

State Pollinator-Friendly Solar Initiatives

Georgena Terry Clean Energy States Alliance

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About this Paper

Recognizing that solar installations can coexist with pollinator habitats, seven states have enacted legislation to promote pollinator-friendly solar development. This white paper provides an overview of these state efforts and offers suggestions for what other states can do to promote solar while also creating or preserving healthy habitats for pollinators.

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Clean Energy States Alliance 50 State Street, Suite 1 Montpelier, VT 05602 802.223.2554 www.cesa.org cesa@cleanegroup.org

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Introduction

Pollinators play a critical role in the production of food and seeds. Approximately one quarter of agricultural production in the United States depends upon pollinators, predominantly bees.¹ Since 2006, bee population tracking has recorded declines of 30 percent annually.² Numerous species of native bees may already be extinct or at risk of extinction.³ Loss of habitat is one reason the number of pollinators has decreased.⁴

Many states have incentives or other programs designed to promote the deployment of solar photovoltaics (PV) to meet climate or clean energy goals. But where fields are cleared for large solar PV projects to be installed, it can be at the expense of pollinators, which depend on vegetation for habitat and food. Solar and pollinators, however, need not be at odds. This paper will provide an overview of state efforts to encourage solar PV development in a manner that is beneficial to pollinators.



- 1 Walston, Leroy J., Shruti K. Mishra, Heidi M. Hartmann, Igor Hlohowskyj, James McCall, and Jordan Macknick. "Examining the Potential for Agricultural Benefits from Pollinator Habitat at Solar Facilities in the United States." Environmental *Science & Technology*. 2018. 52 (13), 7566. https://pubs.acs.org/doi/10.1021/acs. est.8b00020.
- 2 Penn State College of Agricultural Sciences. "Globally, pollinators are in decline." Center for Pollinator Research. Accessed December 20, 2019. https://ento.psu.edu/ pollinators/resources-and-outreach/globally-pollinators-are-in-decline.
- 3 Xerces Society. "Red List of Bees: Native Bees in Decline." https://xerces.org/ pollinator-redlist.
- 4 U.S. Fish & Wildlife Service. "Threat to Pollinators." https://www.fws.gov/ pollinators/PollinatorPages/Threats.html.

Using Solar to Grow Bees

Ground-mounted solar PV arrays can have a significant impact on pollinators, because ground-mounted systems are deployed directly into the soil, which can disturb pollinator habitat. Groundmounted solar arrays currently occupy approximately 350,000 acres of land in the United States,⁵ with significantly more growth expected in the coming years. To reduce maintenance, the area under and around these solar arrays is often stripped of vegetation that is then replaced with gravel and turf grass and treated with herbicides.⁶ With a different treatment regime, if this land is instead cultivated with appropriate vegetation, pollinator habitat can be preserved or created.

Several studies have shown that in



areas where pollinator-friendly solar PV projects are deployed near agricultural lands that depend on pollinators, agricultural production may be intensified.⁷ An article published by the National Renewable Energy Laboratory, titled "Beneath Solar Panels, the Seeds of Opportunity Sprout," notes that retaining the topsoil on a pollinator-friendly solar site is not as costly as removing it. The native vegetation that is planted under solar arrays is less maintenance-intensive than turf grass or gravel alternatives. When vegetation is planted under solar panels, it can absorb heat, lowering the temperature of the surrounding panels and increasing panel efficiency—resulting in more electricity production.⁸

A team of researchers at Argonne National Laboratory has examined the potential benefits of establishing pollinator habitat at utility-scale solar energy facilities to conserve pollinators and restore ecosystems. Their research has found that areas around solar panels can provide suitable habitat for bees.⁹

⁵ Personal Communication. Davis, Rob. "Question from Georgena." Email message to Georgena Terry. May 29, 2019.

⁶ Beatty, Brenda, Jordan Macknick, James McCall, and Genevieve Braus. "Native Vegetation Performance under a Solar PV Array at the National Wind Technology Center." National Renewable Energy Laboratory. Technical Report NREL/TP-199-66218. May 2017. https://www.nrel.gov/docs/fy170sti/66218.pdf.

⁷ Walston et al., op.cit.

⁸ Dreves, Harrison. "Beneath Solar Panels, the Seeds of Opportunity Sprout." National Renewable Energy Laboratory. Accessed December 20, 2019. https://www.nrel.gov/news/features/2019/beneath-solar-panels-the-seeds-of-opportunity-sprout.html.

