitting. (Fla. Stat. § 553.791 (2025))

Building code: Statewide code that local jurisdictions may amend.

HOA protections: An HOA may “may determine the specific location where solar collectors may be installed on the roof within an orientation to the south or within 45° east or west of due south if such determination does not impair the effective operation of the solar collectors.” (Fla. Stat. § 163.04 (2025))

Third-party and remote inspections: State allows private inspectors to conduct in-person or remote inspections of solar and battery systems. A local building official still needs to sign off, or to explain the project’s deficiencies within two days. (Fla. Stat. § 553.791 (2025))

Third-party owned systems: State allows leases but not PPAs.

Georgia

Building code: Statewide code that local jurisdictions may amend.

Third-party and remote inspections: Georgia allows contractors to hire a third-party inspector for all types of construction. (Ga. Code Ann. § 8-2-26 (2024))

Third-party owned systems: State allows residential PPAs and leases.

Hawaii

Building code: Statewide code that local jurisdictions may amend.

HOA protections: An HOA cannot impose restrictions that would make a solar energy device more than 25% less efficient or raise the cost by more than 15%. (Haw. Rev. Stat. § 196-7 (2024))

Third-party owned systems: State allows residential PPAs and leases.

Idaho

Building code: Statewide code that local jurisdictions may amend.

HOA protections: An HOA may regulate the placement and appearance of solar panels. (Idaho Code § 55-3208 (2024))

Illinois

Building code: No statewide building code, though Illinois has statewide energy, accessibility and plumbing codes. Local amendments to those codes are allowed.

HOA protections: An HOA may not require changes to a solar energy system that reduce production by more than 10%. (765 Ill. Comp. Stat. 165/20 (2024))

Third-party owned systems: State allows residential PPAs and leases.

Indiana

Building code: Statewide code that local jurisdictions may amend.

Iowa

Building code: No statewide building code for residential buildings.

Third-party owned systems: State allows residential PPAs and leases.

Kansas

Third-party owned systems: State allows leases but not PPAs.

Kentucky

Building code: Statewide code that local jurisdictions may amend.

Louisiana

Building code: Statewide building code with no local amendments.

HOA protections: An HOA cannot “unreasonably restrict” the installation or use of solar panels. (La. Rev. Stat. § 9:1255 (2025))

Maine

Building code: Statewide building code; local amendments are allowed for the energy code only.

HOA protections: An HOA may impose “reasonable” restrictions, including “historic or aesthetic values, when an alternative of reasonably comparable cost and convenience is available.” (33 Me. Rev. Stat. § 1423 (2025))

Third-party owned systems: State allows residential PPAs and leases.

Maryland

Instant permitting: The statute that requires AHJs to adopt instant software does not specify that the software fully automate plan review and instantly issue permits. Therefore, we did not give Maryland credit for having adopted instant permitting, only for encouraging it. The Maryland Energy Administration offers funding, via a federal grant, to help AHJs cover the costs of adopting instant permitting software. The grant was still funded as of December 2025. (Md. Local Gov’t Code § 1-1320 (2025); and Maryland Energy Administration, *Maryland SolarAPP+ Implementation Grant Program*, updated December 17, 2025, archived at <https://web.archive.org/web/20251231194702/https://energy.maryland.gov/govt/Pages/SolarAPP.aspx>.)

Building code: Statewide code that local jurisdictions may amend.

HOA protections: An HOA cannot impose unreasonable limitations on the installation of a solar panels, with or without a battery. A restriction is unreasonable if it increases the installation cost by “at least 5%” or if it reduces expected energy generation by “at least 10%.” (Md. Code Ann., Real Prop. § 2-119)

Third-party owned systems: State allows residential PPAs and leases.

Massachusetts

Streamlined permitting (unified permit application): The state has created a standardized building permit application and notes that “municipality-specific forms must contain at least the same information so that

the application process and information requirements are similar across the state.” (Massachusetts Board of Building Regulations and Standards, *Building Permit Applications for Non-state-owned Buildings*, accessed December 2025, archived at <https://web.archive.org/web/20251212221429/https://www.mass.gov/info-details/building-permit-applications-for-non-state-owned-buildings>.)

Streamlined permitting (guidebook): Massachusetts published a guidebook in 2014. (Department of Energy Resources, Massachusetts Executive Office of Energy and Environmental Affairs, *Policy Guidance for Regulating Solar Energy Systems*, March 2014, available at <https://www.mass.gov/doc/policy-guidance-for-regulating-solar-energy-systems/download>.)

