



# The Top 10 States for Home Solar in 2023



# Executive Summary

Installing solar panels is a long-term decision, and homeowners need to consider many factors when determining whether it's right for them. State governments and regulators have a lot of control over the factors contributing to consumers' long-term success when installing solar panels.

Encouraging private investment in renewable energy helps to meet society's goals of decarbonizing the country while maintaining economic growth. By enacting forward-thinking policy and putting appropriate financial incentives in place, a state can signal that it is committed to supporting private investment in solar now and for the long term.

Legislatures in good solar states have thoughtfully crafted laws that encourage growth in both large- and small-scale renewable energy. These laws include Renewable Portfolio Standards (RPS) with solar-specific carve-outs and statewide net metering policies.

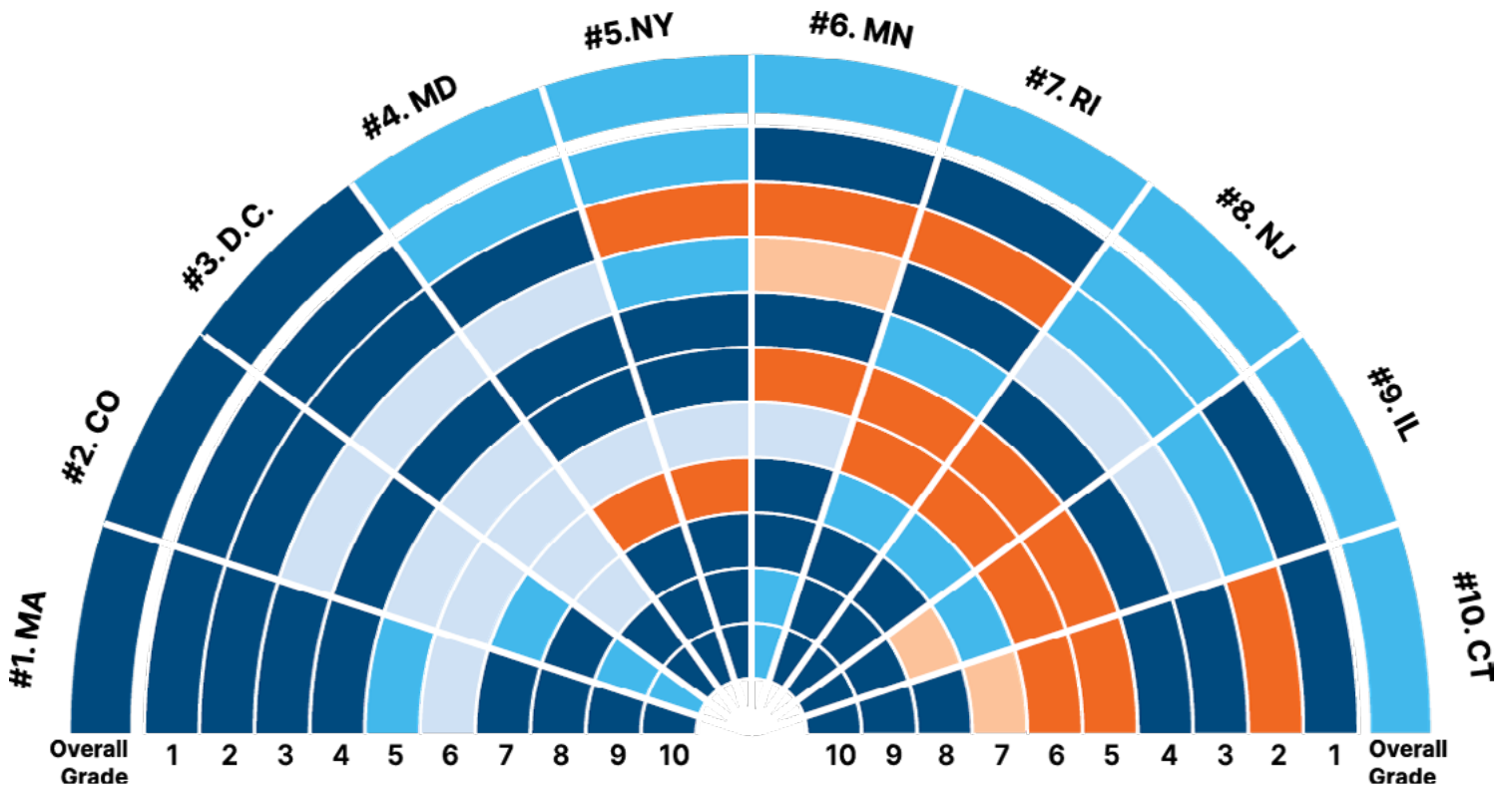
Ideal laws have funding set aside for incentive programs to encourage private investment in renewable energy generation. Incentives include state tax credits and exemptions, cash rebates, and ongoing payments based on generator performance.

SolarReviews created this ranking to recognize the states offering the best mix of solar policies and incentives to homeowners. The top states offer incentive programs to encourage growth today and laws that will maintain robust solar marketplaces for decades.

**The top 10 states for home solar in 2023 are:**

- |                    |                 |
|--------------------|-----------------|
| 1. Massachusetts   | 6. Minnesota    |
| 2. Colorado        | 7. Rhode Island |
| 3. Washington D.C. | 8. New Jersey   |
| 4. Maryland        | 9. Illinois     |
| 5. New York        | 10. Connecticut |

# 2023 Top 10 States for Home Solar



- 1 RPS
- 2 Solar carve-out
- 3 Electricity prices
- 4 Net metering / Feed-in tariff
- 5 Tax credits
- 6 Solar or battery rebates
- 7 Performance Payments/VPP
- 8 Property and sales tax exemptions
- 9 Average system payback time
- 10 Internal rate of return



