State Pollinator-Friendly Solar Initiatives

May 5, 2020
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Webinar Speakers

• Georgena Terry, Research Associate, Clean Energy States Alliance
• Rob Davis, Director of the Center for Pollinators in Energy, Fresh Energy
• Rene’ Hypes, Environmental Review Coordinator, Virginia Department of Conservation and Recreation
• Ben Inskeep, Principal Energy Policy Analyst, EQ Research
• Dan Shaw, Senior Ecologist & Vegetation Specialist, Minnesota Board of Water and Soil Resources
• Nate Hausman, Project Director, Clean Energy States Alliance (moderator)
Thank you for attending our webinar

Nate Hausman
CESA Project Director
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100% Clean Energy States and the 100% Clean Energy Collaborative
*Monday, May 11, 3-4pm ET*

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*Friday, May 15, 2-3pm ET*

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State Pollinator-Friendly Solar Initiatives
The Importance of Pollinators

- One quarter of agricultural production depends on pollinators.
- Bee populations have declined by as much as 30% annually.
- Many bee species are extinct or at risk of extinction.
- Habitat loss is the primary reason for pollinator declines.
- Other insect pollinators include butterflies, beetles and flies.
To reduce maintenance costs, areas under solar arrays are often stripped of vegetation which may then be replaced with gravel or turf grass and treated with herbicides.
Where land is cultivated with appropriate vegetation, pollinator habitat can be preserved or created. This vegetation is less maintenance-intensive than turf grass. It can absorb heat, lowering the temperature of the surrounding panels and increasing panel efficiency.

In areas where pollinator-friendly solar projects are deployed near agriculture that depends on pollinators, agricultural production may be intensified.
State promotion of pollinator-friendly solar through legislative initiatives

- Seven states have passed legislation that allows solar projects to claim they are pollinator-friendly.

- In all states, guidelines are defined for a *voluntary designation* by the solar project owner.

- Most guidelines rely on a scorecard to assess whether the site qualifies for the pollinator-friendly designation.
State Actions

Minnesota — 2013 — Pollinator habitat program (H.F. 976); 2016 — Solar Sanctuaries Bill (H.F. 3353)

Maryland — 2017 — Solar Facilities Pollinator-Friendly Designation (S.B. 1158)

South Carolina — 2018 — Solar Habitat Act (H. 4875)

Vermont — 2018 — Pollinator-Friendly Solar Generation Standard (H. 676)

New York — 2018 — Pollinator-Friendly Solar Bill (A.O. 8083A)

Illinois — 2018 — Pollinator-Friendly Solar Site Act (S.B. 3214)

Michigan — 2019 — Amendments to the Farmland Open Space Preservation Program (PA 116)

(Bill introduced in Kansas — 2020 — Kansas Solar Pollinator Habitat Act (H.B. 2623))
Other Ways States Can Promote Pollinator-Friendly Solar PV

- States have a vested interest in pollinator protection for ecological conservation and agricultural productivity.

- They can encourage municipalities to consider pollinator habitats in their solar permitting processes.

- They can provide educational materials on the importance of pollinators which are targeted to solar developers, farmers, or to a wider citizen audience.

- State agencies can take proactive roles in encouraging pollinator friendly solar development.

- State agencies may participate as board members in academia’s pollinator research.
This CESA white paper on pollinator-friendly solar initiatives can be found at [https://www.cesa.org/assets/State-Pollinator-Friendly-Solar-Initiatives.pdf](https://www.cesa.org/assets/State-Pollinator-Friendly-Solar-Initiatives.pdf)
Please send questions or comments to:
Georgena Terry
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$76.67/watt

>99% Cheaper

NREL, Bloomberg New Energy Finance, Energytrend.com
Examples of “status quo” PV solar
Solar Projects Sow Tension

As panels supplant crops on more farms, states weigh limits on big renewable fields

By JOSEPH DE AVILA

The boom in solar energy is forcing states and farming communities to grapple with where large renewable energy projects should be built.

In Connecticut, a state senator has proposed a bill that would discourage the use of farmland for solar projects. Counties in North Carolina and Washington have already imposed temporary restrictions on solar projects, citing, among other concerns, the potential harm to farmland.

