

**Agricultural Solar Stakeholder Group Meeting
Tuesday, August 24, 2021; 9:00 am - 12:00 pm**

Meeting Registration Link:

https://mainestate.zoom.us/webinar/register/WN_2KiIelblQB6G6rSn8_RgJw

Desired Outcomes

By the end of this meeting we will have:

- Heard a developer’s perspective on solar siting considerations
- Considered a range of impacts of solar siting on municipalities
- Discussed an initial tier concept for influencing solar siting
- Reviewed emerging areas of consensus and further defined deliverables
- Provided an opportunity for public input

Agenda

What	When
Welcome and Agenda Review – Jo D.	9:00 - 9:05
Solar Siting Considerations - Palmer Moore, VP Business Development, Nexamp	9:05 - 9:35
Municipal Perspective - Rebecca Graham, Legislative Advocate, Maine Municipal Association	9:35 - 10:05
Tiers Concept Introduction and Discussion	10:05 - 10:35
Public Comment	10:35 - 10:45
Break	10:45 - 10:50

<p>Taking Stock: Revisit Emerging Consensus Areas Document ID/differentiate findings and recommendations Areas to explore more deeply/what’s needed to make progress Clarify any areas not needing further attention New topics to consider</p>	<p>10:50 - 11:45</p>
<p>Further Public Comment</p>	<p>11:45 - 11:50</p>
<p>Follow-up and Next Meeting: Thurs, Sept. 23, 9:00 am – 12:00 pm</p>	<p>11:50 - 12:00</p>

Note: Agenda item times are subject to change based on the progress of the group.

Agricultural Solar Stakeholder Group Ground Rules

1. Meetings start and end on time.
2. Come prepared, having read all meeting materials in advance.
3. Be present and engaged.
4. Strive for equal air time, enabling everyone to participate fully.
5. Listen with curiosity and an openness to learning and understanding.
6. Adopt a creative problem solving orientation.
7. Commit to working toward consensus.
8. Meetings and materials are public, and comments are on the record.
9. Humor is welcome; it’s OK to laugh while addressing a serious topic.

Decision-making: Decisions by the Stakeholder Group are advisory and represent recommendations to the Department of Agriculture, Conservation & Forestry and the Governor’s Energy Office. The Stakeholder Group will strive to make decisions by consensus. Where not possible, recommendations supported by the majority will be advanced and other perspectives will be noted.

Meeting Schedule:

Tue. 8/24	https://mainestate.zoom.us/webinar/register/WN_2KiIelblQB6G6r-Sn8_RgJw
Th. 9/23	https://mainestate.zoom.us/webinar/register/WN_qsFHsHkgQ3yDXie-L1M5Tng
Th. 10/21	https://mainestate.zoom.us/webinar/register/WN_Sj7iq73NSx2NRrGNc-YPFqQ
Th. 11/18	https://mainestate.zoom.us/webinar/register/WN_MCVJo2bzRO2tj-Hvr0pqrhg
Th. 12/16	https://mainestate.zoom.us/webinar/register/WN_5I5XIFfPTZuzYx-PZGGraYA

DRAFT – Potential areas of consensus for Agricultural Solar Stakeholder Group, based on group discussions through July 2021.

Updated Draft Consensus Areas

From initial stakeholder group materials:

- Prime farmland and soils of statewide importance are critical natural resources and are key to Maine’s current and future agricultural productivity, biodiversity, and food security.
- Solar energy development is key to reducing greenhouse gas emissions and creates economic benefits in communities throughout the state.
- Maine is in a unique position to grow its food economy locally, regionally, and nationally; however, that will require preserving working lands for future generations.
- Dual-use farmland can be an important tool for diversifying income to farms. Opportunities for aligning solar and agricultural uses may exist with increased education and engagement.

