

THROWING SHADE

**10 SUNNY STATES BLOCKING
DISTRIBUTED SOLAR DEVELOPMENT**



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EXECUTIVE SUMMARY

In order to avoid the worst impacts of climate change, it's clear that a rapid shift to a 100 percent renewable energy system is needed by mid-century – a move supported by leading climate scientists, industry experts, religious groups, justice organizations and environmentalists alike. Distributed solar energy plays a unique and critical role in creating a renewable energy future that stems climate change, promotes social justice and protects biodiversity, yet the expansion of this market in the United States relies in large part on state policies that determine whether solar panels are accessible and affordable. The 10 states with the best policy landscapes for supporting solar market growth, highlighted in a recent report by Environment America, have been driving the solar energy boom. In fact the installed solar capacity in these states accounts for 86 percent of the total for the United States. Unfortunately the vast majority of states are lacking the fundamental policies that would encourage solar market development; even worse, many are actively preventing it through policy barriers and restrictions. More than half of all states with key distributed solar policies in place saw efforts to weaken or eliminate those policies in 2015.¹

For this report, we analyze and highlight 10 states that are blocking distributed solar potential through overtly lacking and destructive distributed solar policy. These 10 states — Alabama, Florida, Georgia, Indiana, Michigan, Oklahoma, Tennessee, Texas and Virginia — account for more than 35 percent of the total rooftop solar photovoltaic (PV) technical *potential* in the contiguous United States, but only 6 percent of total *installed* distributed solar capacity, according to a March 2016 report released by National Renewable Energy Laboratory (NREL) and data provided by the U.S. Energy Information Agency.^{2 3} All of these states have significant barriers in place to distributed solar development and have earned an overall policy grade of “F” in our analysis.⁴ We based these grades on a thorough review of the presence, or absence, and strength of key distributed solar policies, and, combined with the overall rooftop solar photovoltaic technical potential rankings by National Renewable Energy Laboratory (NREL), identified the states that would benefit most from improvements to their distributed solar policy landscapes.

Table 1. 10 States Blocking Distributed Solar – Overall Policy Grade, Rooftop Solar Photovoltaic Technical Potential Rank, and Installed Capacity Rank

State	Overall Policy Grade	Rooftop PV Technical Potential: Rank of Contiguous U.S.	Estimated Distributed PV Installed Capacity: Rank of all states
Alabama	F	19	45
Florida	F	3	14
Georgia	F	10	21
Indiana	F	13	35
Michigan	F	8	26
Oklahoma	F	18	44
Tennessee	F	14	25
Texas	F	2	12
Virginia	F	11	29
Wisconsin	F	16	30

Of the 10 states highlighted in this report:

- Seven are lacking mandatory renewable portfolio standards (RPS), policies that are key to creating a safe market for investing in rooftop solar. The three states with mandatory RPSs in place — Michigan, Texas and Wisconsin — have already met their low targets and have not taken steps to update their policies, so these RPSs are doing nothing to bolster the solar industry at this point. In fact Texas met its incredibly unambitious goal of 10,000 MW *15 years ahead of schedule* and is unlikely to update this goal anytime soon.
- Three lack mandatory statewide net-metering policies, possibly the most important policy model in place in the United States that allows for solar customers to connect with the grid. Only three other states in the country can say the same.
- Only three allow for third-party ownership of solar panels — a financing model that has fostered a distributed solar boom across the United States by allowing for those who wouldn't otherwise be able to afford solar panels outright to be able to install them on their property.
- None have community solar programs in place, which are a key policy to encourage access to distributed solar resources and ensure community resiliency.
- Nine lack strong interconnection laws, making the process of installing solar panels harder for homeowners, business owners and third-party companies alike.
- Five don't have any solar-access laws that protect home and business owners from local restrictions on solar panel installations due to issues such as neighborhood aesthetics.

All 10 of these states are bad actors in the distributed solar policy game, but two in particular stand out as the worst: Florida and Texas. These two states fall in the top 3 for rooftop solar photovoltaic technical potential, just after California. Both Florida and Texas could feasibly have some of the best markets in the country for distributed solar growth; they make up more than 16 percent of the total technical potential for the contiguous United States. Because of bad policy landscapes, however, these states currently only account for 2.7 percent of the total installed distributed PV capacity in the United States.

Conclusion: State policy landscapes that prevent the expansion of the distributed solar market threaten the swift transition from fossil fuels to a fully renewable energy system that's needed to stave off the worst impacts of climate change and protect the health of communities and the planet. All 50 states should make improvements to their renewable energy policies in one way or another, but the 10 states identified as the top offenders when it comes to blocking distributed solar can have a significant impact on distributed solar progress — and therefore on environmental health, energy security and the climate crisis — by following the recommendations outlined in this report.

INTRODUCTION

The United States is in need of a swift transition to a 100 percent renewable energy system to stave off the worst impacts of climate change, and we have the technology and demand to make this happen. Unfortunately much of the public sector emphasis and investment thus far has been in large-scale renewable-energy development. This poses serious threats to endangered species, sensitive habitats and communities that are often left to bear the consequences of our energy system's public health and economic losses without aid.

Obtaining a significant portion of our energy from clean sources within the already-built environment would allow us to address climate change and meet our energy needs without paving over the planet, and it could help to alleviate some of the strain our energy system has on low-income communities and communities of color. Distributed sources such as photovoltaic (PV) solar built on existing structures have the potential to meet significant electricity and heating/cooling needs with much less environmental impact than conventional fossil fuels and, in certain conditions, could provide the same energy with fewer adverse effects than other renewable sources.*

Current state and federal policies and regulatory structures are not sufficient to meet the high levels of diffusion of distributed PV generation we need to reach a just and wildlife-friendly energy future. State policies, which in many ways determine the success of energy markets, largely fail to support distributed solar growth. State legislation determines how utilities work with home and business owners to connect their distributed solar energy systems to the electric grid, whether solar system owners get paid for excess generation supplied to the grid, and whether there is any support for low-income home owners or individuals that would otherwise have a hard time installing solar panels on their own. In many states there simply are no policies in place that guarantee fair treatment by utilities to solar customers, and in many states there are active barriers in place to prevent utility customers from “going solar.” Furthermore, in many states where policies have been successful in encouraging distributed solar market growth, utilities and corporate interests have been fighting to remove or weaken these policies — waging a “war on rooftop solar.”^{5 6} Without strong distributed solar policies, individuals and businesses are often left without options to fund or install solar energy systems on their property. With active barriers in place in many states, property owners are prohibited from installing solar panels even if they have the funds.

What Is Distributed Solar?

Generally, when people talk about distributed solar, they are referring to solar panels on rooftops of homes and businesses — but the term can refer to any kind of solar electric system that is placed on or near where electricity is used. Solar arrays are often found on building rooftops, of course, but some emerging technologies allow for solar cells to be incorporated onto other building surfaces, including as thin-film cells on windows. Solar panels as shades on parking lots, community solar farms and even individual solar panels on street lamps are all forms of distributed generation.

Distributed solar generation is an important part of a sustainable energy future for many reasons. Reducing the distance between where electricity is generated and where it is used prevents energy loss in transmission, creates more ownership opportunity in the energy system for individuals and communities, and decreases the amount of land destroyed by large-scale energy operations.

*Distributed generation refers to energy that is generated at the point of consumption. It generally includes small-scale electricity generation, considered less than 10 megawatts (MW) in size, which is connected directly to the distribution network (grid). It can refer PV solar or any type of energy generation of this connection type and size, including wind, coal, natural gas, geothermal, etc.