The pressure in rural areas stems in part from simple economics. Some farmers are installing solar panels on a patch of their land to help offset energy costs. Other farmers are renting out entire fields to solar companies that can afford to pay premium prices for access to clear fields that don’t require much work or money to prepare for a solar project.

“Of course, there can be local tension in terms of what people are used to on the farmland, what people like to see in a rural environment,” said Amit Romen, director of the George Washington University Solar Institute. “But I don’t see it as a long-term problem.”

On the Bright Side

<table>
<thead>
<tr>
<th>Year</th>
<th>Megawatt Hours</th>
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<tr>
<td>2006</td>
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</tr>
<tr>
<td>2007</td>
<td>20,000</td>
</tr>
<tr>
<td>2008</td>
<td>10,000</td>
</tr>
</tbody>
</table>

North Carolina Clean Energy Technology Center.

But large solar installations don’t always sit well with local communities.

“People are always concerned about their property values,” said an official at the center. “But there’s no evidence that solar energy projects have a negative impact on property values.”

He said he thinks the center can work with farmers to find a compromise that benefits both sides.

“With careful planning and proper setbacks, solar energy projects can coexist with farmland,” he said.

Mr. Freund, who has a dairy farm in East Canaan, Conn., in recent years installed more than 1,200 solar panels on a patch of his land and on top of his dairy barn. The generated power offsets his entire $6,000 monthly energy bill.

He said he doesn’t like competing with solar companies when he needs access to other farmland, but he also doesn’t like being told what he can build on his property.

“From a property rights standpoint, this is a heavy-handed way to say that my property no longer has this development potential simply because of the fact that it’s arable land,” Mr. Freund said.

Robin Chesney, managing member of a dairy farm in East Canaan, said he thinks solar energy has a role to play in the future of agriculture.

“Solar energy is a clean and renewable source of energy that can be integrated into agricultural operations,” she said. “But it’s important to consider the long-term implications and work with farmers to find a way forward.”
What constitutes “pollinator-friendly” in the context of a solar array?
Greenwashing... leads to distrust

Getting started... meaningful and incremental improvement over time.
Greenwashing... leads to distrust

Getting started... meaningful and incremental improvement over time.

Pollinator-friendly Solar Scorecards
Flexible Standard, Vetted by Expert Entomologists

- Percent wildflowers
- Percent native species
- Diversity of species
- # seasons flowering
- Nearby assets
- Signage?
- Management plan?
Pollinator-Friendly Solar

Incremental <> Meaningful

Solar site vegetation that helps bees and beneficial insects
Bee the Change
Enel Green Power
Photo © Josh Janske,
Minnesota Native Landscapes
Engie solar project, Wisconsin
Photo © Engie
Denison University,
Photo by Susan Studer King
University of Dayton
Before Seeding
President Carter’s Farm
Plains, Georgia
Seeded in 2019 to be pollinator-friendly
Global Energy Innovators

Enel Green Power
Photo courtesy Jake Janske

Engie

Multinational corporations, each with >150,000 employees
Solar Developers

- Eden Renewables
- OneEnergy Renewables
- Encore Renewables
- Pine Gate Renewables
- US Solar
- Sun Tribe
- Namaste Solar
- SunCommon
- Innovateus
- IPS Solar
- SolAmerica
- SunShare
- Solar Energy Systems
- Community Energy
- C2 Energy
Utilities

- Connexus Energy
- Xcel Energy
- Southern Municipal Power
- MCE Clean Energy
- Alliant Energy
- Dairyland Power
Benefit: Universities want pollinator-friendly solar

Solar as a crop? Penn State to install state’s largest solar array on 500 acres of farmland.
Benefit:
Corporations want pollinator-friendly solar

Organic Valley launches community solar partnership to be 100 percent renewably powered by 2019

Farmer-owned cooperative will become the largest food company in the world to source all its electricity from renewable resources within the decade.
Turfgrass

Maximum root depth 3-6 inches

Native Grasses & Forbs

Common root depth 4-8 feet

Solar Site Management for Soil, Storm Water, and Pollinator Benefits
InSPIRE Project Overview

Field-based research topics:
1. Economic viability of solar-agriculture co-location configurations
2. Increasing agricultural yields in arid environments
3. Energy, water, and food security in remote, off-grid areas
4. Pollinator habitat and ecological services

Analytical research topics:
1. Satellite imagery analysis of current land groundcover practices
2. Cost-benefit analysis of O&M ground cover practices
3. Quantification of ecological services of groundcover options

Select from the options below to display all sites using that technology.
- Beekeeping
- Co-location of Solar and Agriculture
- Native Vegetation
- Solar–Integrated Greenhouse
- Beneficial Predators
- Dryland Agriculture Co-location
- Pollinator Habitat
Benefit: slow PV loss/degradation in a warming world

PV efficiency degrades by an average of 0.6% for every 1°C increase in temperature above 25°C (77 F).