Building code: Statewide code that local jurisdictions may amend.

HOA protections: An HOA cannot impose “unreasonable” restrictions. (Mass. Gen. Laws ch. 184, § 23C (2023))

Third-party owned systems: State allows residential PPAs and leases.

Michigan

Streamlined permitting (promoting SolSmart): Michigan has published slides from a presentation promoting SolSmart. (Michigan Department of Environment, Great Lakes, and Energy, *Streamlining Solar Permitting and Benefits of SolSmart for Michigan’s Local Governments*, October 2023, available at <https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Programs/MMD/Energy/renewables/Streamlining-Solar-Permitting-and-Benefits-of-SolSmart-for-Michigans-Local-Governments.pdf?rev=be352980f47c4116891031f6058a786b&hash=E402CECD5B49AFAE1258A81F517C6A86>.)

Streamlined permitting (guidebook): The guidebook was funded with a grant from the Michigan Economic Development Corporation and the Michigan Energy Office. (Clean Energy Commission, *Becoming a Solar Ready Community*, September 2013, available at <https://www.michigan.gov/-/media/Project/Websites/>

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Building code: Statewide building code with no local amendments.

HOA protections: Any standards enforced by an HOA “may not result in a reduction in the production of electricity by the solar energy system by more than 10% or increase the total cost of the installation of the solar energy system ... by more than \$1,000.” (Mich. Comp. Laws § 559.309 (2024))

Third-party owned systems: State allows residential PPAs and leases.

Minnesota

Instant permitting: Minnesota statute has established a program to provide “financial incentives to local units of government that issue permits for residential solar projects and solar plus energy storage system projects in order to incentivize a permitting authority to adopt the SolarAPP+ software to standardize, automate, and streamline the review and permitting process.” (Minn. Stat. § 216C.48 (2024))

Streamlined permitting (promoting SolSmart): The state lists SolSmart as a resource on its website. (Minnesota GreenStep Cities, *Become a solar-ready community, including adopting ordinance/zoning language and an expedited permit process for residents and businesses to install solar energy systems*, accessed January 2026 at https://greenstep.pca.state.mn.us/best_practice_action/become-solar-ready-community-including-adopting-ordinance-zoning-language-and.)

Building code: Statewide building code with no local amendments.

HOA protections: An HOA may require “a roof-mounted solar energy system not extend above the peak of a pitched roof or beyond the edge of the roof.” An HOA also “may impose other reasonable restrictions” if they do not decrease energy generation by more than 10% or increase costs by \$1,000 or more. (Minn. Stats § 500.216 (2024))

Third-party owned systems: State allows leases but not PPAs.

Mississippi

Building code: Statewide code that local jurisdictions can amend or opt out of.

Third-party owned systems: State allows leases but not PPAs.

Missouri

HOA protections: An HOA “may adopt reasonable rules” on the installation of solar panels, provided “that those rules do not prevent the installation of the device, impair the functioning of the device, restrict the use of the device, or adversely affect the cost or efficiency of the device.” (Mo. Rev. Stat. § 442.404 (2024))

Montana

Building code: Statewide code that local jurisdictions may amend.

Third-party owned systems: State allows leases but not PPAs.

Nebraska

Building code: Statewide code that local jurisdictions may amend.

Third-party owned systems: State allows leases but not PPAs.

Nevada

HOA protections: An HOA cannot prohibit or unreasonably restrict solar panels. “Unreasonable restrictions” are defined as decreasing the efficiency by more than 10% and not allowing an alternative system with a comparable cost. (Nev. Rev. Stat. § 278.0208 (2024))

Caps on permit fees: Permit fees are limited to an inflation-adjusted amount from a 1989 baseline. However, AHJs can seek a higher fee if their current fee is “substantially below that of other local governments” and did not cover the cost of reviewing

permits in the previous year. (Nev. Rev. Stat. § 354.59891 (2024))

Third-party owned systems: State allows residential PPAs and leases.

New Hampshire

Building code: Statewide code that local jurisdictions may amend.

Third-party and remote inspections: Contractors can hire a third-party inspector licensed or certified as a building code administrator, engineer or architect. (S.B. 188, 2025 Reg. Sess., (NH, 2025))

Third-party owned systems: State allows residential PPAs and leases.