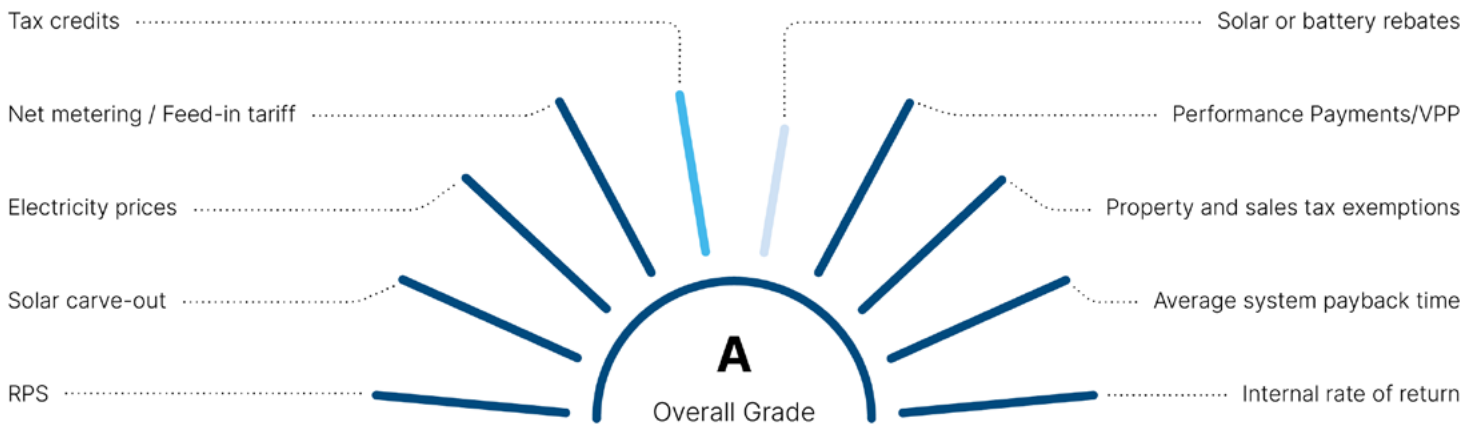
The East Coast makes a strong showing in the rankings, and the majority of the states on our list lie east of the Mississippi River. The East Coast states' high electricity prices and excellent legislative policy set the tone for a future of 100% renewable energy.

Colorado and Minnesota, for their part, have both made major commitments to 100% renewable energy, and each is employing some interesting methods to build their state's mix of renewable and carbon-free energy sources. Notably, both states are primarily served by Xcel Energy, which has shown a willingness to work with lawmakers to form solar-friendly policies.

# State Profiles

# #1. Massachusetts

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Taking first place in our rankings by a landslide is Massachusetts, a state that is doing just about everything right when it comes to supporting solar. The Bay State sets the tone with a 100% carbon-free electricity standard (2021’s Bill S.9), a solar carve-out that calls for 3,200 megawatts (MW) of solar generating capacity, and a solar tax credit worth up to \$1,000.

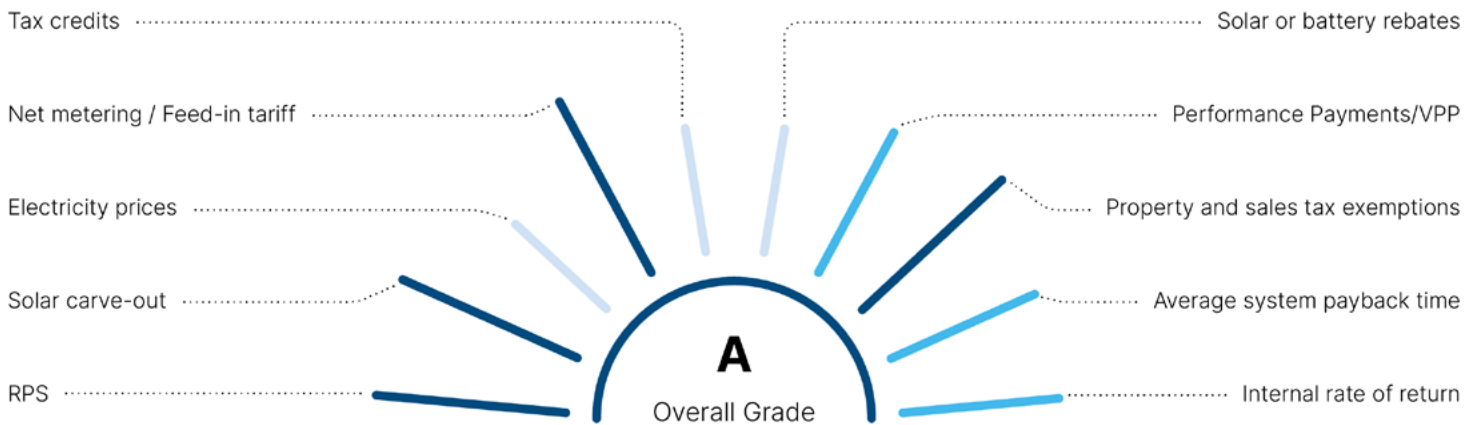
Electricity prices here are close to the highest in the country—so high, in fact, that the state’s SMART performance payment program no longer provides subsidies to customers in most areas.

The program was initially designed to provide small additional payments per kilowatt-hour (kWh) to incentivize solar owners but set a limit on how much the combination of electricity prices and incentive payments could be. With recent increases in electricity prices, the value of net metering credits now exceeds what had been guaranteed under the SMART program for most people.

On top of all the great things listed above, the state’s two largest utilities, Eversource and National Grid, offer excellent virtual power plant (VPP) programs called ConnectedSolutions, which pay hundreds of dollars per average kW served during summertime events to participants every year.