This report highlights 10 states that have some of the highest potential for distributed solar market growth, but the worst policies in place. All states are identified by National Renewable Energy Laboratory (NREL) as being in the top 20 states for rooftop solar photovoltaic technical potential, and all have obtained poor distributed solar policy grades in our analysis.⁷ Other reports have taken on ranking state policy suites in relation to solar energy, such as in Environment America's September 2015 report "Top States that Helped Drive America's Solar Energy Boom in 2014."⁸ Unlike previous reports, however, this report specifically considers *distributed* solar growth and evaluates the states that are blocking progress, so as to identify improvements that need to be made in order to allow distributed solar technology diffusion in these states and demonstrate policy changes that can increase distributed solar across the country.



Image 1. PV Installation, photo courtesy Ballonboy101, Wikimedia Commons.

KEY STATE-LEVEL DISTRIBUTED SOLAR POLICIES AND BARRIERS

Unfortunately there is no clear model or silver bullet for distributed solar policy suites at the local, state or national level, although there are many expert opinions regarding individual model policies. Certain states have emerged as leaders in creating solar-friendly policy landscapes, including California, New York and Arizona. These leading states tend to have three categories of key solar policies, as broken down by NREL:

- Market preparation policies allow for home and business owners to install solar panels on their property by creating the regulatory structure needed to connect small solar installations to the grid. Without these policies in place, the barriers are often too great for installation, regardless of how interested the property owner is. These policies include interconnection standards, net-metering and solar-rights policies.
- Market creation policies set up the conditions needed for solar businesses to sell energy or technology to home and business owners. The main market creation policy model in the United States that influences distributed generation diffusion is the renewable portfolio standard (RPS), also known as a renewable electricity standard (RES). These set minimum requirements for renewable energy generation for utilities. RPSs that include specific minimum requirements for solar energy generation, or distributed generation, are said to have a solar carve-out.
- Market expansion policies are those that help expand access to solar energy and technology to those who wouldn't otherwise have access, such as renters or low-income homeowners. These include financial incentives such as grants, rebates, and tax incentives, community solar laws (including virtual net metering), and third-party ownership (TPO) laws.

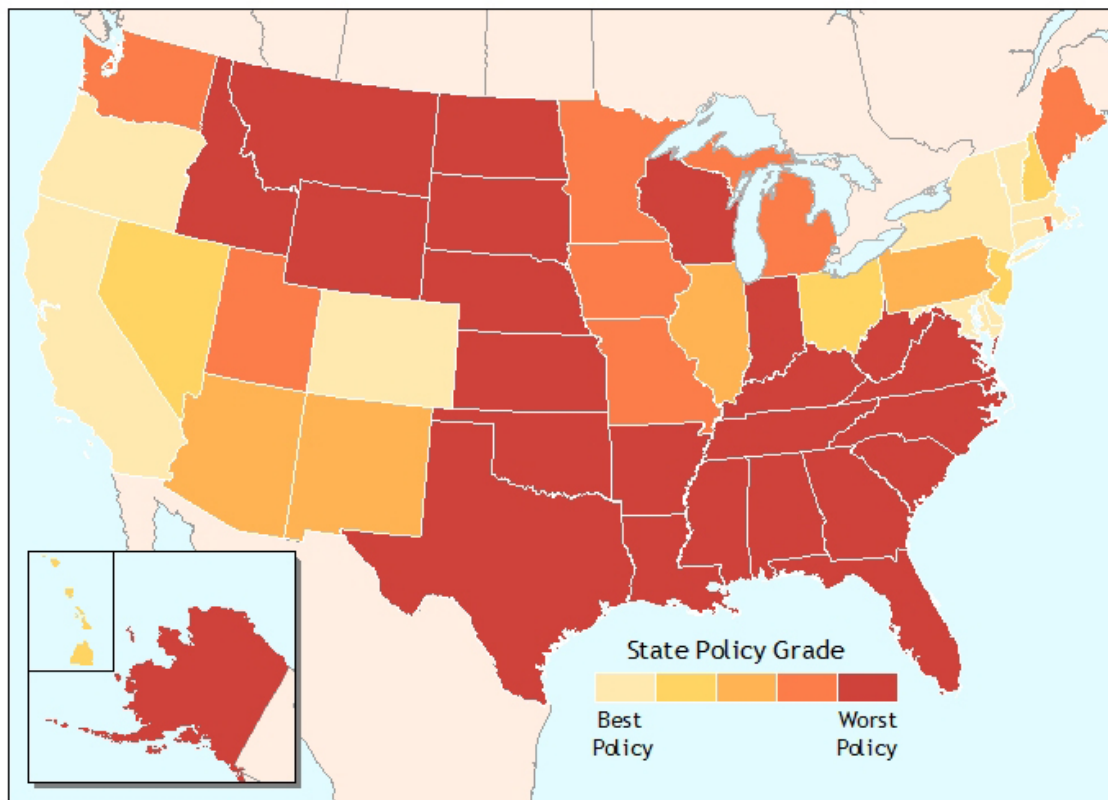


Image 2. Map of state overall distributed solar policy grades

Of the 10 states highlighted in this report, seven do not have required renewable portfolio standards, and the three states that do — Michigan, Texas, and Wisconsin — have already met their unambitious goals. Even so, simply the presence or absence of a renewable portfolio standard does not necessarily mean that it's beneficial for distributed solar growth. Many states have RPSs in place that do not have solar or distributed generation carve-outs. A carve-out specifies that a certain portion of the RPS goal be met through specific sources, and ideally would include a generous distributed PV solar carve-out. Of the 29 states with a mandatory RPS, only 16 have a solar or distributed generation carve-out. Although the majority of these will be met with utility-scale solar, it is still better for the distributed solar market than no carve-out at all.¹²

California's RPS is a double-edged sword

California, one of the best markets for distributed solar in the country, also has one of the best overall renewable portfolio standards. As of October 2015, California's RPS calls for 50 percent generation from renewable sources by 2030, but distributed solar does not automatically count toward the goal. California's RPS only applies to utility retail sales, so utilities would have to put in extra work and overcome the obstacle of buying renewable energy credits (RECs) from customer-generated facilities in order for that energy to count toward the RPS targets.¹³ This might be considered a positive at first glance, as it means that the state is required to obtain more than 50 percent of its energy from renewable sources, since there are inevitably going to be some distributed solar sources online. However, it also creates a barrier in that it provides utilities with less incentive to encourage distributed solar market growth — so much so that utilities are actively opposing distributed solar policies. In 2015, California's investor-owned utilities sought out a substantial increase in costs for solar customers which swayed the California Public Utilities Commission (CPUC) to change its net metering rules in favor of utilities. Fortunately, the CPUC ultimately voted in January 2016 to preserve the bulk of its net metering program, rather than increasing the costs for solar customers as much as the utilities would have wanted.¹⁴

Net Metering

The most common state-level interconnection policy model for distributed solar is net metering. Net-metering policies allow utility customers to sell excess electricity generated from their rooftop solar panels back to the utility and receive credit on their bill. This credit helps to offset the customer's electricity consumption from the grid during other times of the day or year, reducing their total electricity purchases from the utility.^{15,16,17} As of early 2016, 44 states and Washington, D.C. had net-metering policies in place.¹⁸ In at least 34 of these states, customers are credited at the full retail rates of electricity, rather than lower wholesale rates.¹⁹ Net-metering programs help states reach their RPS requirements or targets, particularly for those states with specific distributed generation goals, as they encourage distributed installations.²⁰