From stakeholder group’s discussions to date. **Additions since the previous meeting are bolded, and are presented as additions to previous consensus areas for further discussion:**

- There is a lack of data to support a clear picture of the problem the group has been tasked with addressing. Further research and ongoing monitoring may be needed.
 - o **The group may recommend that greater spatial data be produced (including statewide land use data, comprehensive parcel data, and aerial photography), and that resources be identified to fund this work.**
- There is substantial interest in exploring opportunities for positive interactions between agriculture and solar, including [dual-use and co-location](#). The group has committed to defining these terms, with a subgroup forming to propose a draft to the full group. Specific consensus areas related to this topic include:
 - o Dual-use may play a role in minimizing impacts of solar development to agriculture.
 - o Grazing as a vegetation management strategy can often provide additional agricultural value without substantial added development costs. Regulatory requirements should at minimum seek to enable these practices as an alternative to traditional vegetation management.
 - o Permit-by-rule or other regulatory adjustments could encourage solar development that supports or enhances ongoing agricultural uses.
 - o Clarifying how dual-use and/or co-located solar development impacts the tax status of farmland enrolled in Maine's farmland current use taxation program.
 - **The group may consider recommending that qualified land remain eligible to enroll or remain enrolled in the farmland current use program notwithstanding installation of solar generation equipment configured for dual-use.**
 - o Certain dual-use applications may incur additional solar development costs, potentially raising ratepayer or energy cost concerns.
 - o Applying the Massachusetts model of requiring all solar development impacting agricultural land to be dual-use is too restrictive for Maine’s needs.
 - o **The group is interested in considering how to further advance the adoption of dual-use practices, such as through a pilot program.**
- The group supports sound decommissioning requirements that protect the potential for future reversion from solar production to agricultural use, such as those established by PL 2021 Ch. 151 (LD 802).
- **The group is interested in exploring mechanisms to encourage solar siting on non-agricultural lands.**

Policy Options for Solar Development on Agricultural "Current Use" Lands



MARINA MILLER
RICHARD BRATTON
VIRGINIA PASCHAL
SARA HEIMLICH
MOLLY FUNK
GENEVIEVE BYRNE



Different Policy Strategies Used by States

Policy 1: Solar is never allowed on enrolled land.

Policy 2: Solar cancels enrollment without penalty for the affected parcel.

Policy 3: Solar may be allowed on a case-by-case basis.

Policy 4: Solar under a certain capacity size that serves the farm is allowed on enrolled land.

Policy 5: Agrivoltaic or Dual Use solar is allowed on enrolled land.

Policy 6: Current use enrollment is deferred or delayed without penalty when solar is developed.

Policy 7: Solar is allowed or restricted based on the underlying soil type.

Policy 1: Solar is never allowed on enrolled land.



South Dakota

- Agricultural property includes any land classified as agricultural land pursuant to 10-6-31.3 and any improvements on the agricultural land used exclusively for agricultural purposes. S.D. Codified Laws § 10-6-31.
- The land must be "devoted to the raising and harvesting of crops or timber or fruit trees, the rearing, feeding, and management of farm livestock, poultry, fish, or nursery stock, the production of bees and apiary products, or horticulture, all for intended profit..." [S.D. Codified Laws § 10-6-31.3]

Policy 2: Solar cancels enrollment without penalty for the affected parcel.



Ohio

"The construction or installation of an energy facility, as defined in section 5727.01 of the Revised Code, on a portion of a tract, lot, or parcel of land devoted exclusively to agricultural use shall not cause the remaining portion of the tract, lot, or parcel to be regarded as a conversion of land devoted exclusively to agricultural use if the remaining portion of the tract, lot, or parcel continues to be devoted exclusively to agricultural use." Ohio Rev. Code Ann. § 5713.30.

Policy 3: Solar may be allowed on a case-by-case basis.

Nevada

"Agricultural use means... Any other use determined by the department to constitute agricultural use if such use is verified by the department. Nev. Stat. Ann. § 361A.030.

Connecticut

- "An owner of land may apply for its classification as farm land on any grand list of a municipality by filing a written application." Conn. Gen. Stat. § 12-107c
- "In determining whether such land is farm land, such assessor shall take into account, among other things, the acreage of such land, the portion thereof in actual use for farming or agricultural operations, the productivity of such land, the gross income derived therefrom, the nature and value of the equipment used in connection therewith, and the extent to which the tracts comprising such land are contiguous." Conn. Gen. Stat. § 12-107c

Policy 4: Solar arrays of limited size and/or that serve the farm are allowed.