# #2. Colorado

## 2023 SOLAR REPORT CARD

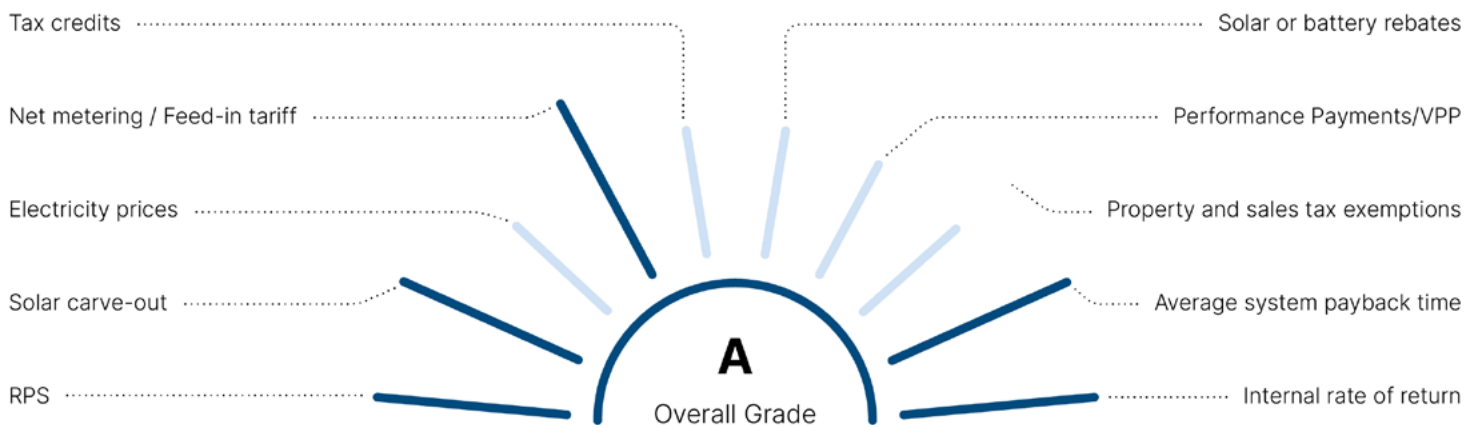


In second place for 2023 is Colorado, a state that has really upped its renewable energy game in recent years. Colorado excelled in our policy category, thanks to its 100% clean energy by 2050 RPS. The state's largest utility, Xcel Energy, offers a strong net metering policy that allows homeowners to roll over excess energy credits indefinitely for more savings.

Colorado is among the few states offering homeowners a battery storage tax credit. While we wish it were an energy storage rebate to be more accessible to low-income homeowners, having any state-wide storage incentive is a win in our book. Homeowners interested in storage can also participate in Xcel's VPP program for more battery savings.

# #3. Washington D.C.

## 2023 SOLAR REPORT CARD



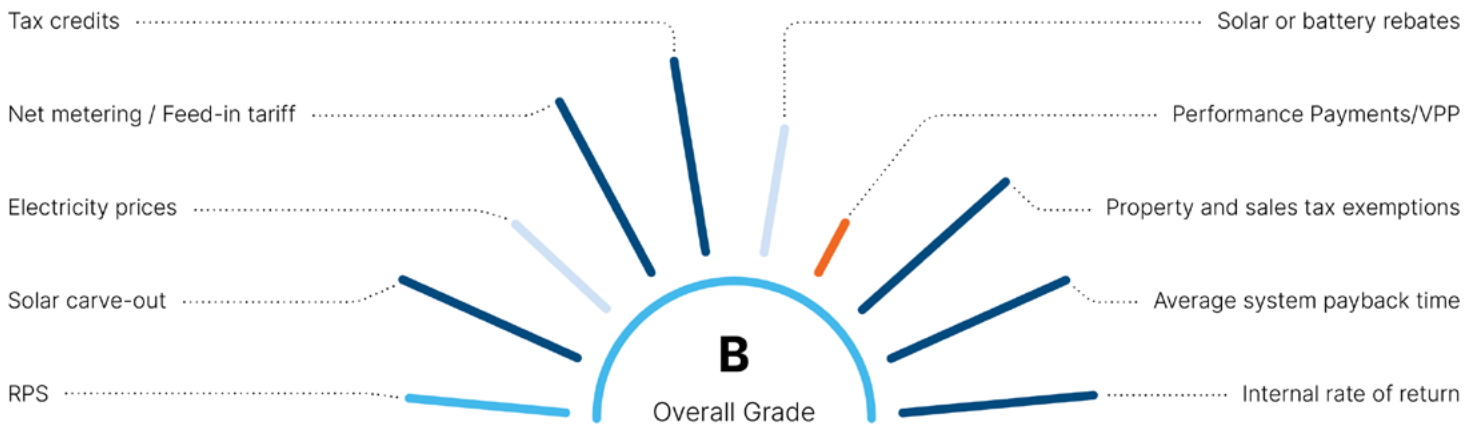
From a purely financial standpoint, there is no better place to go solar than the District of Columbia. The city has an impressive typical payback period of just 3.1 years, giving homeowners an internal rate of return of 47%. That’s an incredible investment for homeowners in the nation’s capital.

The biggest driver of the quick payback is D.C.’s SREC program, which is far and away the best solar incentive in the country. Credits sell for over \$400, earning homeowners thousands per year on top of stellar net metering savings.

With a target date of 2032, D.C. is home to the country’s most ambitious 100% renewable portfolio standard, and the District is pulling out all the stops to get there.

# #4. Maryland

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Though much of its focus is on rapidly increasing the development of offshore wind resources, Maryland still provides a great set of laws and incentives to help homeowners benefit from solar power.

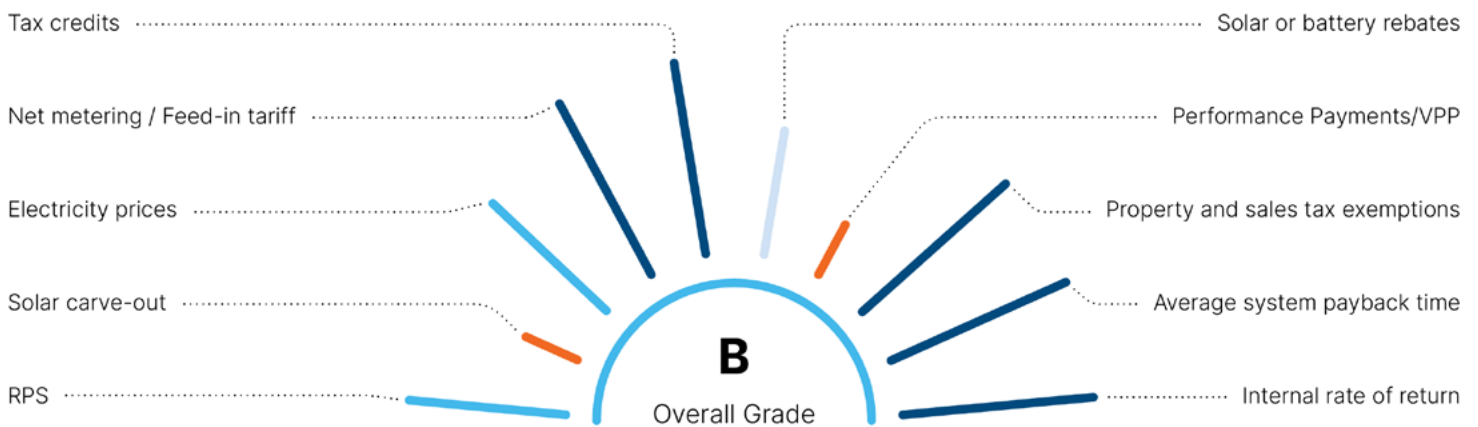
Maryland's weakest point was performance payments and virtual power plant programs. Creating these types of incentives could help Maryland get closer to the top of our list in the future.