Even though a majority of states have authorized net metering, the policies themselves vary widely by state in terms of terminology, capacity limits, technologies considered, timelines and ownership structures. There is no standardized time frame for these programs. California, for example, defines their "net energy metering" program on a yearly timeframe, whereas Maine's "net energy billing" program is based on individual billing periods, taking into account accumulated unused kilowatt-hour credits from previous billing periods.²¹ Further, many utilities oppose net metering and impose caps and fees to weaken or eliminate net-metering programs. More than half of all states with net-metering programs in place saw efforts to weaken or eliminate their programs in 2015, according to The NC Clean Energy Technology Center.²² In general, states are allowing utilities to decrease rates

effectively destroyed the economics of rooftop solar in the state by 1) significantly increasing fixed charges for solar customers and 2) significantly decreasing the compensation they'd receive for excess generation they supply back to the grid. This increase in solar fees is expected to amount to a 200 percent increase over 2015 rates by 2020, while non-solar customers' rates are expected to remain the same.²⁷ Furthermore, existing solar customers' rates will not be "grandfathered" in, meaning they will be subject to much higher rates than what they signed on for when they installed their solar panels. The decision was made in response to complaints over profit loss by the utility NV Energy, which has a monopoly in the state, despite overwhelming public opposition. In response to the decision announcement, three solar companies immediately ceased operations and laid off hundreds of workers in the state — SolarCity, Sunrun and Vivant. An expected 6,000 jobs are now at risk, as well as the ability of Nevadans to support the transition to a clean and wildlife-friendly energy future, all due to fear of profit loss by a single utility.²⁸

Community Solar

Community or shared solar programs allow multiple utility customers to connect to one shared solar installation, benefiting from the power provided and financial savings. Customers who otherwise wouldn't be able to install solar panels on their homes, either because they're renters, they can't afford panels on their own, or due to structural or shading issues, are able to access clean solar energy through these programs. Community solar projects can share similarities with utility-scale solar projects (e.g., large capacity size and often found as ground-mounted systems), but they are generally considered distributed solar due to their benefiting communities directly, and as they can be built within the existing built environment near where the electricity is used.

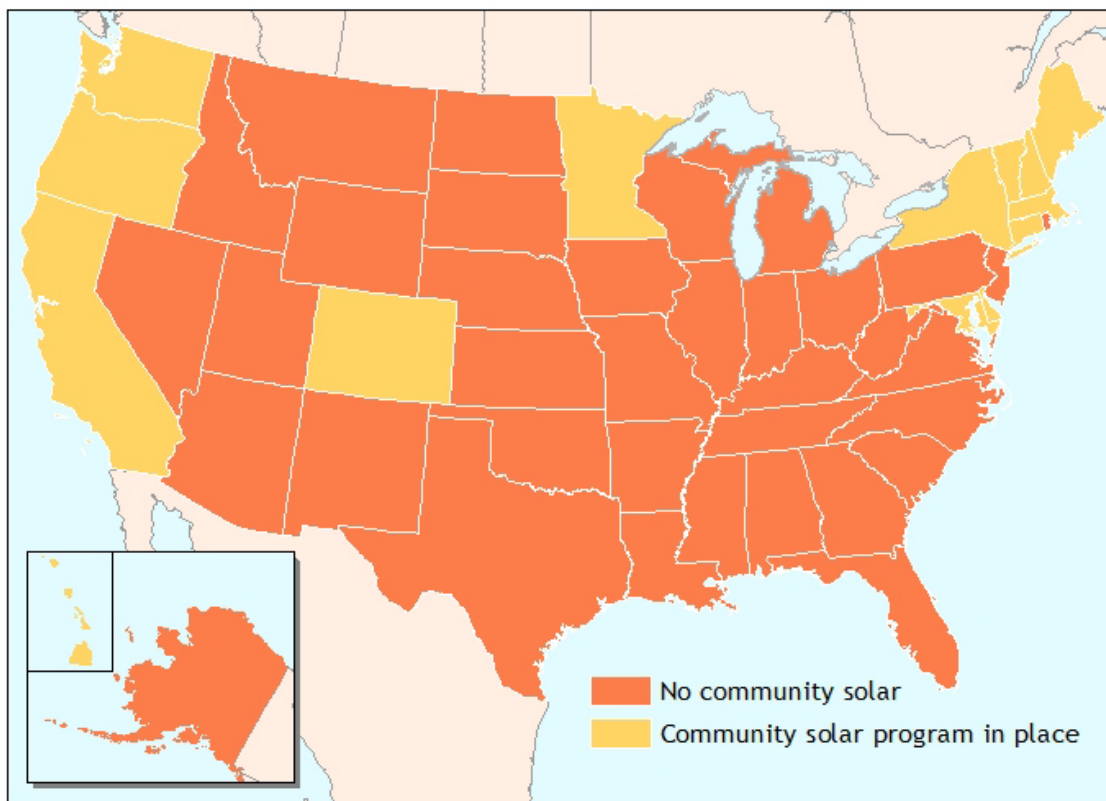


Image 5. Map of state community solar policies

States can encourage community solar installations through a variety of policies, including virtual net metering and specific community solar acts. Virtual net metering is a type of aggregate net metering, where credits from one PV solar system are used to offset multiple customers' electricity bills. Fourteen states currently have community solar policies in place, but many of these policies are limited to pilot projects or only certain utilities.

Interconnection Standards

Interconnection standards are requirements to connect solar panels to the utility grid. They determine the ease and cost of installing solar energy systems for homes and businesses. Without interconnection standards, the installation process can be too unwieldy and often too expensive for homeowners or even third-party solar companies. Even with interconnection standards, if they are complicated or have unnecessary barriers in place, installation rates can be negatively affected. A barrier commonly found in interconnection standards is a provision for unnecessary liability insurance for all solar customers connected to the grid, which raises costs and ultimately decreases the benefits gained from installing solar panels. Another barrier is the requirement for a redundant external disconnect switch, which again increases costs and decreases solar benefits.²⁹

Vote Solar and the Interstate Renewable Energy Council (IREC) assessed states' interconnection standards and net-metering standards, assigning them grades based on their overall friendliness towards distributed solar customers. Of the 43 states and Washington, D.C. that have interconnection standards in place, 26 have unnecessary barriers and are considered weak (see Appendix B), including 7 of the ten states highlighted in this report.