CITATIONS


Benefits / Questions / Issues

Benefits

- Community support
- Soil benefits
- Permit approval
- Reduced mower/solar contact
- Reduced grading/stormwater
- Resilient landscaping
- Brand / enhanced reputation
- Solar energy performance
- Reduced frost heave risk

Questions

- Burn/fire risk?
  - (No: solar sites are cooler. Corn field?)
- OSHA
  - (Solve w/ proper attire)
- Endangered species act
  - (CCAA or other FWS agreement)
- Seed supply
  - (Plenty of native species in stock, local-ecotype is scaling up supply)
- Unfamiliarity/ training
  - (Hire experienced partners)
Conservation Grazing

• Controlled rotational grazing using flexible electric fences
• Benefits plant diversity
• Increase soil carbon
• Actively managed grazers keep animals focused on vegetation
• Best when PV design is “sheep ready”
• Recommended by American Solar Grazing Association
Flowering solar farms & honey bee hives
This new solar farm combines clean energy and beehives

Using the space around the solar panels as sites for 48 hives, the Eagle Point solar farm is using its land to save pollinators and help local agriculture.

John Jacob of Old Sol Apiaries
Pine Gate Renewables Solar
Medford, Oregon

Cutting open the first frames of honey from the 2019 harvest.

Minnesota Department of Agriculture Commissioner Thom Petersen with Dustin Vanasse, CEO of Bare Honey
Forest City Solar
15 acre site in north west Iowa
Bee & Butterfly Habitat Fund Seed Mix throughout site
Power goes to Forest City Electrical Utility
Solar Renewable Energy Credits (S-RECs) go to Clif Bar & other partners
Bare Honey manages hives

Photos:
Forest City Mayor Barney Ruiter
Dustin & Grace Vanasse of Bare Honey
Clif Family Winery
Solar Grown Honey
www.ClifFamily.com

Hives managed by
Dustin Vanasse
Bare Honey
**Solarama Crush**

East Coast Style "Hazy" IPA made with honey from a pollinator-friendly solar array

Chef Gavin Kaysen, Coach of Team USA for Bocuse d'Or, the world's most rigorous culinary competition
Status of Solar in Virginia

• DEQ developed a “permit by rule” to facilitate the review of small solar projects in Virginia; it became effective on July 18, 2012

• Since 2015, DEQ has issued 45 permits for projects over 5MW, impacting a total of almost 25,000 acres.

• An additional 62 new projects have been proposed, totaling an additional 36,351 acres.
Virginia Renewable Energy Permits Map
Status of Solar in Virginia

• Last September, Governor Northam signed Executive Order 34 with statewide clean energy goals, including:
  • 30 percent of Virginia’s electric system powered by renewable sources by 2030
  • 100 percent of electricity from carbon-free sources by 2050.
Guidance for Establishing and Maintaining a Pollinator-Smart/Bird Habitat Solar Site

Virginia's Pollinator-Smart program is designed to provide incentives and tools for solar industry to adopt a native plant strategy to meet soil and water control regulations, community needs, and the needs of our biosphere. Below are links to supporting documents for creating pollinator-friendly habitat on a solar facility and meeting the criteria of the Pollinator-Smart certification program.

Developed with input from many stakeholders, natural resource scientists, and environmental policy experts, the materials presented here provide detailed guidance for planning, designing, installing, and maintaining a Pollinator-Smart habitat on a solar facility.

- Comprehensive Manual (Coming Soon)
- Vegetation Monitoring Manual (PDF)
- Native Plants Seed Business Plan (PDF)
- Pollinator-Smart Scorecards
  - New site (PDF)
  - Established site (PDF)

Virginia Solar Site Native Plant Finder

The Virginia Solar Site Native Plant Finder assists users in identifying native plant species appropriate for the various vegetation requirements at a solar facility and match the needs of pollinators and birds. It also includes information on commercial availability.