Vermont

- Solar arrays qualifying as "farm improvements" are permitted on enrolled land. Solar is farm improvement when (1) it is actively used by a farmer, (2) as part of a farming operation, (3) it is owned by the farmer or leased to a farmer for a term of three years or more, and (4) is situated on land enrolled in the use value appraisal program or on a housesite adjoining enrolled land. The Department of Taxes will presume that a facility is part of a farming operation in cases where 50% or more of the electricity generated is used by enrolled farm buildings. 32 V.S.A. §§3750-3763
- Further, arrays that are already exempt from municipal tax are permitted, including: (1) arrays with a capacity of less than 50 kW that are either (a) a net-metered system or (b) not connected to the electric grid and only provides power on the property on which it is located. 32 V.S.A. § 3802(17).

Policy 4: Continued

New Jersey

"Land under a solar array is eligible for enrollment if it otherwise meets basic requirements for enrollment, the array is used to power the farm or agricultural operations, the acreage devoted to energy generation doesn't exceed a 1:5 ratio compared to land in agricultural use, and the property under the array is used to the greatest extent practicable for dual uses like shade crops or grazing. Solar arrays may not exceed 10 acres of land use or 2 MW in capacity. Income from the array is not agricultural income for purposes of enrollment eligibility." N.J.A.C.8:15, see esp. N.J.A.C §§18:15-11 and 7:1.



Policy 5: Dual Use or Agrivoltaic Solar is allowed.

Rhode Island

"Farmland used for renewable energy siting is not subject to a land use change tax if the landowner converts **not more than 20% of the total acreage of land**, and may convert additional acreage without penalty if it sites a **dual use renewable energy** system." RI Gen Laws § 44-27-1

Massachusetts

(a) Land used primarily and directly for agricultural purposes pursuant to section 1 or land used primarily and directly for in horticultural use pursuant to section 2 **may, in addition to being used primarily and directly for agriculture or horticulture, be used to site a renewable energy generating source**, as defined in subsection (b) of section 11F of chapter 25. A renewable energy generating source on land primarily and directly used for agricultural purposes pursuant to section 1 or land primarily and directly used for horticultural purposes pursuant to section 2 shall: (i) **produce energy for the exclusive use of the land and farm** upon which it is located, which shall include contiguous or non-contiguous land owned or leased by the owner or in which the owner otherwise holds an interest; and (ii) **not produce more than 125 per cent of the annual energy needs** of the land and farm upon which it is located, which shall include contiguous or non-contiguous land owned or leased by the owner or in which the owner otherwise holds an interest.

(b) Land used primarily and directly for agricultural purposes pursuant to section 1 or land used primarily and directly for horticultural purposes pursuant to section 2 shall be **deemed to be in agricultural or horticultural use pursuant to this chapter if used to simultaneously site a renewable energy generating source** pursuant to subsection (a). M.G.L. ch. 61A § 2A

Policy 6: Solar development defers current use enrollment.

Michigan:

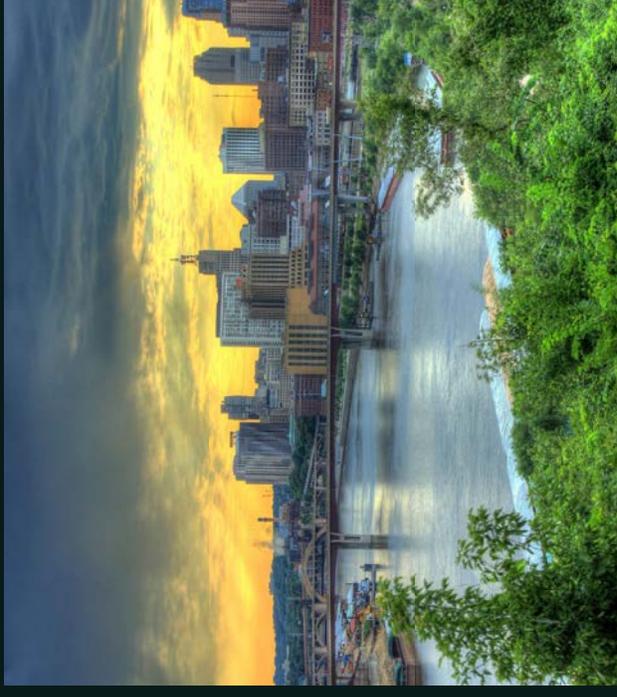
"An Amended Agreement is entered into by the Landowner for the land where the solar facility is to be located. The Amended Agreement shall extend the existing Farmland Development Rights Agreement for a period of time that is equivalent to the amount of time the land is used to generate solar power combined with the remaining term of the Farmland Development Rights Agreement. This will result in no net change in the length of the Farmland Development Rights Agreement." MDRA Policy