⁹ Russell, Greer. "Can Solar Save Bees?" Argonne National Laboratory. August 3, 2018. https://www.anl.gov/article/can-solar-energysave-the-bees. See also, "Examining the Potential for Agricultural Benefits from Pollinator Habitat at Solar Facilities in the United States," Leroy J. Walston, et. al., https://pubs.acs.org/doi/10.1021/acs.est.8b00020.

State Efforts to Promote Pollinator-Friendly Solar PV

Increasingly, states are promoting pollinator-friendly solar through legislative initiatives. In the last five years, seven states have passed legislation that allows solar projects to claim that they are pollinator friendly. These state solar programs share common elements. In all cases, these states have developed guidelines that are defined for a *voluntary designation* by the solar project owner that a solar site is pollinator friendly. The program guidelines generally rely on a scorecard to assess whether a site qualifies for the pollinator-friendly designation. These scorecards have a format similar to those developed by Minnesota, the first state that took legislative action on this issue.

Community Solar and Pollinator-Friendly Solar

All of the states that have passed pollinator-friendly solar laws have also authorized community solar, a purchasing arrangement whereby multiple customers share the electricity or the economic benefits of solar power from a single solar array. Because community solar arrays serve multiple customers, they tend to be larger than most residential systems and are often ground-mounted due to their size. Community solar customers affirmatively opt in to participate as off-takers of the electricity generated. As such, a voluntary pollinatorfriendly designation of a community solar array may carry more power as a marketing driver for customers in states with community solar programs than it would for solar projects that have a single off-taker and do not require buy-in from a larger consumer base.

Below is a brief description of the different pollinator-friendly solar initiatives developed by states. A summary of each state's pollinator-friendly solar program is attached as Appendix A.

MINNESOTA: Minnesota was the first state to address pollinator protection with H.F. 976, which passed in 2013. The law established a pollinator habitat program to develop "best management practices and habitat restoration guidelines for pollinator habitat enhancement" in Minnesota.¹⁰ A scorecard for assessing pollinator sites was developed through Minnesota's program.¹¹ In 2016, the Minnesota legislature addressed pollinator-friendly solar sites directly. H.F. 3353 passed with near-unanimous support.¹² The scorecard for assessing pollinator sites developed under Minnesota's program served as a basis for the scorecards later developed to evaluate

¹⁰ Minnesota Legislature. Minnesota Session Laws - 2013, Regular Session. CHAPTER 114-H.F.No. 976. https://www.revisor.mn.gov/laws/2013/0/114.

¹¹ Minnesota Board of Water and Soil Resources. "Assessing & Prioritizing Project Sites." Accessed December 23, 2019. https://bwsr.state.mn.us/ sites/default/files/2019-02/Urban%20and%20Rural%20Assessment%20Forms_0.pdf.

¹² The billed passed unanimously in the Minnesota House. Two lawmakers voted against it in the Senate. Bipartisan support for the bill was widespread because it addressed ecological con-cerns shared by industry, agriculture, environmentalists, and legislators alike, and avoided more contentious issues related to pesticides.

pollinator-friendly solar sites under Minnesota's 2016 law. Minnesota's Board of Water and Soil Resources website offers a description of the program and its requirements.¹³ The agency plans to include a list on its website of "Habitat Friendly Solar" projects that conform to the pollinator friendly solar program. Minnesota's Board of Water and Soil Resources notes that there are a large number of solar sites that have met the requirements.¹⁴

MARYLAND: Maryland passed pollinator-friendly solar legislation¹⁵ in 2017. The law charges the Maryland Department of Natural Resources with researching the benefits of a pollinator-friendly vegetation management plan and creating a pollinator-friendly designation program. Owners of solar generation facilities may claim the facility is pollinator friendly if it conforms to the Maryland Department of Natural Resources' regulations.

SOUTH CAROLINA: The South Carolina Legislature passed the *Solar Habitat Act* in 2018.¹⁶ The law applies to ground-mounted commercial solar energy generation sites. It directs the South Carolina Department of Natural Resources to establish a native vegetation habitat and pollinator management plan that can be used by solar operators to claim they are following voluntary site management practices.

VERMONT: The State of Vermont enacted a "Pollinator Friendly Solar Generation Standard" in 2018 to give rigor to the voluntary establishment of pollinator-friendly sites and related marketing claims.¹⁷ Vermont's law is applicable to public or private entities with a controlling interest in a ground-mounted solar system. Vermont uses a pollinator-friendly scorecard to assess whether the site meets a beneficial habitat standard.¹⁸ The University of Vermont Extension, which played a key role in the development of the state's pollinator-friendly standard, identifies conforming pollinator-friendly solar projects on its website.¹⁹

NEW YORK: New York's pollinator-friendly solar law,²⁰ enacted in 2018, requires the New York State Department of Environmental Conservation to develop minimum guidelines for vegetation management plans used to support these claims.