New Jersey

Instant permitting: Recently passed legislation requires the state to create an instant permitting platform for solar panels, batteries and other system components. All jurisdictions must use the platform or a comparable alternative. (A5264, 221st Leg., Reg. Sess., (NJ, 2025).)

Building code: Statewide building code with no local amendments.

HOA protections: An HOA may not adopt rules that would increase costs by more than 10% or inhibit the panels “from functioning at their intended maximum capacity.” (N.J. Stat. Ann. § 45:22A-48.2 (2024))

Third-party owned systems: State allows residential PPAs and leases.

New Mexico

Streamlined permitting (unified permit application): New Mexico has a unified permit for electrical work, including solar. (State of New Mexico Regulation & Licensing Department, *State of New Mexico – Construction Industries Division Electrical Permit Application*, accessed January 2026 at <https://www.rld.nm.gov/construction-industries/forms-and-applications/>)

Building code: Statewide code that local jurisdictions may amend.

HOA protections: An HOA cannot prohibit the installation of solar panels, but statute does not otherwise restrict HOA oversight of solar panels and battery storage. (N.M. Stat. Ann. § 3-18-32 (2024))

Third-party owned systems: State allows residential PPAs and leases.

New York

Streamlined permitting (guidebook): New York has published a solar guidebook for local governments, with a chapter on permitting and inspections. (NYSERDA, *New York State Unified Solar Permit*, accessed November 2025 at <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/About/Statewide-Initiatives/CGC-Plans/Guidance/NYS-unified-solar-permit.pdf>.)

Building code: Statewide code that local jurisdictions may amend.

HOA protections: An HOA may not “prohibit or impose unreasonable limitations on ... a solar power system.” A limitation is unreasonable if it “inhibits the solar power system from functioning at its intended maximum efficiency” or increases costs by more than 10%. (N.Y. Real Prop. Law § 342 (2025))

Third-party owned systems: State allows residential PPAs and leases.

North Carolina

Building code: Statewide code that local jurisdictions may amend.

HOA protections: HOA may not prohibit solar panels, but may restrict their placement if they are visible from certain public locations. (N.C. Gen. Stat. § 22B-20 (2023))

Third-party and remote inspections: The state fire marshal oversees enforcement of “all sections of the North Carolina State Building Code,” including local building codes. State statute directs the fire marshal to “develop eligibility criteria for and procedures to conduct certain inspections as required by the North

Carolina State Building Code as remote inspections.” Remote inspections can be live or recorded. (N.C. Gen. Stat. § 160D-1104.1 (2024))

Third-party owned systems: State allows leases but not PPAs.

North Dakota

Building code: Statewide code that local jurisdictions may amend.

Third-party owned systems: State allows leases but not PPAs.

Ohio

Building code: Statewide code that local jurisdictions may amend.

HOA protections: “An owners association may establish reasonable restrictions concerning the size, place, and manner of placement of solar energy collection devices.” (Ohio Rev. Code § 5312.16 (2023))

Third-party owned systems: State allows residential PPAs and leases.

Oklahoma

Building code: Statewide code that local jurisdictions may amend.

Third-party owned systems: Leases are allowed statewide, but PPAs are allowed only in unincorporated areas. Therefore, we did not give credit for PPAs.

Oregon

Building code: Statewide code that local jurisdictions may amend.

HOA protections: “A homeowners’ association may adopt and enforce a provision that imposes reasonable size, placement or aesthetic requirements for the installation or use of solar panels.” (Or. Rev. Stat. § 94.778 (2023))

Third-party owned systems: State allows residential PPAs and leases.

Pennsylvania

Building code: Statewide code that local jurisdictions may amend.

Third-party owned systems: State allows residential PPAs and leases.

Rhode Island

Streamlined permitting (unified permit application):

Rhode Island has statewide building and electrical permit application forms. (State of Rhode Island Building Code Commission, *Apply Online*, accessed January 2026 at <https://rhodeisland.portal.opengov.com/categories/1072>.)

Building code: Statewide building code with no local amendments.

Third-party and remote inspections: “If the building official fails to perform an inspection within the time frame [48 hours] set forth in this section, the contractor or builder may hire a qualified third-party inspector or the state inspector.” (R.I. Gen. Laws § 23-27.3-111.2 (2024))

Third-party owned systems: State allows residential PPAs and leases.

South Carolina

Building code: Statewide code that local jurisdictions may amend.