Policy 7: Solar is allowed/restricted/restricted on certain soils.

Minnesota (PUC Rule 7850.4400, subpart 4)

"No large electric power generating plant site may be permitted where the developed portion of the plant site, excluding water storage reservoirs and cooling ponds, includes **more than 0.5 acres of prime farmland per megawatt of net generating capacity**, or where makeup water storage reservoir or cooling pond facilities include more than 0.5 acres of prime farmland per megawatt of net generating capacity, unless there is no feasible and prudent alternative. **Economic considerations alone do not justify the use of more prime farmland"**



Policy Wrap Up

- Policies reflect myriad of solutions.
- As price of solar drops, opportunity for states to protect farmland while taking advantage of solar market, supporting farm viability and farmer access to clean energy.
- Most important takeaway is that states should implement clear statutes with plain language, so agricultural landowners understand the consequences of deciding to put solar on enrolled land.



Vermont Net Metering: REC and Siting Adjustors

Start with blended residential rate.

\$0.16413/kWh

REC
Rate Adjustor (\$0.00)
Transfer to Utility: + \$0.01/ kWh
Keep RECs: - \$0.03/ kWh (-\$0.04)

Zero and Positive Adjustors = 10 years
Negative Adjustors = Perpetuity

UP TO 15KW	15 - 50KW	50 - 150KW	150 - 500KW
<p>CATEGORY 1: ADDER Arrays <15kW in any location receive (+)\$0.01/ kWh (-\$0.01)</p>	<p>CATEGORY 2: ADDER Arrays 15-150kW located ON a Preferred Site receive (+)\$0.01/ kWh (-\$0.01)</p>	<p>CATEGORY 3: SUBTRACTOR Arrays >150kW located ON a Preferred Site receive (-)\$0.02/ kWh (-\$0.04)</p>	<p>CATEGORY 4: SUBTRACTOR Arrays 15-150kW NOT located on a Preferred Site receive (-)\$0.03/ kWh (-\$0.05)</p>

LIST OF PREFERRED SITES FOR SOLAR ARRAYS

- (1) new or existing structures;
- (2) parking lot canopies;
- (3) previously developed tracts, excluding prime agricultural land and other resources;
- (4) brownfields;
- (5) suitable sanitary landfills;
- (6) disturbed portions of gravel pits and quarries;
- (7) locations designated in "duly adopted" municipal plans or joint letters of support from the municipality and relevant planning commissions.
- (8) suitable Superfund sites;
- (9) on the same or adjacent parcel as a customer using more than 50% of the system output.

(SEPT. 2021 VALUE REDUCTION)

Solar Siting in Agricultural Landscapes: Stakeholder Input Summary

Minnesota Department of Commerce and Minnesota Department
of Agriculture
September 16, 2019

Appendix A: Prime farmland exclusion rule

Minnesota Rules, part 7850.4400, subpart 4, MINN. R. 7850.4400 (2005)

Subp. 4. Prime farmland exclusion. No large electric power generating plant site may be permitted where the developed portion of the plant site, excluding water storage reservoirs and cooling ponds, includes more than 0.5 acres of prime farmland per megawatt of net generating capacity, or where makeup water storage reservoir or cooling pond facilities include more than 0.5 acres of prime farmland per megawatt of net generating capacity, unless there is no feasible and prudent alternative. Economic considerations alone do not justify the use of more prime farmland. "Prime farmland" means those soils that meet the specifications of Code of Federal Regulations 1980, title 7, section 657.5, paragraph (a). These provisions do not apply to areas located within home rule charter or statutory cities; areas located within two miles of home rule charter or statutory cities of the first, second, and third class; or areas designated for orderly annexation under Minnesota Statutes, section 414.0325.