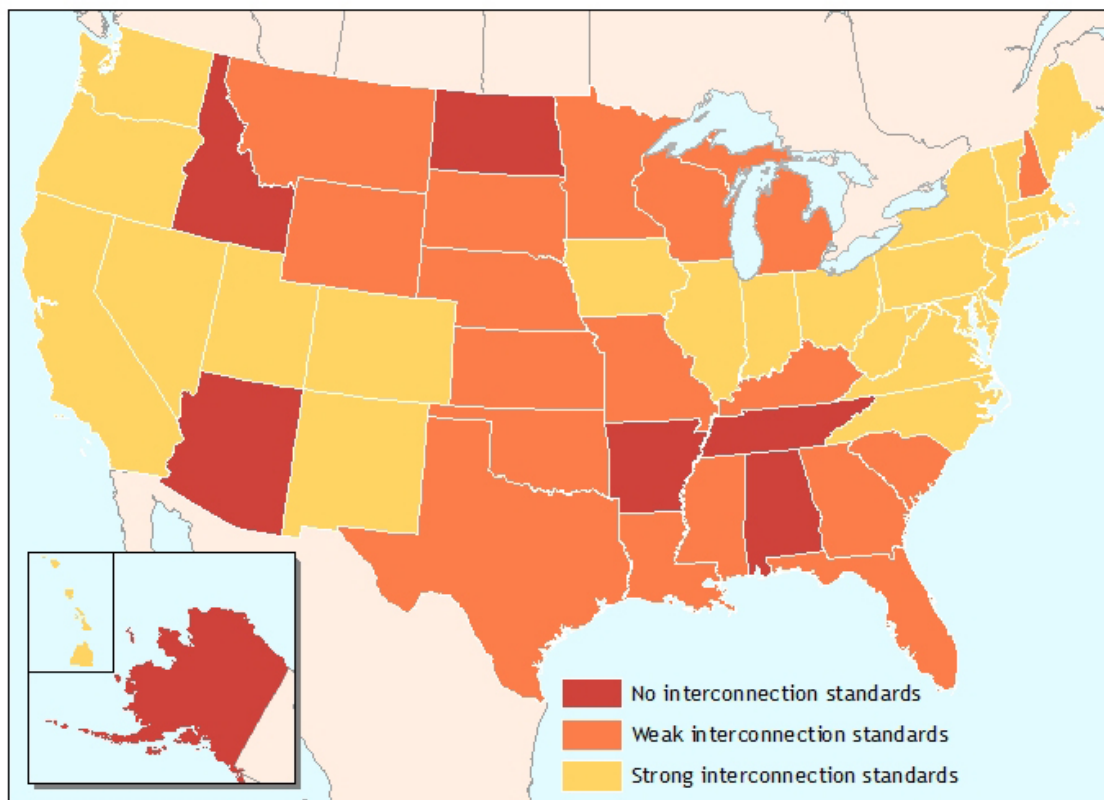


Image 6. Map of state interconnection standards

10 SUNNY STATES BLOCKING DISTRIBUTED SOLAR

To identify the states blocking distributed solar development through bad policy landscapes, we considered three factors:

1. Overall policy grades, determined primarily by the presence or absence of market-preparation, market-creation and market-expansion policies for distributed solar. Partial scores were given for weak net-metering and interconnection policies, previously analyzed by Interstate Renewable Energy Council (IREC) and Vote Solar in their 2015 “Freeing the Grid” report. Full methodology for creating policy grades is explained further in Appendix B.
2. Rooftop solar photovoltaic technical potential, as determined by National Renewable Energy Laboratory (NREL).
3. Minor consideration of subjective factors — including the extent to which policymakers opted to actively block distributed solar due to utility pressure when given the opportunity to create fair market policies.

Many other states could also have been included in this report, due to important active distributed solar policy fights, bad policy scores overall, lack of policies or programs directed at increasing access for low or moderate-income communities, or the absence of any distributed solar market. Thus, the present report isn’t intended to function as an inclusive summary of all states blocking access to distributed solar development, but rather to highlight how much weak state policy landscapes are preventing distributed solar growth and provide clear avenues for advocacy and policy improvements in the near term.

Table 2. 10 States Blocking Distributed Solar – Key Policies

State	Mandatory RPS	RPS Solar Carve-Out	Mandatory Net Metering	Net Metering Strength	Third Party Ownership	Community Solar Laws	Inter-connection Standards	Inter-connection Standards Strength	Solar Access Laws
Alabama	no	NA	no	NA	no	no	no	NA	no
Florida	no	NA	yes	weak	no	no	yes	weak	yes
Georgia	no	NA	yes	weak	yes	no	yes	weak	no
Indiana	no*	no	yes	weak	no*	no	yes	weak	yes
Michigan	yes	no	yes	weak	yes	no	yes	weak	no
Oklahoma	no*	no	yes	weak	no	no	yes	weak	no
Tennessee	no	NA	no	NA	no	no	no	NA	no
Texas	yes	no	no*	NA	yes	no	yes	weak	yes
Virginia	no*	no	yes	weak	no*	no	yes	strong	yes
Wisconsin	yes	no	yes	weak	no*	no	yes	weak	yes

*voluntary by utility

*voluntary by utility

*legality is unclear

Alabama

With no RPS, net-metering or community solar laws in place, and legal barriers to third-party solar companies operating in the state, it's no surprise that Alabama is falling far behind its solar potential. The state legislature has made no moves to support the distributed solar industry, despite the opportunity for reliable, clean electricity, community resilience and job creation in a state that desperately needs it.

Not only does Alabama lack all key distributed solar policies, it also lacks any clear avenues for public involvement in the policymaking process, which landed it the number five spot on the list of states throwing shade on distributed solar development. Unlike Georgia, which has had to respond to public pressure for fewer barriers to solar market growth, Alabama's main utility does not have to respond to this same kind of pressure. Most of Alabama gets its electricity from the utility Alabama Power, although Tennessee Valley Authority (TVA), which does supply a net-metering-like option to its customers, operates in a small part of northern Alabama. For the rest of the state, no such option exists. There's an astonishing lack of transparency and public involvement allowed in the planning process for energy sources in Alabama. The Alabama Public Service Commission does not allow the public to comment on Alabama Power's integrated resource plan (IRP), nor does it provide the plan for public viewing or even require the company to release that plan to the public. Utilities use IRPs to identify affordable ways to meet the needs of the electricity market, and public input would help to create a more realistic understanding of the demand for distributed solar in the state.³² Public input is a key component of a fair, transparent government, and without allowing it in the IRP development process, potential solar customers have essentially no say in the types of policies that could benefit them.

Quick Facts

- #19 in technical potential for rooftop solar
- #45 in installed capacity (MW of distributed solar) Overall policy grade: F
- Renewable portfolio standard: None
- Net-metering policy: None
- Third-party ownership: None
- Community solar laws: None
- Interconnection standards: None
- Solar-access laws: None

Recommendations:

- Increase transparency by releasing Alabama Power's IRP and allowing for public input.
- Create mandatory targets by enacting strong RPS with a distributed solar carve-out.
- Create a strong net-metering policy and an interconnection law using criteria outlined in IREC and Vote Solar's "Freeing the Grid" report.
- Allow for third-party PPAs and leasing to improve accessibility of distributed solar resources.
- Create a community solar program and low-income financing program to help diversify access to residential solar.
- Create solar-access laws to protect individual home and business owners' rights to install solar panels on their property.

Florida

Florida, despite its nickname “the Sunshine State,” has one of the weakest solar policy landscapes in the United States. With no RPS, third-party ownership or community solar policies, Florida has essentially blocked all potential distributed solar development, especially for those who cannot afford to buy solar panels outright and install them on their own. Florida is one of the fastest-growing states in the country, with ever-growing demand for solar resources and one of the highest technical potentials for rooftop solar in the United States, earning it the top spot of shame on our list of states blocking solar. Even without an RPS, if Florida allowed for third-party ownership of solar installations, Floridians could decide for themselves — and many would — to put solar panels on their homes in order to save money.