The Native Plant Finder can also help plant industry with finding native species with potential to be developed into new market commodities. Native seed suppliers are invited to share their information for inclusion in the Native Plant Finder database by emailing pollinator.smart@dcr.virginia.gov.

- Solar Site Native Plant Finder
- Plant Finder guidance is found here [document coming soon]

Virginia Invasive Plant Species List

The DCR Invasive Plant Species List is the result of risk assessment conducted on hundreds of non-native plant species. The list currently identifies 96 species as invasive in Virginia. Invasive species are defined here as non-native species that cause harm to the ecosystem and native species, create economic damage and losses, or pose direct harm to humans. Invasive plant species threaten Pollinator-Smart goals if they are not properly managed on a site.

Establishing a Virginia Native Seed Industry

A goal of the Pollinator-Smart program is to kickstart a robust native seed industry that would be able to serve the coming demand for tens of thousands of acres of native plant materials. The Native Plants Seed Business Plan (PDF) builds on knowledge generously provided by established members of the native seed industry and outlines the steps toward a Virginia-based industry that could also serve other surrounding states.

DEQ Solar Site web page

In Virginia, the Department of Environmental Quality has oversight of the establishment of solar facilities. To learn about the permit requirements and opportunities for the solar industry in Virginia, visit the DEQ Solar Energy page.

Questions/Comments

If you have questions or comments on the Pollinator-smart program, please contact us at pollinator.smart@dcr.virginia.gov.
Virginia Pollinator-Smart Comprehensive Manual
Virginia Pollinator-Smart Solar Industry At a Glance...

FLOWCHAR T

START

SITE

SITE SUITABILITY ANALYSIS

TOPO | HYDRO | SOIL | VEGETATION | OTHER

OPTIONAL

VEGETATION MANAGEMENT PLAN

GOALS | REGS | EXISTING CONDITIONS | METHODS | MONITORING | SCHEDULE | REPORTING | SUPPORTING DOCS

QUALIFIED PROFESSIONAL

INSTALLATION

SITE PREP | SEEDING-RE-SEEDING | IVM | ESTABLISHMENT/Maintenance | SEED MIX | RETROFIT

OPTIONAL

ANNUAL SITE INSPECTION

VEGETATION MONITORING | INVASIVE SPECIES MAPPING

QUALIFIED PROFESSIONAL

BIENNIAL MONITORING

YEARS 2, 4, 6

QUALIFIED PROFESSIONAL

YEAR 1

SCORECARD VERSION A

PROPOSED OR RETROFIT

SUBMIT WITH SUPPORTING DOCUMENTATION TO VA POLLINATOR-SMART SOLAR INDUSTRY REVIEW BOARD

CERTIFIED POLLINATOR-SMART

50-99 PTS: VA POLLINATOR-SMART
100+ PTS: GOLD CERTIFIED VA POLLINATOR-SMART

21-DAY REVIEW PERIOD

FROM DATE OF COMPLETE APPLICATION

SITE QUALIFIES

SCORECARD RE-EVALUATION

21-DAY REVIEW PERIOD

FROM DATE OF COMPLETE APPLICATION

SITE DOES NOT QUALIFY

REVETEGRATION REMEDIATION IVM | ADAPTIVE MANAGEMENT

SCORECARD VERSION B

ESTABLISHED

SUBMIT WITH SUPPORTING DOCUMENTATION TO VA POLLINATOR-SMART SOLAR INDUSTRY REVIEW BOARD

REVETEGRATION REMEDIATION IVM | ADAPTIVE MANAGEMENT

YEAR 2-9

QUALIFIED PROFESSIONAL

YEAR 10

QUALIFIED PROFESSIONAL

SCORECARD VERSION B

ESTABLISHED

REVETEGRATION REMEDIATION IVM | ADAPTIVE MANAGEMENT

QUALIFIED PROFESSIONAL

LIFETIME POLLINATOR-SMART CERTIFICATION
Year 1

- Site Suitability Analysis
- Designing the Pollinator-Smart Planting
  - Vegetation Management Plan
- Scorecard Version A
  - 21-Day Review Period
    - Introducing the Review Board
- Certification!
- Installation
Years 2-9