14 Personal Communication. Shaw, Dan. "Pollinator Friendly Solar Projects in MN." Message to Georgena Terry. June 17, 2019. Email.

- 16 South Carolina General Assembly. "South Carolina Solar Habitat Act." 122nd Session, 2017-2018. https://www.scstatehouse.gov/sess122_ 2017-2018/bills/4875.htm.
- 17 Vermont General Assembly. "Pollinator-friendly Solar Generation Standard." 6 V.S.A. § 5102. https://legislature.vermont.gov/statutes/ section/06/217/05102.
- 18 University of Vermont. "Solar Site Pollinator Habitat Scorecard." Accessed December 23, 2019. https://www.uvm.edu/sites/default/files/ Agriculture/Pollinator_Solar_Scorecard_FORM.pdf
- 19 UVM Extension. "Pollinator-Friendly Solar Resources." Accessed December 23, 2019. https://www.uvm.edu/extension/agriculture/pollinator-friendly-solar.
- 20 New York State Assembly. A08083A. May 25, 2017. https://assembly.state.ny.us/leg/?default_fld=&bn=A08083&term=2017&Summary=Y&Action s=Y&Text=Y&Committee%26nbspVotes=Y&Floor%26nbspVotes=Y.

¹³ Minnesota Board of Water and Soil Resources. "Habitat Friendly Solar Program." Accessed December 23, 20219. https://bwsr.state.mn.us/ bwsr-habitat-friendly-solar-program. The MBWSR maintains a webpage on Pollinator Habitat that includes a "Pollinator Toolbox" and other helpful resources at https://bwsr.state.mn.us/practices/pollinator/index.html.

¹⁵ Maryland Senate. Bill 1158: Department of Natural Resources-Solar Generation Facilities -Pollinator-Friendly Designation. Chapter 372. May 4, 2017. https://legiscan.com/MD/text/SB1158/2017.

ILLINOIS: In 2018, Illinois enacted the *Pollinator Friendly Solar Site Act*²¹ that requires the owner or manager of a solar site to prove it adheres to standards set forth in a scorecard published by the Illinois Department of Natural Resources, in order to claim the site is pollinator friendly.

MICHIGAN: Michigan amended its Farmland Open Space Preservation Program (PA 116) in 2019 to allow commercial solar sites on property enrolled in the Michigan Farmland Development Rights Program. Landowners agreeing to keep their land in agricultural use for at least 10 years may be eligible for tax benefits and assessment exemptions sites are required to be pollinator-friendly as defined by Michigan's guidelines.

Examples of Pollinator-Friendly Solar Projects

Utilities have begun to address pollinators in their solar development efforts. As of 2018, **Xcel Energy** in Minnesota requires disclosure of the type of vegetation to be planted on solar sites in all its solar PV solicitations.

The electric utility **Alliant Energy**'s five-megawatt solar garden in West Dubuque, Iowa features pollinator-friendly prairie planting and hosts beehives on 21 acres. This is Iowa's largest solar site.²²

In Vermont, **Green Mountain Power**, an investor-owned utility and a certified B-Corporation,²³ has established four pollinator-friendly solar sites in the state that together generate 22 megawatts of power.²⁴ On a smaller scale in Vermont, a 500-kilowatt, four-acre site owned and operated by **Green Lantern Solar** hosts pollinator-friendly vegetation. The power from this site is reserved for Sugarbush Resorts. Green Lantern Solar operates about 50 solar farms and is using this site as a pilot project to assess the benefits of pollination. If the project is successful, Green Lantern may expand pollinator plantings to its other sites.²⁵

Dairyland Power, a rural electric cooperative, operates 18 solar array sites in four states (Wisconsin, Minnesota, Iowa, and Illinois) with 25 megawatts of installed capacity. These sites collectively encompass 250 acres of certified pollinator habitat.²⁶

Developers have played a role as well. Ohio has no legislation regarding pollinator-friendly solar, but a recent partnership between the solar developer **AEP Energy** and **Denison University** resulted in the construction of a 2.3-megawatt, 10-acre ground-mounted pollinator-friendly solar array. Denison University estimates over one million beneficial plants grow on the site.²⁷

²¹ Illinois General Assembly. Public Act 100-1022. August 21, 2018. http://www.ilga.gov/legislation/publicacts/fulltext.asp?Name=100-1022.