Quick Facts

- #3 in technical potential for rooftop solar
- #14 in installed capacity (MW of distributed solar)
- Overall policy grade: F
- Renewable portfolio standard: None
- Net-metering policy: Weak
- Third-party ownership: None
- Community solar laws: None
- Interconnection standards: Weak

As Florida’s population and demand for clean and wildlife-friendly energy sources grow, it will be facing some tough fights over the future of distributed solar policy. Lakeland Electric utility in Florida applied for a new Residential Service Demand tariff, or fee, for all residential customers with PV solar systems, if approved.³³ A ballot initiative that would legalize third-party sales for all Florida customers was launched in January 2015. The utilities and the state attorney general oppose the initiative, but solar advocates are pushing for it, hoping to get enough signatures to have it appear on the November 2016 ballot.³⁴ Regardless of how these particular fights go, the “Sunshine State” needs to start living up to its name and its technical potential by allowing for its residents to “go solar.”

Recommendations:

- Create mandatory targets by enacting strong RPS with a distributed solar carve-out.
- Remove the system size limit for net metering, and allow for co-op and municipal utilities to participate.
- Allow for third-party PPAs and leasing to improve accessibility of distributed solar resources.
- Create a community solar program and low-income financing program to help diversify access to residential solar.
- Strengthen interconnection standards using criteria outlined in IREC and Vote Solar’s “Freeing the Grid” report.
- Create solar access laws to protect individual home and business owners’ rights to install solar panels on their property.

Georgia

Georgia, like Florida, Michigan and Texas, is in the top 10 states for rooftop PV technical potential, but falling far behind in installed capacity. The state earned its spot on this list due to the combination of high solar potential, but no RPS, community solar or solar-access laws and one of the weakest net-metering policies in the country, according to IREC and Vote Solar’s “Freeing the Grid” report.³⁵

There has been an active fight in Georgia for years regarding rooftop solar, one of the highest-profile fights in the country due to its unlikely protagonist team: environmentalists and Tea Party activists. Debbie Dooley, co-founder of the Atlanta Tea Party and solar-power advocate, led the fight against Georgia’s utility commission to require Georgia’s primary utility Georgia Power to get more of its energy from solar. In 2013 Dooley and the Sierra Club teamed up to form the “Green Tea Party” and together successfully fought a proposed fee on solar customers.³⁶ Due to continued successes by these and other solar advocates in the state, Georgia has recently made a huge improvement in its solar policies by allowing for third-party ownership of solar panels, putting it in a position to move off the list of worst solar states in coming years. As of May 2015, Georgia became the first state in the Southeast to allow for this financing option. Hopefully this will spur distributed solar growth in the state, and further improvements to the state’s solar policies will be made. Also, Georgia’s primary utility, Georgia Power, has started selling rooftop solar systems to customers, potentially indicating a change of attitude from years past.

Quick Facts

- #10 in technical potential for rooftop solar
- #21 in installed capacity (MW of distributed solar)
- Overall policy grade: F
- Renewable portfolio standard: None
- Net-metering policy: Weak
- Community solar laws: None
- Interconnection standards: Weak
- Solar-access laws: None

Recommendations:

- Enact a strong RPS with a distributed solar carve-out.
- Strengthen net-metering policy using criteria from IREC and SEIA’s “Freeing the Grid” report.
- Create a community solar program and low-income financing program to help diversify access to residential solar.
- Strengthen interconnection standards using criteria outlined in IREC and Vote Solar’s “Freeing the Grid” report.

Indiana

Indiana's already dismal solar-policy landscape has seen legislative fights as recently as 2015 that would have been a huge blow to the state's already severely stifled distributed solar industry.³⁷ If passed, H.B. 1320 would have lowered the payback rate of rooftop solar below retail value, allowed utilities to impose unfair fixed monthly charges to rooftop solar customers' bills and allowed utilities to add interconnection fees for solar customers. All of these changes would be serious barriers to new or potential distributed solar users in the state. Fortunately, the bill was killed before taken to a vote in the state legislature. However, the fight is not over for solar advocates in Indiana; bills with similar language are expected to pop up in the near future, due to the utilities' sway on the issue.³⁸

Between a voluntary RPS, no community solar and unclear third-party ownership (TPO) laws, plus a pending residential monthly fixed charge increase for Indianapolis Power and Light customers, Indiana is essentially blocking any chance of substantial distributed solar development, even without the threat of additional barriers, especially for low-income communities.

Quick Facts

- #13 in technical potential for rooftop solar
- #35 in installed capacity (MW of distributed solar)
- Overall policy grade: F
- Renewable portfolio standard: Voluntary and weak
- Net-metering policy: Weak
- Third-party ownership: Unclear
- Community solar laws: None
- Interconnection standards: Weak

Recommendations:

- Strengthen RPS by making it mandatory, creating a more ambitious target, and including a distributed solar carve-out.
- Strengthen net-metering policy and interconnection standards by using criteria outlined in IREC and Vote Solar's "Freeing the Grid" report.
- Allow for third-party PPAs and leasing to improve accessibility of distributed solar resources.
- Create a community solar program and low-income financing program to help diversify access to residential solar.
- Prevent further attempts to create unfair fees for distributed solar customers.

Michigan

Since Michigan is known for being cold and snowy for a significant part of the year, it's easy to underestimate the state's solar potential. However, Michigan comes in at number 8 for rooftop PV technical potential in the United States — above even Georgia and Virginia. With high electricity prices and such high potential for distributed solar, what's holding the state back is clearly its bad policy.

Michigan technically has an RPS, but as with Texas and Wisconsin, it has already met its goal. Its net-metering policy includes barriers in the form of low system-size limits and aggregate capacity limits. The state's interconnection standards are complex and include a requirement for additional and redundant insurance. Furthermore, Michigan lacks both community solar laws and solar-access laws, two policies that could directly benefit lower- and moderate-income home and business owners. That's a shame because communities in Michigan, particularly low-income communities and communities of color, could benefit immensely from the opportunity to generate reliable, clean electricity while increasing community resilience and creating jobs.

Quick Facts

- #8 in technical potential for rooftop solar
- #26 in installed capacity (MW of distributed solar)
- Overall policy grade: F
- Net-metering policy: Weak
- Community solar laws: None
- Interconnection standards: Weak
- Solar-access laws: None

Recommendations:

- Update the RPS to include a new ambitious overall target with a strong distributed solar carve-out.
- Strengthen net-metering policy and interconnection standards by using criteria outlined in IREC and Vote Solar's "Freeing the Grid" report.
- Create a community solar program and low-income financing program to help diversify access to residential solar.
- Create solar-access laws to protect individual home and business owners' rights to install solar panels on their property.

Oklahoma

Oklahoma currently gets most of its energy from natural gas, and the extraction process to get the gas — called “fracking” — is causing earthquakes, water pollution and huge amounts of land degradation across the state (CITE). Oklahoma may not have as much technical potential for rooftop solar as the other states on this list, but it is also nowhere near meeting its technical potential or providing fair access to distributed solar, which could benefit its low-income and rural residents significantly.

Oklahoma does not allow for third-party ownership, has no community solar laws or solar-access laws, and has very weak interconnection standards. It does have an RPS, but its 15 percent goal is not particularly strong, it doesn’t include a solar carve-out, and it’s voluntary, meaning that there’s no real consequence if its goal is not met. Voluntary RPSs don’t provide the incentive needed to effectively promote solar power for either distributed or utility-scale sources. Finally, although Oklahoma does have a net-metering program, it has a fairly low system-size limit and does not require that utilities pay customers back for the net energy they generate; this significantly decreases the payback for distributed solar customers.