The state recently completed a review of its net metering program, recommending that it continue as-is and expand it to include more community solar, focusing on benefits for low- and moderate-income residents. That's music to our ears, Maryland!



# #5. New York

## 2023 SOLAR REPORT CARD



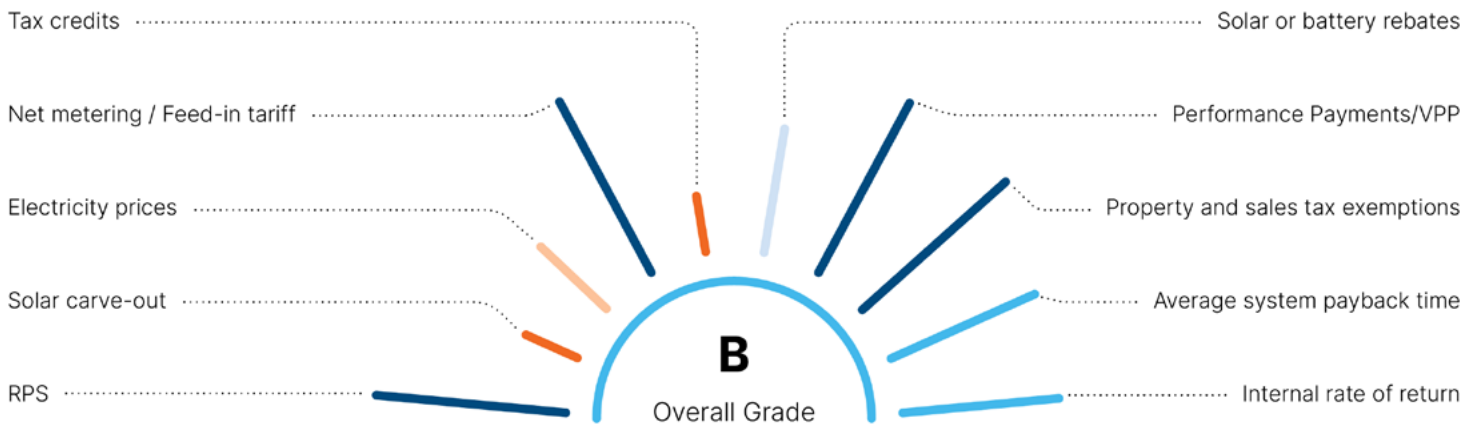
New York is a state on the edge of modernizing its relationship with distributed solar. Its net metering program is in transition, its rebates are winding down, and it doesn't yet have a widespread VPP program.

The state's most significant solar incentive, the Megawatt Block Program, is reaching the end of its capacity. But, in all areas except Long Island, New Yorkers can still get up to \$5,000 off their installation. New York is also one of just five states on our list that offers a state solar tax credit. Between tax credits and rebates, that's nearly \$10,000 homeowners can potentially save on solar panels.

We would love to see The Empire State expand VPP offerings and create more savings for battery installations. But, New York's 100% zero-emission energy standard, high electricity rates, and the available incentives have kept it in our top five.

# #6. Minnesota

## 2023 SOLAR REPORT CARD



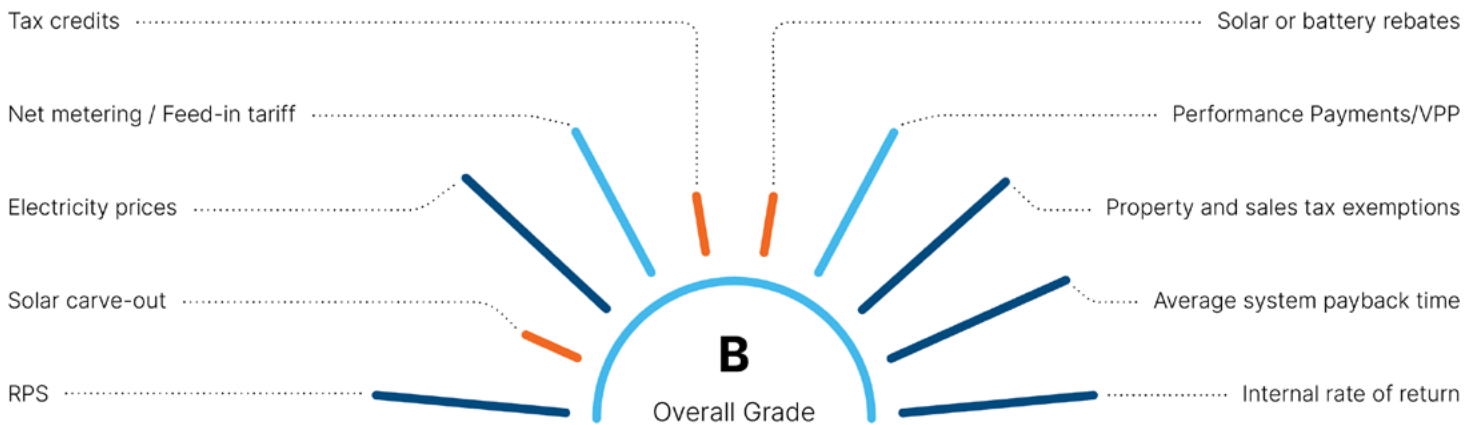
Minnesota has a reputation for being a snowy wasteland, but that’s because most people haven’t experienced the state’s hot, muggy summers. The North Star State gets plenty of sun to make solar panels work well, and Mother Nature gets a boost from the state’s excellent RPS, net metering rules, tax exemptions, and the Solar\*Rewards program from Xcel Energy, the state’s largest electric utility.

Solar has a slightly longer payback period in Minnesota than it does for other states on our list, primarily because electricity here is less expensive. But Minnesotans can still expect a payback period as short as 9.2 years. That’s almost 16 years of free electricity.

We’d like to see some of the state’s pilot VPP programs become more widespread, and we’re excited to see whether Governor Walz and his legislative majorities can help the state’s underserved residents gain better access to the benefits of rooftop solar.