²² Alliant Energy. "2017 Corporate Sustainability Report." August 2017. Page 6. https://sustainability.alliantenergy.com/wp-content/ uploads/2017/07/Alliant-Energy-Corp-Sustainability-Report_2017.pdf.

²³ Website. Certified B Corporation. Accessed December 23, 2019. https://bcorporation.net.

²⁴ Personal Communication. Carlson, Kristin. "Panton Pollinator-Friendly Solar." Message to Georgena Terry. July 16, 2019. Email.

²⁵ Website. Bee the Change. Accessed December 23, 2019. https://www.beethechangehoney.com/blog/2017/9/19/an-update-on-our-projectin-new-haven-vermont.

²⁶ Dairyland Power Cooperative. "Pollinator Meadows." Accessed December 23, 2019. https://www.dairylandpower.com/content/pollinatormeadows.

²⁷ Denison University. "Pollinator-friendly solar habitat first of its kind in Ohio." July 16, 2019. https://denison.edu/news-events/featured/131013.

Farming-Friendly Solar

The preservation of agricultural land is critical for pollinators. One of the mutually beneficial linkages between agriculture and pollinators is that nectar-foraging bees are attracted to clover, which is customarily used to fix nitrogen in the soil and can contribute to improved crop yields.

In **Massachusetts**, the Solar Massachusetts Renewable Target (SMART) program encourages solar development with incentive payments to operators of eligible solar arrays. The SMART program designates categories of compensation rate adders for solar projects, including a category for projects on farmland that allow for the continued use of the land for agriculture. In addition to the current SMART categories, the Massachusetts Department of Energy Resources recently proposed a \$0.0025/kWh rate adder for pollinatorfriendly solar developments that meet the University of Massachusetts' standard. The University of Massachusetts Clean Energy Extension is in the process of developing a pollinator-friendly certification program for solar facility developers and managers. The program will include best management practices, certification criteria, and recommended plant species using a rating system.

Some states have addressed the compatibility of solar and agriculture without specifically establishing pollinator-friendly solar designations. In **New Jersey**, for example, agricultural land may retain a beneficial farmland assessment if a solar project sited on it generates less than two megawatts of electricity, uses no more than ten acres, at least five acres of land remains in agricultural use, and the ratio of land used for energy to land in agriculture does not exceed 1:5.

In **North Carolina**, if agricultural land is converted to a non-agricultural use, property owners must ordinarily pay a deferred taxes penalty on that land, but they may be able to avoid the penalty if the solar development on the land retains a dual agricultural use. The State of **Vermont** has a Pollinator Friendly Solar Generation Standard, but beyond that, the Vermont Agency of Agriculture has worked with the University of Vermont Extension Program to publish additional guidance on farm friendly solar.

What States Can Do to Promote Pollinator-Friendly Solar PV

For ecological conservation and agricultural productivity, states have a vested interest in pollinator protection. States are well positioned to take proactive roles on this issue as they are often viewed as authorities on energy and environmental matters and carry out programs in both arenas.

States can promote pollinator-friendly solar through legislative initiatives. As Maryland, Michigan, Minnesota, Illinois, New York, South Carolina, and Vermont have shown, state legislation could direct the development of pollinator-friendly solar designation programs. The implementation of new state programs could occur relatively swiftly by adapting existing state pollinator-friendly solar standards or those developed by academia. States could legislatively require developers to take certain measures in order to claim their site is pollinator friendly; they could also encourage municipalities or other authorities having jurisdiction to consider pollinator habitats in their solar permitting processes.

Even in states without pollinator-friendly solar laws, states agencies can take proactive roles in encouraging pollinator-friendly solar development. Where state agencies have broad mandates, they may be able to establish voluntary pollinator-friendly programs that fall within their delegated



authority. For example, the Virginia Department of Environmental Quality and the Department of Conservation & Recreation have jointly developed a "Pollinator-Smart" program.²⁸ The program offers guidance to solar PV developers on planning, installing, and maintaining pollinator habitat at solar sites. It includes a program manual, a vegetation monitoring guide, a database of commercially available native plant species, and "pollinator-smart" scorecards for both new and established solar facilities.²⁹

Recent studies by the Yale Center for Business and the Environment address the cost-benefit analysis of pollinator-friendly solar and contemplate an ecosystem services market that could further promote pollinator-friendly solar development.³⁰ As the monetization of ecosystem services becomes better defined, opportunities will exist for state policies to support development of this market. Under such a market, the economic benefits of pollinator-friendly solar development compared to conventional installations of solar may be sufficient to further encourage its adoption.