Quick Facts

- #18 in technical potential for rooftop solar
- #44 in installed capacity (MW of distributed solar)
- Overall policy grade: F
- Renewable portfolio standard: Voluntary and weak
- Net-metering policy: Weak
- Third-party ownership: None
- Community solar laws: None
- Interconnection standards: Weak
- Solar-access laws: None

Recommendations:

- Strengthen RPS by making it mandatory, creating a more ambitious target, and including a distributed solar carve-out.
- Strengthen net-metering policy and interconnection standards by using criteria outlined in IREC and Vote Solar’s “Freeing the Grid” report.
- Allow for third-party PPAs and leasing to improve accessibility of distributed solar resources.
- Create a community solar program and low-income financing program to help diversify access to residential solar.
- Create solar-access laws to protect individual home and business owners’ rights to install solar panels on their property.

Tennessee

Tennessee's legislature has done essentially nothing to support the distributed solar market. This may seem inevitable in the heart of coal country, but even other coal states like West Virginia at least have market preparation policies in place, allowing for residents to choose to spend their own money to install solar panels. With no RPS, net metering, third-party ownership, community solar laws, interconnection standards or solar-access laws, Tennessee has essentially nixed any opportunity for distributed solar development. This makes the switch to clean energy even more of a financial hurdle in Tennessee than it would be even in other states with similarly poor markets. What little distributed solar capacity there is installed in the state is due to Tennessee Valley Authority, the utility that services almost all of Tennessee with its power, having a voluntary net-metering-like program in place to support its distributed generation customers — a program created in response to users' requests for a net-metering program.³⁹ Huge changes would have to be made in the state for this market to be a viable one.

Quick Facts

- #14 in technical potential for rooftop solar
- #25 in installed capacity (MW of distributed solar)
- Overall policy grade: F
- Renewable portfolio standard: None
- Net-metering policy: None
- Third-party ownership: None
- Community solar laws: None
- Interconnection standards: None
- Solar-access laws: None

Recommendations:

- Create mandatory targets by enacting strong RPS with a distributed solar carve-out.
- Create a strong net-metering policy using criteria outlined in IREC and Vote Solar's "Freeing the Grid" report.
- Allow for third-party PPAs and leasing to improve accessibility of distributed solar resources.
- Strengthen interconnection standards using criteria outlined in IREC and Vote Solar's "Freeing the Grid" report.
- Create a community solar program and low-income financing program to help diversify access to residential solar.
- Create solar-access laws to protect individual home and business owners' rights to install solar panels on their property.

Texas

Everything's bigger in Texas...including efforts to block distributed solar growth. With the state's large population, continuous development, high electricity demand and incredible technical potential for rooftop solar (ranked number 2 in the contiguous United States), it's primed for a huge distributed solar boom. Unfortunately the state's legislature and regulators have consistently blocked progress on distributed solar policy for the last decade. Texas met its incredibly unambitious renewable portfolio standard goal of 10,000 MW by 2025 in 2010 — *15 years ahead of schedule* — and no tangible improvements have been made since. A “non-wind sources” carve-out for the state's RPS was approved in 2005, only to be blocked by the utilities commission after corporate interests threatened to sue. In 2007 a bill that would have mandated statewide net metering was blocked by the Public Utilities Commission (PUC). In 2009, 2011 and 2013, efforts to circumvent the PUC's authority to require that retail electricity providers offer net metering to their customers failed to pass the state legislature.⁴⁰

Although Texas' solar-rights law and allowance for third-party ownership puts it a step ahead of many other states on this list, the Lone Star State earns the number three spot on our list of states blocking solar progress due to the fact that it has such a weak distributed solar policy landscape overall and the highest technical potential for rooftop solar of any state other than California. With even moderate improvements to its net-metering law and its renewable portfolio standard, Texas could dramatically improve accessibility to distributed solar sources.

Quick Facts

- #2 in technical potential for rooftop solar
- #12 in installed capacity (MW of distributed solar)
- Overall policy grade: F
- Renewable portfolio standard: Extremely weak
- Net-metering policy: Voluntary
- Community solar laws: None
- Interconnection standards: Weak

Recommendations:

- Update the RPS to include a new ambitious overall target with a strong distributed solar carve-out.
- Strengthen net-metering policy and interconnection standards by using criteria outlined in IREC and Vote Solar's “Freeing the Grid” report.
- Create a community solar program and low-income financing program to help diversify access to residential solar.

Virginia

Although Virginia does have a couple of policies in place supporting its distributed solar market, such as solar-access rights and strong interconnection standards, it only has a voluntary RPS with no solar carve-out, unclear legality for third-party ownership and no community solar. Without mandatory and meaningful goals, the RPS doesn't provide any real incentive to promote distributed or utility-scale solar development.

The state's weak net metering improved slightly when the legislature signed S.B. 1395 into law in March 2015, which allowed for more mid-size installations by increasing the net-metering system size limits from 500 kW to 1000 kW. However, this is still an overall weak program in that it requires that customers create a power purchase agreement with their utility, which is up to the utility's discretion, prior to connecting their PV solar system to the grid. This barrier prevents potential solar customers from accessing net-metering program benefits and ultimately gives all power to the utility rather than ensuring solar customers are compensated fairly for the energy they provide.

Quick Facts

- #11 in technical potential for rooftop solar
- #29 in installed capacity (MW of distributed solar)
- Overall policy grade: F
- Renewable portfolio standard: Voluntary and weak
- Net-metering policy: Weak
- Third-party ownership: Unclear
- Community solar laws: None

Recommendations:

- Strengthen RPS by making it mandatory, creating a more ambitious target, and including a distributed solar carve-out.
- Strengthen net-metering policy by using criteria outlined in IREC and Vote Solar's "Freeing the Grid" report.
- Allow for third-party PPAs and leasing to improve accessibility of distributed solar resources.
- Create a community solar program and low-income financing program to help diversify access to residential solar.

Wisconsin

Wisconsin came close to an RPS success story: Like Texas, the state met its goal two years early in 2013, but unlike Texas, its target of 10 percent was actually fairly ambitious for the time. However, the Wisconsin legislature has made no moves to implement any new renewable energy goals as of yet, and therefore its existing RPS is outdated and ineffective. In addition, there is no solar carve-out, which isn't surprising given the lack of other incentives for solar development in the state. Wisconsin's net-metering program could also be strengthened by increasing or removing the system size cap and allowing for community solar inclusion. The state's interconnection standards obtained a low grade on IREC and Vote Solar's "Freeing the Grid" report due to the fact that they require solar customers to buy extra liability insurance and to install a redundant external disconnect switch, both of which create burdens for potential customers who might already find it financially challenging to install solar panels without access to third-party ownership agreements.

Quick Facts

- #16 in technical potential for rooftop solar
- #30 in installed capacity (MW of distributed solar)
- Policy grade: F
- Renewable portfolio standard: Weak
- Net-metering policy: Weak
- Third-party ownership: Unclear
- Community solar laws: None
- Interconnection standards: Weak

Recommendations:

- Update RPS with a more ambitious target and a distributed solar carve-out.
- Strengthen net-metering policy by using criteria outlined in Vote Solar and IREC's "Freeing the Grid" report.
- Allow for third-party PPAs and leasing.
- Create a community solar program and low-income financing program to help diversify access to residential solar.
- Strengthen interconnection standards using criteria outlined in Vote Solar and IREC's "Freeing the Grid" report.