Third-party owned systems: State allows leases but not PPAs.

South Dakota

Building code: Statewide code that local jurisdictions may amend.

Tennessee

Building code: Statewide code that local jurisdictions may amend.

Texas

Instant permitting: Texas allows installers to hire a third party to review solar energy and/or battery

project permits. The third-party reviewer may use instant permitting software. (Tex. Gov’t Code § 247.0025 (2025))

Building code: Statewide code that local jurisdictions may amend.

HOA protections: An HOA may regulate many aspects of the placement and appearance of solar panels. However, the HOA cannot restrict the location on the roof if doing so would reduce energy production by more than 10%. We graded this as having clear restrictions that are less protective than the 10% limits on cost and efficiency. (Tex. Prop. Code § 202.010 (2024))

Third-party and remote inspections: Texas allows solar installers to hire third parties to inspect, remotely or in person, solar energy and/or battery projects. Statute defines who can be hired as a third-party inspector. (Tex. Gov’t Code § 247.0025 (2025))

Third-party owned systems: State allows residential PPAs and leases.

Utah

Building code: Statewide code that local jurisdictions may amend.

HOA protections: An HOA may regulate the placement and appearance of solar panels. (Utah Code § 57-8a-701 (2023))

Third-party and remote inspections: An installer can hire a third-party inspector if the AHJ doesn’t provide an inspection within three days. (Utah Code § 15A-1-105 (2025))

Third-party owned systems: State allows residential PPAs and leases.

Vermont

Building code: Statewide code that local jurisdictions may amend.

HOA protections: An HOA cannot prohibit solar panels, but can “determine the specific location” so

long as this does not “impair their effective operation.” (27 V.S.A. § 544 (2025))

Third-party owned systems: State allows residential PPAs and leases.

Virginia

Streamlined permitting (promoting SolSmart): The state has a webpage promoting SolSmart. (Virginia Department of Energy, *SolSmart*, accessed January 2026 at <https://www.energy.virginia.gov/renewable-energy/SolSmart.shtml>.)

Building code: Statewide building code with no local amendments.

HOA protections: An HOA “may establish reasonable restrictions,” defined as not increasing the cost by more than 5% or reducing production by 10% or more. (Va. Code Ann. § 55.1-1820.1 (2024))

Third-party and remote inspections: Virginia allows contractors to hire a third-party to conduct a remote inspection if building officials cannot perform an inspection within two days of a request. The AHJ sets the “minimum acceptable qualifications for third-party inspectors.” The AHJ must review the third-party’s inspection report within two days. (13 Va. Admin. Code §5-63-130)

Third-party owned systems: PPAs are not available to all customers; therefore, we did not give credit for PPAs.

Washington

Instant permitting: In 2025, Washington offered grants to AHJs to adopt instant permitting software. (Washington State Department of Commerce, *Grants for Local Governments to Adopt Automated Solar Permit Software*, January 21, 2025, archived at <https://web.archive.org/web/20251009213319/https://www.commerce.wa.gov/funding/grants-for-local-governments-to-adopt-automated-solar-permit-software/>.)

Building code: Statewide code that local jurisdictions may amend.

HOA protections: An HOA may regulate the placement and appearance of solar panels. (Wash. Rev. Code § 64.38.055 (2025))

Third-party and remote inspections: Code officials are authorized to accept inspection reports from third-party inspection agencies. (Wash. Admin. Code 51-11R-10500)

Third-party owned systems: State allows leases but not PPAs.

West Virginia

Building code: Statewide code that local jurisdictions may amend.

HOA protections: An HOA may “impose reasonable restrictions on solar energy systems including restrictions for historical preservation, architectural significance, religious or cultural importance to a given community.” (W. Va. Code § 36-4-19 (2024))

Third-party owned systems: State allows PPAs but not leases.

Wisconsin

Streamlined permitting (unified permit application): The state has a uniform building permit application. (Wis. Stat. § 101.63(7) (2025) and Wisconsin Department of Safety & Professional Services, *Wisconsin Uniform Building Permit Application*, accessed January 2026 at <https://dsps.wi.gov/Documents/Programs/UDC/SBD5823.pdf>.)

Building code: Statewide code that local jurisdictions may amend.

HOA protections: An HOA may not “unduly restrict the construction and operation of solar energy systems.” (Wis. Stat. § 236.292 (2025))

Wyoming

Building code: Statewide code that local jurisdictions may amend.

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