- Annual Site Inspection
- Biennial Monitoring
- Scorecard Version B
  - 21-Day Review Period
- Remediation
- Certification!
Virginia Pollinator-Smart Monitoring Plan
www.pollinatorsmartva.org
Year 10

• Monitoring
• Long-Term Vegetation Management Plan
• Scorecard Version B
  • 21-Day Review Period
• Remediation
• LIFETIME CERTIFICATION!
Current Supply

- Virginia Solar Site Native Plant Finder
Virginia Solar Site Native Plant Finder

• Solar Plant Finder currently has 278 native species commercially available including pollinator species

• Queries conducted by counties/cities using various species characteristics including water and light requirements, flowering seasons and maximum height requirement

• Results returned give details of plant species including habitat, locality, VA digital atlas link with photos and hyperlinks to commercial vendors
The database contains 1600 native plant species. By default, the finder form is set to search for commercially available species. You can change the setting to see all species in the database selecting the blank option. Selecting 'No' will display those species for which we do not currently have identified as available. For each species in the finder, names of providers and links to their websites appear in the query results under "More details."

Query results are printable from your browser’s Print menu. To create a spreadsheet of the results, copy and paste the results table into a spreadsheet program, such as Excel or Sheets.

For questions or issues related to the finder, email pollinator.smart@dcr.virginia.gov.

How to Use the Solar Site Native Plant Finder (PDF).
<table>
<thead>
<tr>
<th><strong>Search by Characteristics</strong></th>
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<tbody>
<tr>
<td>LIGHT REQUIREMENTS</td>
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<tr>
<td>MOISTURE REQUIREMENTS</td>
</tr>
<tr>
<td>POLLINATOR?</td>
</tr>
<tr>
<td>MAXIMUM EXPECTED HEIGHT (IN FEET)</td>
</tr>
<tr>
<td>LOCALITY</td>
</tr>
<tr>
<td>FLOWERING SEASONS</td>
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<tr>
<td>PLANT TYPE</td>
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<td>COMMERCIALLY AVAILABLE</td>
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- **Clear All Fields**
- **Submit**
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<th>Scientific Name</th>
<th>Common Name</th>
<th>Light Regime</th>
<th>Moisture Regime</th>
<th>Plant Type</th>
<th>Maximum expected height (in feet)</th>
<th>Pollinator?</th>
<th>Flowering Seasons</th>
<th>Grassland Species</th>
<th>Riparian Buffer</th>
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<tr>
<td>Achillea millefolium</td>
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<td>Moist, Dry</td>
<td>Herb</td>
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<td>Spring, Early Summer, Late Summer, Fall</td>
<td>No</td>
<td>No</td>
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</tr>
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</table>

**Less Detail**


Commercially Available: Agrecol Native Seed and Plant Nursery, Applewood Seed Co., Buffalo Brand Sharps Bros Seed Co., Ernst Conservation Seed Co., Ohio Prairie Nursery, Prairie Restorations Inc., Roundstone Native Seed, Toadshade Wildflower Farm

Habitat from Flora: Ubiquitous in fields, meadows, roadsides, clearings, mesic to dry upland forests, and other habitats.


Locality: Accomack, Albemarle, Alexandria, Alleghany, Amelia, Amherst, Appomattox, Arlington, Augusta, Bath, Bedford, Bland,
Currently there are 11,398 acres of land in existing solar sites, including those that have permits but are not yet constructed. Over the next 25 years, 46,122 acres of land for solar sites are projected by DEQ. The solar industry has not shown a broad acceptance for raising the height of the panels to accommodate the use of native plants in the shade zone. This will limit the potential market for natives. Assuming that 10% of the area of the solar facilities is planted to natives, this market will be too small to sustain a native plant industry by itself. This makes the Market Development Group one of the most important elements for this plan’s success. There are many potential markets that, when combined with solar, can create a market that will sustain a native seed industry in the Commonwealth. The Iowa model has shown, for example, that a native seed industry can be sustained with a DOT market.

Currently there are 11,398 acres of land in existing solar sites, including those that have permits but are not yet constructed. Over the next 25 years, 46,122 acres of land for solar sites are projected by DEQ.
• Overall Business Model for VA- “Build out the minimum infrastructure needed to deliver a rough conditioned product to a facility capable of conditioning the seed to a marketable state.”