(DIS)HONORABLE MENTIONS

Although Louisiana and the Carolinas didn't make the cut for our list of the top 10 states blocking solar progress, it wasn't for lack of bad policy. Louisiana has a surprisingly high installed capacity of distributed solar, almost entirely due to a tax credit that has since expired. In North Carolina utility solar sources have benefited from a couple of key solar policies, which led to the state's inclusion in Environment America's "Lighting the Way" report as one of the top states leading the solar boom in 2014. However, its policies are not sufficient to encourage distributed solar growth or accessibility to solar resources for individuals or businesses. Although South Carolina has some key policies in place, they tend to be voluntary and weak measures that don't support the solar market as they could.

North Carolina

It should come as no surprise that in a state infamous for preventing its communities from using sea-level rise predictions in local decision-making processes, climate change mitigation policies are lacking in the energy sector. Although North Carolina does have a mandatory RPS and net-metering policy, solar rights laws and strong interconnection standards, it's still significantly hindering its distributed solar growth by lacking market expansion policies. The state doesn't allow for third-party ownership and doesn't have any community solar laws — both of which would improve accessibility to distributed solar resources in a state that ranks in the top 10 for rooftop PV technical potential.

Quick Facts

- #9 in technical potential for rooftop solar
- #18 in installed capacity (MW of distributed solar) per capita
- Policy grade: D
- Net-metering policy: Weak
- Third-party ownership: None
- Community solar laws: None

Recommendations:

- Strengthen net-metering policy by using criteria outlined in IREC and Vote Solar's "Freeing the Grid" report.
- Allow for third-party PPAs and leasing.
- Create a community solar program and low-income financing program to help diversify access to residential solar.

Louisiana

Louisiana may seem as though it's doing something right in terms of distributed solar policy since it's ranked #13 for installed distributed solar capacity. These installations seem to be due not to the state's overall policy landscape — which lacks an RPS or community solar laws, is unclear on third-party ownership and weak on net-metering and interconnection standards — but to post-Katrina green restoration programs in New Orleans and a generous solar tax credit that covered 50 percent of installation costs up to \$25,000 for solar customers who installed systems before mid-2015. As of July 2015 however, the generosity — and therefore the incentive — of the tax credit took a steep dive due to a suite of new restrictions, including a cap of \$10,000 per PV solar system.⁴¹ Even more significant, perhaps, is that a new program cap was added that is likely to be met by early 2016.⁴² Once this cap is met, no new customers can benefit from these savings, and installation rates will likely decline dramatically.

Since Louisiana lacks almost all of the key distributed solar policies that would allow for its distributed solar market to continue without this tax credit, unless it actively improves its policy structure in support of distributed solar, the state is unlikely to maintain industry growth.

Quick Facts

- #22 in technical potential for rooftop solar
- #13 in installed capacity (MW of distributed solar)
- Overall policy grade: F
- Renewable portfolio standard: None
- Net-metering policy: Weak
- Third-party ownership: Unclear
- Community solar laws: None
- Interconnection standards: Weak

Recommendations:

- Create mandatory targets by enacting a strong RPS with a distributed solar carve-out.
- Create a strong net-metering policy using criteria outlined in IREC and Vote Solar's "Freeing the Grid" report.
- Allow for third-party PPAs and leasing to improve accessibility of distributed solar resources.
- Strengthen interconnection standards using criteria outlined in IREC and Vote Solar's "Freeing the Grid" report.
- Create a community solar program and low-income financing program to help diversify access to residential solar.

South Carolina

On the surface it may appear as though South Carolina is not doing badly in terms of solar policy — after all, it has recently enacted an RPS and net-metering program. In truth, however, both of these policies are substantially weak, and both are voluntary. South Carolina’s RPS is one of the weakest in the country — calling for all utilities to produce only 2 percent of their total capacity from renewable energy sources by 2021. Like many other states on this list, South Carolina’s RPS does not include a solar carve out. Its net-metering program is also voluntary and weak, and it expressly prohibits meter aggregation, which would allow for multiple homes to benefit from a shared solar installation.

In addition to bad, unenforceable, RPS and net-metering policies, South Carolina also has unclear third-party ownership legality, weak interconnection standards, no community solar programs in place and no solar-access rights. In order to even come close to its distributed solar potential, South Carolina’s legislature needs to step up its distributed solar policy game.

Quick Facts

- #27 in technical potential for rooftop solar
- #38 in installed capacity (MW of distributed solar)
- Overall policy grade: F
- Renewable portfolio standard: Voluntary and weak
- Net-metering policy: Voluntary
- Third-party ownership: Unclear
- Community solar laws: None
- Interconnection standards: Weak
- Solar-access laws: None

Recommendations:

- Strengthen the RPS by making it mandatory with an ambitious distributed solar carve-out.
- Strengthen the strong net-metering policy by making it mandatory, allowing for meter aggregation, and using criteria outlined in IREC and Vote Solar’s “Freeing the Grid” report.
- Allow for third-party PPAs and leasing to improve accessibility of distributed solar resources.
- Strengthen interconnection standards using criteria outlined in IREC and Vote Solar’s “Freeing the Grid” report.
- Create a community solar program and low-income financing program to help diversify access to residential solar.
- Create solar-access laws to protect individual home and business owners’ rights to install solar panels on their property.

CONCLUSION

The distributed solar market is at a tipping point: The PV solar industry is booming, rooftop solar prices are becoming increasingly competitive with fossil fuel sources, and we know what policies work to encourage installations. While there are some federal policies that can influence distributed solar, the real power lies with the states, especially with the current divided political climate in Congress. We do have some real success stories to look to for inspiration: The distributed solar market has blossomed in California, Arizona, Hawaii, New York and other states that have adopted generally strong solar policies. Unfortunately, distributed solar development is under attack in most states. From net-metering fights to outright bans on third-party ownership, energy, climate, wildlife and economic and social justice advocates need to stand together to support positive distributed solar policies that can maximize our solar potential with minimal environmental impact and protect the rights of individuals and communities to create and benefit from clean, reliable energy where they live and work.

The states outlined in this report are far from the only states that need to improve their policies — all 50 states could be improved in one way or another. What these states do represent is significant missed opportunity for clean energy generation, community resilience and empowerment, job creation, and wildlife protection through avoided habitat loss due to poorly sited utility-scale renewable energy sources. The lack of key solar policies and the presence of active barriers to distributed generation diffusion in these states are representative of policy issues many other states are dealing with or will likely be facing in the near future. The hope is that by outlining some of these issues — nonexistent, weak and disruptive policies alike — home and business owners, solar advocates and policymakers will have an easier time identifying ways to improve distributed solar policy in all states, and we can achieve the necessary transition to a just, wildlife-friendly and fully renewable energy system by 2050.

For more information on policy models that can encourage distributed solar access, check out the recently released “Shared Renewable Energy for Low- to Moderate-Income Consumers: Policy Guidelines and Model Provisions” report by Interstate Renewable Energy Council and “Low-Income Solar Policy Guide: A road map to successful policies and programs creating access to solar technology and jobs nationwide” report by GRID Alternatives, Vote Solar and Center for Social Inclusion.