# #7. Rhode Island

## 2023 SOLAR REPORT CARD



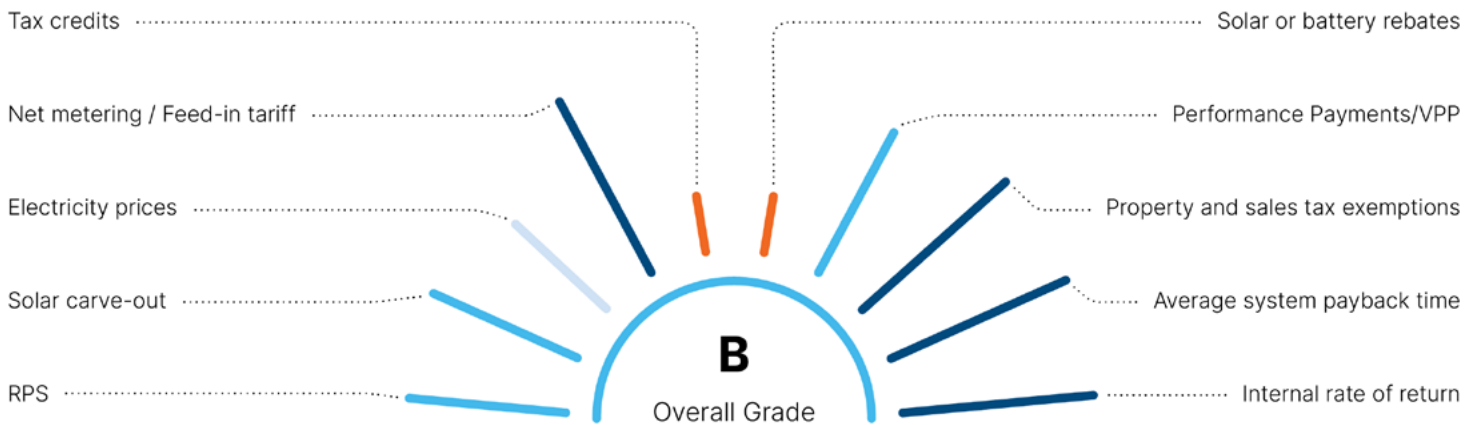
Like Massachusetts, Rhode Island has such high electricity prices that its performance payments program now offers only a tiny fraction of the benefits it was designed to provide. But that isn't such a bad thing, as the high electricity prices are enough to make solar pencil out. Rhode Island homeowners can expect their solar panels' payback period to be around 6.3 years.

Aside from high electricity rates, Rhode Island excelled in our RPS category. The renewable energy standard will continue to provide a solid base of support to homeowners who install solar panels in the future. Furthermore, Rhode Island is putting money from the Inflation Reduction Act to work by ensuring low-income residents can benefit from solar through its Affordable Solar Access Pathways program.

Rhode Island could create more incentives and rebates to encourage further residential solar growth. But overall, we're bullish on the Ocean State's prospects for future solar success.

# #8. New Jersey

## 2023 SOLAR REPORT CARD

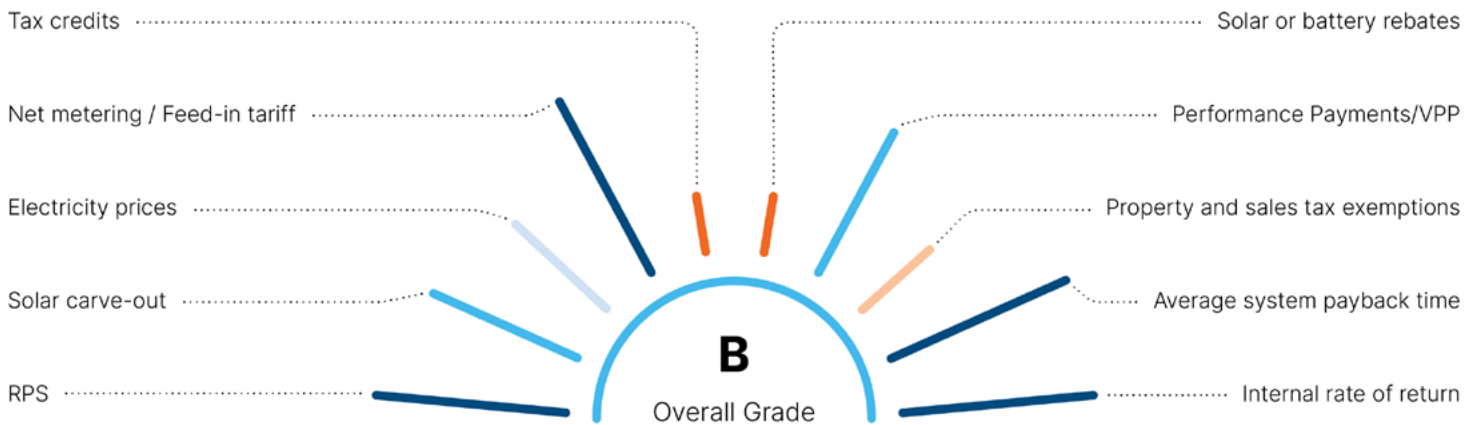


For many years, New Jersey’s SREC program was long one of the best state-level solar incentives in the nation. The latest version, called the Solar Successor Incentive Program (SuSI for short), continues the state’s proud history of supporting private investment in solar. The rate of return on a solar investment in the Garden State is just about as high as it gets.

However, Jersey is starting to fall behind the times on solar policy. The state has yet to codify Governor Murphy’s 100% clean energy executive order, and legislators haven’t pushed the Board of Public Utilities hard enough on creating VPP programs. If New Jersey enacted these policies, the state would shine near the top of our rankings.