Additionally, state agencies may participate as advisory board members in academia's pollinator research. For example, the **North Carolina** Department of Agriculture and the North Carolina Department of Environmental Quality are both members of the North Carolina Pollinator Conservation Alliance,³¹ which has developed a technical guidance document for native plantings on solar sites. The **Pennsylvania** Department of Agriculture participates in the Stakeholder Advisory Board on Pollinator Health at Penn State's Center for Pollinator Research,³² which has established a Solar Site Pollinator Habitat Planning Form (see Appendix A).

States can also provide educational materials on the importance of pollinators. These materials could be targeted to solar developers, farmers, or to a wider citizen audience. States could offer technical assistance to solar developers to promote the consideration of pollinators in project siting or the incorporation of pollinator-friendly measures in project design and installation.

Conclusion

In the past six years, states have increasingly taken action to encourage pollinator-friendly solar PV devleopment. From scorecards to proposed rate adders, pollinator-friendly solar practices have evolved to demonstrate a variety of actions that states can undertake. Current research into the costs, benefits, and positive environmental outcomes will likely promote the adoption of pollinator-friendly activities by additional states and solar developers.

²⁸ Elizabeth McGowan. "Virginia Toolkit Tells Solar Developers How to Incorporate Bee and Bird Habitat." Energy News Network. October 28, 2019. https://energynews.us/2019/10/28/southeast/virginia-toolkit-tells-solar-developers-how-to-incorporate-bee-and-bird-habitat.

²⁹ Virginia Department of Conservation & Recreation. Pollinator Smart Solar Site Portal. https://www.dcr.virginia.gov/natural-heritage/ pollinator-smart.

³⁰ Seigner, Katie, et al. "Capturing the Private and Public Benefits of Pollinator-Friendly Solar." Clean Energy Finance Forum. December 11, 2019. https://www.cleanenergyfinanceforum.com/2019/12/11/capturing-the-private-and-public-benefits-of-pollinator-friendly-solar.

³¹ Insect (blogger). "The Wildlife Value of a Messy Garden." North Carolina Pollinator Conservation Alliance. October 23, 2019. http://ncpollinatoralliance.org.

³² Penn State College of Agricultural Sciences. Overview: Center for Pollinator Research. https://ento.psu.edu/pollinators/mission.

Appendix A: State Actions

State	Bill/Statute	Date of Enactment	Applicable to	Summary	Current Status	Scorecard	Verification/ Enforcement
Illinois	"Pollinator Friendly Solar Site Act" (S.B. 3214)	Approved by Gover- nor on 8/21/2018; took effect immedi- ately	A solar site with a gener- ating capacity greater than 40 kilowatts	The legislation creates a scorecard to set minimum standards that solar developers must fulfill if they want to claim their project is "pollinator-friendly" or provides benefits to game birds, songbirds, and pollinators. The scorecard is designed jointly by University of Illinois Extension at Urbana-Champaign. Department of Entomology and Illinois' Department of Natural Resources.	The final scorecard is expected be approved by the end of June 2019	Minimum score of 70	Not specified.
Maryland	DNR—Solar Facilities- Pollinator- Friendly Designation (S.B. 1158)	Approved by Gover- nor on 5/4/2017; took effect on 6/1/2017	Ground- mounted solar facilities which are at least one acre in size	The bill charges the Maryland Depart- ment of Natural Resources (DNR) with creating a pollinator friendly designation program and promulgating regulations and a scorecard. The scorecard must be recommended by the University of Maryland Bee Lab. The regulations must be approved and posted in the Mary- land Register for comments before they become effective. The owner of the solar facility may be charged a fee to cover reasonable costs associated with the pollinator friendly designation.	Regulations are in the drafting process	Minimum score of 70	Still under development.
Michigan	Policy for Allowing Commercial Solar Panel Development on PA 116 Lands (amend- ments to the Farmland and Open Space Preservation Program (PA 116))	Policy announced by Gover- nor on 6/3/2019	Commercial solar gen- eration on property enrolled in the Michigan Farmland Development Rights Program	Amends Michigan's Farmland Develop- ment Rights Agreement to allow for a commercial solar array which meets cer- tain conditions. The solar site should be designed and planted to achieve a score of at least 76 on the Michigan Pollinator Habitat Planning Scorecard for Solar Sites. The Farmland and Open Space Act enables farm owner to enter into developmental rights agreement with the state. It ensures that land remains in agricultural use for min of 10 years and is not developed for non-agricultural use. The landowner receives certain income tax benefits and the land is not subject to special assessments.	In effect	Minimum score of 75	The landowner's responsibilities are summarized in the agreement and includes the conditions for pollinator protection.
Minnesota	"Solar Sanctuaries Bill" (H.F. 3353)	Approved by Gover- nor on 5/31/2016; took effect on 8/1/2016	Ground mounted solar sites with a generating capacity greater than 40 kilowatts	The owner of a ground mounted solar site may claim that the site provides benefits to game birds, songbirds, and pollinators only if the site adheres to guidance set forth by the pollinator plan provided by the MN Board of Water and Soil Resources (BSWR) or any other game bird, songbird, or pollinator foraging-friendly vegetation standard established by the Board of Water and Soil Resources. The project must score 70 points or higher on the Solar Site Pollinator Habitat Assessment scorecard maintained by the Board of Soil and Water Resources and make the vegetative management plan for the project publicly available including sharing it with a Minnesota nonprofit solar trade association.	In effect	Minimum score of 70	After the third year vegetation has been estab- lished, and every three years afterwards, an Established Project Assess- ment Form must be submitted to BSWR or its designated repre- sentatives in order for the project to continue to be listed as a BSWR "Habitat Friendly Solar" project.