APPENDIX A: CHART OF DISTRIBUTED SOLAR POLICIES

State	Mandatory RPS	RPS Solar Carve-Out	Mandatory Net Metering	Net Metering Strength	Third Party Ownership	Community Solar Laws	Inter-connection Standards	Inter-connection Standards Strength	Solar Access Laws	State Policy Grades	Total DG Installed Capacity: Rank of U.S.	Rooftop PV Technical Potential: Rank Contiguous U.S.
Alabama	no	NA	no	NA	no*	no	no	NA	no	F	45	19
Alaska	no	NA	yes	weak	no*	no	no	NA	no	F	51	NA
Arizona	yes	no	yes	strong	yes	no	no	NA	yes	D	3	20
Arkansas	no	NA	yes	weak	no*	no*	no	NA	no	F	41	31
California	yes	no	yes	strong	yes	yes	yes	strong	yes	A	1	1
Colorado	yes	yes	yes	strong	yes	yes	yes	strong	yes	A	8	25
Connecticut	yes	no	yes	strong	yes	yes	yes	strong	no	B	9	33
Delaware	yes	yes	yes	strong	yes	yes	yes	strong	yes	A	24	46
District of Columbia	yes	yes	yes	strong	yes	yes	yes	strong	no	B	33	49
Florida	no	NA	yes	weak	no	no	yes	weak	yes	F	14	3
Georgia	no	NA	yes	weak	yes	no	yes	weak	no	F	21	10
Hawaii	yes	no	yes	weak	yes	yes	yes	strong	yes	B	6	NA
Idaho	no	NA	no*	NA	no*	no	no	NA	no	F	40	40
Illinois	yes	yes	yes	weak	yes	no*	yes	strong	yes	C	32	6
Indiana	no*	no	yes	weak	no*	no	yes	strong	yes	F	35	13
Iowa	yes	no	yes	weak	yes	no	yes	strong	no	F	27	28
Kansas	no*	no	yes	weak	no*	no	yes*	weak	no	F	42	29
Kentucky	no	NA	yes	weak	no	no	yes	weak	no	F	37	26
Louisiana	no	NA	yes	weak	no*	no	yes*	weak	yes	F	13	22
Maine	yes	no	yes	weak	no*	yes	yes	strong	yes	D	34	39
Maryland	yes	yes	yes	strong	yes	yes	yes	strong	yes	A	7	24
Massachusetts	yes	yes	yes	strong	yes	yes	yes	strong	yes	A	4	21
Michigan	yes	no	yes	weak	yes	no	yes	weak	no	F	26	8
Minnesota	yes	yes	yes	weak	no*	yes	yes	weak	no	F	31	17
Mississippi	no	NA	yes	weak	no*	no	yes	weak	no	F	47	32
Missouri	yes	yes	yes	strong	no*	no	yes	weak	yes	D	15	12

*voluntary by utility

*voluntary by utility

*legality is unclear

*see Appendix B for notes on methods

APPENDIX A (CONTINUED)

State	Mandatory RPS	RPS Solar Carve-Out	Mandatory Net Metering	Net Metering Strength	Third Party Ownership	Community Solar Laws	Inter-connection Standards	Inter-connection Standards Strength	Solar Access Laws	State Policy Grades	Total DG Installed Capacity: Rank of U.S.	Rooftop PV Technical Potential: Rank Contiguous U.S.
Montana	yes	no	yes	weak	no*	no	yes	weak	no	F	39	44
Nebraska	no	NA	yes	weak	no*	no	yes	weak	no	F	48	35
Nevada	yes	yes	yes	strong	yes	no	yes	strong	yes	B	11	34
New Hampshire	yes	yes	yes	strong	yes	yes	yes	weak	no	C	28	41
New Jersey	yes	yes	yes	strong	yes	no*	yes	strong	yes	B	2	15
New Mexico	yes	yes	yes	weak	yes	no	yes	strong	yes	C	16	37
New York	yes	yes	yes	strong	yes	yes	yes	strong	no	B	5	4
North Carolina	yes	yes	yes	weak	no	no	yes	strong	yes	D	18	9
North Dakota	no*	no	yes	weak	no*	no	no	NA	no	F	50	45
Ohio	yes	yes	yes	strong	yes	no	yes	strong	no	D	19	5
Oklahoma	no*	no	yes	weak	no	no	yes	weak	no	F	44	18
Oregon	yes	yes	yes	strong	yes	yes	yes	strong	yes	A	17	30
Pennsylvania	yes	no	yes	strong	yes	no*	yes	strong	no	D	10	7
Rhode Island	yes	no	yes	weak	yes	no*	yes	strong	no	F	36	43
South Carolina	no*	no	no*	NA	no*	no	yes	weak	no	F	38	27
South Dakota	no*	no	no	NA	no*	no	yes	weak	no	F	49	42
Tennessee	no	NA	no	NA	no	no	no	NA	no	F	25	14
Texas	yes	no	no*	NA	yes	no	yes	weak	yes	F	12	2
Utah	no*	no	yes	strong	yes	no*	yes	strong	no	F	20	36
Vermont	yes	yes	yes	strong	yes	yes	yes	strong	yes	A	22	47
Virginia	no*	no	yes	weak	no	no*	yes	strong	yes	F	29	11
Washington	yes	no	yes	weak	no*	yes	yes	strong	yes	D	23	23
West Virginia	no	NA	yes	strong	no*	no	yes	strong	yes	F	43	38
Wisconsin	yes	no	yes	weak	no*	no	yes	weak	yes	F	30	16
Wyoming	no	NA	yes	weak	no*	no	yes	weak	no	F	46	48

*voluntary by utility
 *voluntary by utility
 *legality is unclear
 *see Appendix B for notes on methods

APPENDIX B: STATE DISTRIBUTED SOLAR POLICY GRADES: METHODOLOGY

States are credited as having the following solar energy policies if they meet these criteria:

- Renewable Portfolio Standard (or Renewable Electricity Standard): Presence of a mandatory RPS included in DSIRE’s database, verified by National Conference of State Legislature.⁴³
- Distributed Solar Carve-Out: Presence of a carve-out for solar or distributed generation in mandatory RPS requirement, as described in DSIRE’s database
- Net-metering policies: Statewide net-metering policies obtaining an “A” in IREC and Vote Solar’s 2015 “Freeing the Grid” report. Those obtaining a “B” or below were considered “weak”
- Interconnection standards: Statewide interconnection policies obtaining an “A” in IREC and Vote Solar’s 2015 “Freeing the Grid” report were considered “strong”. Those obtaining a “B” or below were considered “weak”
- Solar rights: Presence of solar-rights policy from DSIRE Solar
- Community solar: Presence of a community, shared or virtual net-metering solar program at the state level, determined by a review of DSIRE’s database
- Third-party Ownership (TPO): States in which third-party leases or PPAs are explicitly legal, according to DSIRE database and summary map

Distributed solar policy scores were determined using the following scoring system:

Criteria	Points
No mandatory RPS?	-1.0
Mandatory RPS but no solar carve-out?	-0.5
No mandatory net metering?	-1.0
Mandatory net metering, but policy is “weak”? (defined above)	-0.5
No third party ownership (TPO)?	-1.0
No community solar law?	-1
No interconnection standards?	-1
Interconnection standards, but policy is “weak”? (defined above)	-0.5
No solar access law?	-1
Max deductions	-6

*The highest policy score that could be obtained is 6.

To select the 10 states guiltiest of blocking access to distributed solar through bad policy, we used NREL’s Rooftop Solar Photovoltaic Technical Potential (GWh) rankings to narrow down the states to those in the top 20 for rooftop PV technical potential. We then ranked the states according to their distributed solar policy scores, assigned grades based on a standard academic scale (88-100% = A, 78--87.9% = B, 68-77.9% = C, 58-67.9% = D, 0-57.9% = F) and identified 10 that had “F” grades (scores of 3.5 or less out of a total 6).

Further information on these states and their solar policies, legislative history and political climate were obtained through literature reviews and examination of policies on DSIRE’s website.

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