# #9. Illinois

## 2023 SOLAR REPORT CARD

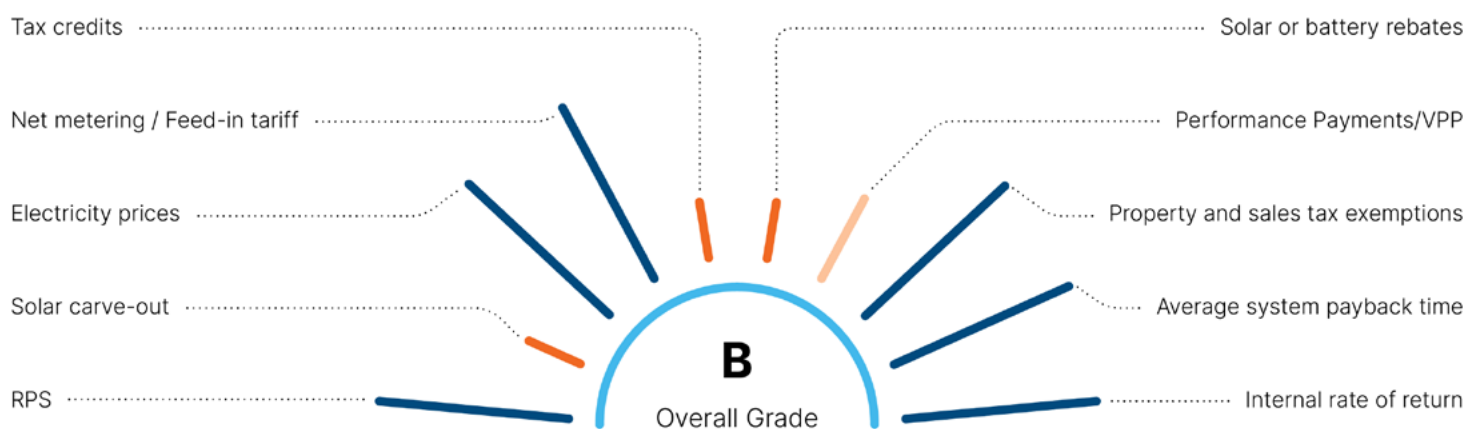


In 2021, the Illinois legislature passed the state’s landmark Climate and Equitable Jobs Act (CEJA), which has since revitalized the state’s solar industry, helping get everything from very large to very small solar installations built across the state. Electricity prices here remain just slightly higher than average, but rooftop solar is super affordable thanks to the incentives in the CEJA.

As for ways to improve, we ran the numbers. Illinois could move up into 5th place by passing property and sales tax exemptions and establishing a VPP program. Those are both easy wins that we’d like to see the state take on in the coming year.

# #10. Connecticut

## 2023 SOLAR REPORT CARD



With the highest average electricity prices in the lower 48 and an excellent net metering replacement called the Residential Renewable Energy Solutions Program, Connecticut offers some tremendous financial returns for homeowners who install solar panels. The savings here are so significant that Connecticut offers essentially no major solar incentives and still places ahead of 41 other states.

Like other states in our rankings, Connecticut could improve by moving quickly to open VPP programs. The state could also re-open a version of its successful “Solar for All” program, which provided instant bill savings to low-income homeowners between 2015 and 2021.

# Methodology

The ultimate goal of this ranking is to identify the states that support good financial outcomes for citizens who install solar panels today and provide a continuing commitment to increasing renewable generation in the years to come.

SolarReviews identified ten evaluation factors that cover laws, regulations, incentives, and investment returns that lead to positive outcomes for homeowners who go solar. Each factor was weighted based on its importance to the overall outcome.

The factors, which can be divided into three categories: policy, incentives, and outcomes, are as follows:

<b>Policy 45% of grade</b>	<b>Incentives 45% of grade</b>	<b>Outcomes 10% of grade</b>
Renewable Portfolio Standard <b>10% of grade</b>	State tax credits <b>10% of grade</b>	Average 6-kW system payback time <b>5% of grade</b>
Solar carve-out <b>5% of grade</b>	Solar or battery rebates <b>15% of grade</b>	Internal rate of return on a solar investment <b>5% of grade</b>
Electricity prices <b>15% of grade</b>	Performance payments and/or Virtual Power Plants <b>15% of grade</b>	
Net metering / feed-in tariff <b>15% of grade</b>	Property and sales tax exemptions <b>5% of grade</b>	

States were assigned a score and a letter grade for each grading factor, based on how policies and incentives aligned with the ideal. Our team identified levels at which a state qualified for each evaluation factor. For example, a state with any form of 100% RPS law earned 4 points. RPS laws with targets of between 50% and 99.9% earned 3 points, and so on.

Grades were based on standard letter grades, with each A worth 4 points and each F worth 0. The net metering category was graded similarly but with a more complicated rubric outlined below.

Quantitative evaluation factors (electricity prices, payback time, and internal rate of return (IRR)) were graded using a relative scale, where a 4 represents the maximum, and a 0 represents the minimum. For example, the highest retail electricity price in the U.S. in 2022 was 32.61 cents per kWh in Connecticut (excluding Hawaii's 43.8 cents/kWh, which is an extreme outlier), while the lowest was North Dakota's 10.17 cents/kWh. In this category, the states were graded based on their relative percentage of the difference between high and low prices.

Each state's final grade was calculated using the scores and weights listed above, and adjusted on a grading curve.



# Policy Factors

The policy factors mostly include laws and regulations put into place by state legislatures and public utilities commissions. This category also includes electricity prices, which are tied closely to laws and regulations.

In years past, RPS laws and solar carve-outs were fundamental to ensuring that states showed a long-term commitment to growing the private solar marketplace. These days, reductions in the cost to install solar have caused electricity prices and net metering to become the most important factors. In most states, good scores in these two factors alone are enough to make rooftop solar financially viable.

# Renewable Portfolio Standards

## 10% of grade

An RPS law sets a target percentage of renewable energy sold or generated in a state by a certain deadline. The difference between them is more than academic, as some utilities in some states generate much less energy than they purchase.

RPS laws have recently been replaced or augmented by clean energy standards. Our grading only considered signed legislation for renewable portfolio and clean energy standards. Target dates did not play a role in our scoring; aggressive target dates are recognized by the order they're presented below.

Scores were assigned to states based on the target percentage set in their renewable portfolio standard.

Grade	Standard
<b>A</b>	100% RPS law
<b>B</b>	50 - 99% RPS law
<b>C</b>	30 - 50% RPS law
<b>D</b>	Less than 30% RPS law
<b>F</b>	No RPS (or voluntary target)

State	RPS target	Target date	Grade
Washington D.C.	100%	2032	<b>A</b>
Rhode Island	100%	2033	<b>A</b>
Connecticut	100%	2040	<b>A</b>
Minnesota	100%	2040	<b>A</b>
New York	100%	2040	<b>A</b>
Illinois	100%	2045	<b>A</b>
Massachusetts	100%	2050	<b>A</b>
Colorado	100%	2050	<b>A</b>
New Jersey	53%	2033	<b>B</b>
Maryland	50%	2030	<b>B</b>

## Solar carve-outs

### 5% of grade

Some legislatures have set aside a specific percentage of electricity generation from solar as a part of an RPS law. Solar carve-outs aren't as common as RPS laws but do a great deal to encourage private investment in solar. Only six of our top states have solar carve-outs.