• Virginia Native Seed Growers’ Business Advisory Committee
• Development of a Growers/Producers Network
• Ernst Conservation Seeds for processing and distribution of the seed
• Development of a regional ecotype seed supply (currently only 7 VA Ecotypes commercially available)
  • Collection Group
  • Nursery Group
  • Foundation Seed Increase Group
  • Certified Seed Producer
Arkansas Native Seed Program

- Arkansas Natural Heritage Commission
- AR Game and Fish Commission
  - US Fish & Wildlife Service
    - AR DOT
- Audubon Arkansas NATIVE Project
  - USDA NRCS
  - The Nature Conservancy
- Ozark Ecological Restoration, Inc.
- Illinois River Watershed Partnership
  - Beaver Watershed Alliance
Arkansas Native Seed Program

- Full-time seed coordinator hired
- Building on a six-year old Audubon program
- Small farmers growing 2 or 3 species each on 2 to 9 acres
- Roundstone Native Seed LLC conducts cleaning and distribution
Iowa Ecotype Project

• Produce and increase regionally adapted Iowa Source Identified Foundation seed for commercial producers
• Promote commercial availability and affordability of Source Identified seed
• Increasing seed of 50 species from 3,000 populations from three provenance zones in Iowa
• 81 ecotypes of 33 species released for commercial production
  • 60,000 of Source Identified seed produced annually
Potential Markets for a Virginia Native Seed Program

- Solar Energy Sites
- Pipeline ROWs
- Transmission ROWs
- Roadside ROWs
  - Farms
  - Parks
  - Schools
- Landowners
Cople Elementary School in Westmoreland County designed by Sun Tribe is the first facility in Virginia to be gold certified under a new program that encourages pollinator-friendly solar development. Gold certification is the highest pollinator-smart designation available through the voluntary program.
VA Pollinator-Smart Resources located at

www.pollinatorsmartva.org

If you have questions, comments, or feedback, please reach out to us!

pollinator.smart@dcr.virginia.gov
Pollinator-Friendly Solar in Indiana

Ben Inskeep
Principal Analyst | EQ Research
binskeep@eq-research.com

May 5, 2020
EQ Research collaboration with Center for Pollinators in Energy at Fresh Energy

• Report is Indiana-focused, but includes information on other state and local policies

• Provides model and example ordinances, state scorecards, and RFP provision

• Available at: https://eq-research.com/publications/
Additional Indiana Resources

• Michiana Area Council of Governments technical guide: http://macog.com/solar_energy.html
  – Adapted from the Minnesota Department of Natural Resources’ technical guidance

• Purdue University Extension is creating a solar pollinator scorecard for Indiana
The Coming Solar Boom in Indiana

Planned Coal Retirements in Indiana by 2034

6,425 MW

7,815 MW

* Vectren solar additions are estimated, as updated IRP results have not been finalized.
## Potential Benefits to Indiana

<table>
<thead>
<tr>
<th>Category</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>Economic</td>
<td>Long-Term Cost Savings Through Reduced Maintenance</td>
</tr>
<tr>
<td></td>
<td>Potential Increased Efficiency of Solar Panels</td>
</tr>
<tr>
<td></td>
<td>Increased Crop Yield</td>
</tr>
<tr>
<td></td>
<td>Maintaining Future Agricultural Viability</td>
</tr>
<tr>
<td></td>
<td>Honey Production</td>
</tr>
<tr>
<td>Environmental</td>
<td>Improved Water Quality</td>
</tr>
<tr>
<td></td>
<td>Reduced Erosion</td>
</tr>
<tr>
<td></td>
<td>Habitat for Native Species</td>
</tr>
<tr>
<td>Social</td>
<td>Improved Aesthetics</td>
</tr>
<tr>
<td></td>
<td>Greater Community Support</td>
</tr>
</tbody>
</table>
Policy Examples and Models

- **State Scorecards**
  - Pollinator habitat assessment “scorecards” to earn *voluntary designation* that the solar site is pollinator friendly.
  - Contain a list of *best practices* that can be implemented to establish and maintain pollinator habitat

- **Model and Example Ordinances**
  - Describe local government *permitting and siting* provisions that encourage pollinator-friendly solar

- **Model RFP Provision**
  - Utility competitive solicitations can request information from developers on *solar site planning and management practices* or explicitly favor sites adhering to a Scorecard