State Actions CONTINUED

State	Bill/Statute	Date of Enactment	Applicable to	Summary	Current Status	Scorecard	Verification/ Enforcement
New York	"The Pollinator Friendly Solar Bill" (A. O.8083A/ SO6339A)	Approved by Gover- nor on 12/7/2018; took effect in early March 2019.	A person, corporation, partnership, association or other orga- nized group of persons who make public claims that their property or commercial enterprise on a property, including, but not limited to solar electric generating systems, is pollinator friendly or provides benefits and protection to pollinators.	The legislation requires the New York Department of Environmental Conser- vation in association with others, to develop minimum guidelines for vege- tation management plans used by those who make public claim that their property is pollinator friendly or provides protec- tions to pollinators. A scorecard is used to determine the standard by which projects are evaluated.	Scorecard is in devel- opment	Scorecard is in devel- opment.	Still under development.
South Caroliona	"Solar Habitat Act" (H. 4875)	Approved by Gover- nor on 5/25/2018; effective immedi- ately	Ground mounted commercial solar energy generation sites.	The legislation directs the South Carolina Department of Natural Resources (DNR), working in conjunction with other state agencies and nonprofit conservation organizations to establish a native vege- tation habitat and pollinator management plan that can be used by solar operators to claim they are following voluntary site management practices.	A working group has been created by the South Carolina DNR and a draft plan has been developed but not yet approved	Scorecard is in devel- opment.	Still under development.
Vermont	"Pollinator- friendly Solar Generation Standard" (6 V.S.A. Title 6, Chapter 217 (H.676 (Act 163))	Signed by Governor on 5/22/2018; took effect on 7/1/2018	Ground mounted pub- lic or private solar system for generating electricity and the area surrounding that system under control of the owner.	The legislation requires that solar devel- opers claiming their solar site is benefi- cial to pollinators and birds are assessed to address specific planting and manage- ment designs. Vermont uses a pollinator friendly scorecard published by the University of Vermont Extension to determine if the site meets a beneficial habitat standard. Sites can be built to this standard or retrofitted after construction.	In effect	Minimum score of 70	Companies must file a new score- card every three years to demon- strate that best management practices are still in effect. The standard also relies on "honest actors" and citizen-enforcers to monitor solar sites.







Clean Energy States Alliance

50 State Street, Suite 1 Montpelier, VT 05602 802.223.2554 cesa@cleanegroup.org www.cesa.org Clean Energy States Alliance (CESA) is a national, nonprofit coalition of public agencies and organizations working together to advance clean energy. CESA members—mostly state agencies—include many of the most innovative, successful, and influential public funders of clean energy initiatives in the country.

CESA works with state leaders, federal agencies, industry representatives, and other stakeholders to develop and promote clean energy technologies and markets. It supports effective state and local policies, programs, and innovation in the clean energy sector, with an emphasis on renewable energy, power generation, financing strategies, and economic development. CESA facilitates information sharing, provides technical assistance, coordinates multi-state collaborative projects, and communicates the views and achievements of its members.

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