States with solar carve-outs tend to have mechanisms in place to ensure compliance with the standard, often setting up markets for Solar Renewable Energy Certificates (SRECs). In states with these markets, utilities buy SRECs from solar producers to prove that the energy generation was set aside for compliance with the carve-out.

Scores were assigned to states based on the target percentage set in their solar carve-out.

Grade	Standard
<b>A</b>	1.5% of sales or greater
<b>B</b>	1% - 1.5% of sales
<b>C</b>	Any carve-out
<b>F</b>	No carve-out

State	RPS target	Target date	Grade
Maryland	14.50%	2030	<b>A</b>
Washington D.C.	5%	2032	<b>A</b>
Massachusetts	3.67%	2024	<b>A</b>
Colorado	3%	2020	<b>A</b>
Illinois	1.50%	2026	<b>B</b>
New Jersey	1.10%	2033	<b>B</b>
Connecticut	None	n/a	<b>F</b>
Minnesota	None	n/a	<b>F</b>
New York	None	n/a	<b>F</b>
Rhode Island	None	n/a	<b>F</b>

## Electricity prices

**15% of grade**

Electricity cost is largely a function of the policy environment in a state, as well as the fuel sources used in existing power plants. As such, East Coast states tend to have very high fuel costs because most of their energy has historically been made using fossil fuels produced out of state.

Electricity prices are a very straightforward evaluation factor. The higher the price customers pay for retail electricity, the more they can save by replacing some or all of their usage with electricity generated using rooftop solar panels.

This analysis uses 2023 YTD residential electricity prices from the U.S. Energy Information Administration's Electric Power Monthly report, Table 5.6.B, with prices through May 2023.

Points in this category were based on a state's relative position within the highest and lowest electricity prices across the entire country, with the highest (Connecticut) awarded 4.0, the lowest (North Dakota) awarded 0, and all the others between them.

State	Price (cents/kWh)	Score (out of 5)	Grade
Connecticut	32.61	4.00	<b>A</b>
Massachusetts	31.54	3.94	<b>A</b>
Rhode Island	27.54	3.66	<b>A</b>
New York	21.88	3.11	<b>B</b>
Illinois	17.18	2.37	<b>C</b>
New Jersey	17.12	2.36	<b>C</b>
Maryland	15.94	2.10	<b>C</b>
Washington D.C.	15.73	2.05	<b>C</b>
Colorado	14.07	1.61	<b>C</b>
Minnesota	13.91	1.56	<b>D</b>

# Net metering / feed-in tariff

**15% of grade**

Hand-in-hand with electricity prices goes net metering—history’s most celebrated distributed solar policy—which has provided solar owners with simplicity and certainty in their investment for many years.

Simply put, net metering provides solar owners full credit for every kWh their systems generate, whether used in their homes or sent to the grid. It is an easy way to ensure solar owners are rewarded for the benefits their systems provide to the grid and society as a whole.

Unfortunately, almost nothing about net metering is as simple as that description makes it sound. State net metering laws differ in many ways, including how and what customers are paid.

State	Score	Grade
Washington D.C.	4	<b>A</b>
Colorado	3.85	<b>A</b>
Maryland	3.85	<b>A</b>
Minnesota	3.85	<b>A</b>
New Jersey	3.85	<b>A</b>
Connecticut	3.85	<b>A</b>
Massachusetts	3.6	<b>A</b>
Illinois	3.55	<b>A</b>
New York	3.25	<b>A</b>
Rhode Island	3.20	<b>A</b>

Scores from 0 to 4 were awarded based on how well a state’s net metering rules align with the ideal criteria. The following rubric outlines how scores were calculated with policy variations taken into account.

	A	B	C	D	F	Weight
<b>Type of net metering</b>	Full retail	Full retail minus avoided costs (or similar)	Retail for monthly offset, but FiT for monthly NEG	FiT for all generation (buy-all, sell-all), or FiT for real-time or daily NEG	No credit	35%
<b>In practice, who is</b>	All or nearly all utilities	IOUs only	Less than all IOUs, greater than 35% of state population	10%-35% of state population	Nobody	10%
<b>Demand Charge</b>	No demand charge	n/a	n/a	n/a	Demand charge of any kind	15%
<b>Rollover policy</b>	Continuous, or net excess generation paid yearly at close to retail	Yearly payout at avoided cost or FiT	Util reclaims credits after 1 year or util pays avoided cost for monthly NEG	Util reclaims credits after each month or pays daily NEG	No credit	15%
<b>In practice, feed in tariff is:</b>	100% of retail	85%-100% of retail	60%-85% of retail	35%-60% of retail	Less than 35% of retail	10%
<b>Aggregate/ Virtual NEM</b>	Yes	n/a	Yes, but required to be on "contiguous property" with the point of use.	n/a	No	15%

# Incentive Factors

The incentive factors each represent different types of programs used to encourage private investment in renewable energy. The weighting represents the relative merits of each type.

Because of their ability to provide the greatest benefit to the most people, rebates and performance incentives were weighted the highest at 15% of the total grade each. State income tax credits follow at 10% of the overall grade, and their somewhat lower weighting recognizes that they may not be accessible to low- and moderate-income taxpayers.

Property and sales tax exemptions count toward 5% of the overall grade, as they are “nice-to-haves” but not essential to support a homeowner’s decision to go solar.

## Solar or battery rebates

15% of grade

Solar and battery rebates directly reduce the up-front costs of buying these renewable energy technologies. Rebate payments effectively lower the cost for anyone who installs solar, regardless of income level.

Unfortunately, rebates have fallen out of favor in many states as the cost of installing solar panels has decreased. Furthermore, the states with the two best current rebate programs (Oregon and California) didn't make our top 10 list.

Scores were assigned to states based on whether they offered one or both kinds of rebates and whether rebate programs were available to a significant number of the state's residents.

State	Rebates grade
New York	C
Maryland	C
Colorado	C
Massachusetts	C
Minnesota	C
Washington D.C.	C
Connecticut	F
Illinois	F
New Jersey	F
Rhode Island	F

### Grade Standard

- A** Both solar and energy storage rebate programs
- B** Solar or energy storage rebate programs that cover most residents
- C** Scattered or limited programs
- D** Minimal or highly limited programs
- F** No rebates

# Performance payments and virtual power plants

**15% of grade**

Performance payments directly add to the financial value of generated solar energy. The most common example is payment for Solar Renewable Energy Credits (SRECs). Owners of modest-sized systems in states with robust SREC markets can earn substantial amounts in SREC payments.