- **Other Policies**
Recommendations

1. Indiana Can Develop a Pollinator Habitat Assessment Scorecard
2. Local Governments Can Adopt Solar Siting Guidelines that Encourage Pollinator-Friendly Practices
3. Utilities and Procuring Entities Can Require Information from Prospective Solar Developers on Pollinator Practices
4. Solar Developers Can Design and Manage Solar Sites to Be Pollinator Friendly

Photo Credit: Adam Thada, Ancilla College
HABITAT FRIENDLY SOLAR 2020
I. Origins of the Program
II. Goals
III. How it Works
IV. Next Steps
Origins of the Program

Agencies are finding ways to incorporate pollinator habitat into as many project types as possible.
Habitat Friendly Solar Initiated from 2016 Legislation Stating:

- “an owner of a solar site implementing solar site management practices may claim that the site provides benefits to gamebirds, songbirds and pollinators only if the site adheres to guidance set forth by the pollinator plan provided by the Board of Water and Soil Resources”.
Program Goals:

- Meet legislative requirement
- Assist local governments
- Provide flexibility in design (species, layout, etc)
- Maximize the benefits of projects
- Create consistency across the state
- Ensure the success of projects
Key Steps for Meeting Standards:
Key Steps:

1) Filling out the Project Planning Assessment Form

- % Dominance of Native Vegetation
- % Dominance of Wildflowers
- Plant Diversity
- 3 Season with Blooming Plants
- Habitat components
- Site Planning
- Seed Mixes
- Insecticide Risk
How it Works

Key Steps:

2) Review by local government or BWSR

- Review includes ensuring that plans will lead to successful establishment and management of vegetation
New Sample Specifications

Sample Specifications for the Establishment of Native Vegetation as Part of Habitat Friendly Solar Projects

5-9-19
Developed by the Minnesota Board of Water and Soil Resources and the Minnesota Department of Natural Resources

Note: these specifications are suggestions for projects and should be adapted to meet specific site conditions and project goals.

CONTRACTOR QUALIFICATIONS

1. Seeding contractors must have at least three years of experience installing native seed and installing or maintaining prairie restoration projects or other similar types of projects.

PROPOSED CHANGES TO PROJECT SPECIFICATIONS

Also DNR Guidance Developed
How it Works

Key Steps:

3) Adding to state list of projects to be posted on BWSR website
Key Steps:

4) Inspections each year to ensure that projects stay on track
Key Steps:
5) Submitting established Project Form for review at year 3 and every three years

Solar Site Pollinator Habitat Assessment
Form for Established Plantings (after yr.3)
For solar companies and local governments to meet pollinator/wildlife habitat certificat

1. PERCENT OF SITE DOMINATED BY WILDFLOWERS
   □ 1-10% +10 points
   □ 11-20% +15 points
   □ 21-30% +20 points
   □ 31-40% +25 points
   □ 41+ +30 points
   Total points

Note: Project may have “array” mixes and diverse border mixes; forb dominance should be averaged across the entire site. Forb dominance should exclude native rages.

2. % OF SITE DOMINATED BY NATIVE SPECIES COVER
   □ 1-25% +5 points
   □ 26-50% +15 points
   □ 51-75% +20 points
   □ 76-100% +25 points
   Total points

3. COVER DIVERSITY (% of plant species with >1% cover)
   □ 1-9 species +5 points
   □ 10-19 species +15 points

6. AVAILABLE HABITAT COMPONENTS ON-SITE
   (check/add all that apply)
   □ At least 2% milkweed cover +5 points
   □ Detailed mgmt. plan developed (see notes) +15 points
   □ signage legible by angle of feet stating pollinator friendly solar habitat (at least 1 every 20ac.) +5 points
   □ Constructed nesting habitat feature/s (bee blocks, etc.) +5 points
   Total points

7. INSECTICIDE RISK
   □ Planned on-site Insecticide use. (excluding buildings/ electrical boxes, etc.) -25 points
   □ Communication/registration +10 points with local chemical
Partners are experimenting with site design, seed mixes and management methods.

Image by Minnesota Native Landscapes
Enel Green Power (EGP) Site

Image by Natural Resource Services

Image by Prairie Restorations Inc.
Next Steps

- Encourage counties to use the standard and ordinances to help increase consistency

- Conduct outreach on updated forms

- Increase site inspections and SWCD involvement

- Update list of projects
THANK YOU!