Performance payments can also simply be an adder paid by the utility company for each kWh of solar energy generated by a customer and transmitted to the grid. Massachusetts and Minnesota have such programs in place. VPPs were included in this section because the payments work similarly to performance payment programs.

The availability and aspects of performance payment programs counted for up to three points. The availability of VPP programs counted for up to one additional point.

## Score Standard

**3**

Performance payment program covering much of the state, with low-income adder.

**2**

Performance payment program that covers much of the state without low-income adder, or program covering fewer people

**0**

No performance payment program

**+1**

Active VPP program serving IOU customers. Half credit for pilot programs

State	Performance payment score	VPP score	Total score	Grade
Massachusetts	3	1	4	<b>A</b>
Minnesota	3	0.5	3.5	<b>A</b>
Colorado	2	1	3	<b>B</b>
Illinois	3	0	3	<b>B</b>
New Jersey	3	0	3	<b>B</b>
Rhode Island	2	1	3	<b>B</b>
Washington D.C.	2	0	2	<b>C</b>
Connecticut	0	1	1	<b>D</b>
Maryland	0	0.5	0.5	<b>F</b>
New York	0	0.5	0.5	<b>F</b>



## State tax credits

10% of grade

State tax credits are relatively simple, but usually only benefit those who have tax liability. This often prevents low- and middle-income households, who can benefit the most from state solar incentive programs, from taking advantage of the credit.

Like rebates, state tax credits have diminished in recent years, and only a few states still offer them. States were scored based on the availability and value of the state-level tax credits available.

### Grade Standard

**A** Greater than 20% of solar costs up to \$5,000, no annual limit

**B** Less than 20% of solar costs up to \$1,000

**C** Less than \$1,000 for solar, or EV and/or energy storage credits only, or a state with no income tax

**D** Very limited tax credits

**F** No credits

State	Rebates grade
Maryland	<b>A</b>
New York	<b>A</b>
Massachusetts	<b>B</b>
Colorado	<b>C</b>
Washington D.C.	<b>C</b>
Connecticut	<b>F</b>
Illinois	<b>F</b>
Minnesota	<b>F</b>
New Jersey	<b>F</b>
Rhode Island	<b>F</b>

## Property and sales tax exemptions

5% of grade

The final incentive factor encompasses property and sales tax exemptions, both common in the best solar states. Sales tax exemptions help save money on the initial purchase of a solar installation, and property tax exemptions prevent homeowners from having to pay more in property taxes based on the assessed value that a solar installation adds to their property.

Scores were assigned based on the availability and length of the exemptions offered.

### Grade Standard

<b>A</b>	Both exemptions without end dates
<b>B</b>	Both exemptions, one or both with end dates
<b>C</b>	One exemption without end date
<b>D</b>	One exemption with end date
<b>F</b>	No exemptions

State	Rebates grade
Colorado	<b>A</b>
Connecticut	<b>A</b>
Maryland	<b>A</b>
Massachusetts	<b>A</b>
Minnesota	<b>A</b>
New Jersey	<b>A</b>
New York	<b>A</b>
Rhode Island	<b>A</b>
Washington D.C.	<b>C</b>
Illinois	<b>F</b>

# Outcome Factors

Two outcome factors were considered when ranking states: payback time and internal rate of return. These categories are based on the calculated financial benefits of a home solar system when considering all other factors. At 5% weight each, these categories are weighted very low in our scoring system. Still, they do have a small but vital role to play in better differentiating states by their potential for positive financial outcomes.

We used our own in-house calculation engine to perform the analysis. The engine uses up-to-date residential utility rate data from the U.S. Energy Information Administration, average single-family detached household usage from Genability, insolation data from The National Renewable Energy Laboratory, and the SolarReviews database of local solar prices and state and federal incentive programs.

To gather the data used in scoring these categories, we selected a ZIP code in the service territory of each state's largest utility company. We ran the calculations based on the state's real average monthly bills based on household usage and current rates.

## Payback time

### 5% of grade

Payback time is a fairly straightforward measurement. It is simply the number of years it would take for a solar installation to pay back its initial cost through energy bill savings, considering incentives, current and estimated future electricity prices, and expected solar panel degradation rates.

Across most of the solar industry, a payback time of less than 10 years is considered good, but obviously, shorter is better. All but one state (Maryland) in our top 10 ranking has payback times faster than ten years.

Because these factors deal with quantifiable data, we were able to score these categories relative to the most favorable outcomes. For payback time, we scored states based on how close they were to the mark set by the best competitor (Washington D.C., with a payback time of 3.1 years).

Here are the average payback times and scores for the top 10 states:

State	Avg Payback (Years)	Payback score	Payback grade
Washington D.C.	3.1	4.00	A
Connecticut	5.6	3.54	A
Massachusetts	5.9	3.49	A
Illinois	5.9	3.49	A
Rhode Island	6.3	3.42	A
New Jersey	6.7	3.34	A
New York	6.9	3.31	A
Maryland	7.1	3.27	A
Colorado	9.0	2.92	B
Minnesota	9.2	2.89	B

# Internal rate of return (IRR)

**5% of grade**

Payback period, while useful, ignores what happens after the initial payback. A more accurate measurement of how solar panels perform as an investment over the long term is called internal rate of return, or IRR.

IRR is a measurement of the percentage return someone would have to get from another investment to break even with the predicted 25-year savings from a solar investment. It makes solar easy to compare to other investments.

The most common comparison with solar is a long-term investment in the stock market. According to [officialdata.org](http://officialdata.org), the average annual return of an

investment in the S&P 500 for the last 25 years is around 8%, a figure often used to compare against other investments.

Like the payback period, IRR was scored using a relative scale. Because the IRR of solar investments in most states is substantially higher than the historical return of the S&P 500, we devised a logarithmic rating scale, which places an IRR of 8% at a score of 3 (average) but quickly increases the score as the IRR goes up.

Here are the average IRR measurements and scores for the top 10 states:

State	Avg IRR	IRR score	IRR grade
Washington D.C.	47.2%	4.00	A
Connecticut	24.0%	3.61	A
Massachusetts	22.2%	3.56	A
Illinois	21.7%	3.54	A
Rhode Island	19.7%	3.48	A
New Jersey	17.1%	3.37	A
New York	17.6%	3.39	A
Maryland	16.2%	3.32	A
Colorado	12.1%	3.02	B
Minnesota	11.6%	2.96	B