Appendix B: Prime farmlands definition (Code of Federal Regulations)

C.F.R. 657.5(a) provides, in part,

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding.

Maine Agricultural Solar Stakeholder Group
Meeting #3 Summary – July 22, 2021
Held virtually

Meeting Recording: <https://www.youtube.com/watch?v=FO0E4nVRoWI>

Stakeholder Member Attendance: Nick Armentrout (Spring Creek Farm), Emily Cole (American Farmland Trust), Fortunat Mueller (ReVision), Ellen Griswold (Maine Farmland Trust), Sarah Haggerty (Maine Audubon), Kaitlin Hollinger (BlueWave), Matt Kearns (Longroad Energy), Andy Smith (The Milkhouse), Patrick Wynne (City of Hallowell), Celina Cunningham (Governor’s Energy Office), Nancy McBrady (Department of Agriculture, Conservation and Forestry), Ethan Winter (American Farmland Trust), Genevieve Byrne (Vermont Law School), Peter Lacy (Maine Revenue Services)

On July 22, 2021 the Maine Department of Agriculture, Conservation and Forestry (DACF) and the Governor’s Energy Office (GEO) virtually hosted the third meeting of the Agricultural Solar Stakeholder Group. At this meeting the following was discussed:

- Vermont Solar Policy
- New Jersey Solar Policy
- Tax Implications of Solar Development on Agricultural Land in Current Use

Vermont Solar Policy

Genevieve Byrne, assistant professor and staff attorney at the Farm and Energy Initiative at the Vermont Law School gave an overview of Vermont’s Certificate of Public Good (CPG) regulatory process for solar projects in Vermont. Vermont’s Public Utilities Commission (PUC) issues Certificates of Public Good for roof-mounted arrays up to 500kW and ground-mounted arrays up to 2.2MW. Certification criteria and application complexity increases with array capacity. All roof-mounted systems up to 500kW and smaller ground-mounted systems up to 15kW are fast tracked through a registration process. Ground-mounted systems up to 50kW must submit an application with accompanying evidence of meeting compliance criteria. Anything above 50kW undergoes a formal petition process with the PUC, which can allow for fast tracking if projects meet size and scope limitations.

In relation to agricultural resources, the PUC must consider impacts to prime agricultural soils for all ground-mounted projects over 15kW. For projects over 50kW Vermont’s Agency of Food and Markets (AAFMM) receives notification of the proposed project. AAFMM has the right to appear at PUC hearings and is required to appear for systems over 500kW that are located on agricultural soils. Conditions for the protection of agricultural soils may be included in the project’s CPG.

The policy includes siting adjusters and rate adjusters. Siting adjusters initially included adders for the construction of smaller arrays under 16kW and/or on preferred sites such as parking lots, brownfields, and landfills. Moving forward the program will continue with the existing subtractors only which are applied to projects 15kW and larger not located on preferred sites.

Subtractors will be increasing to 5 cents/kwh for projects between 15-150kW and 4 cents/kwh for larger projects. Rate adders for projects whose renewable energy credits (RECs) would be applied to Vermont's renewable energy portfolio will no longer be continued. However, subtractor for projects which keep their RECs will increase to 4 cents/kwh. Changes in the policy were a result of a variety of factors, including cost of solar development and the rate of solar development.

New Jersey Solar Policy

Ethan Winter, Northeast Solar Specialist for American Farmland Trust, presented on New Jersey's landscape of farmland protection in relation to the state's solar legislation. Like Maine, New Jersey is facing farmland loss for a number of reasons; both states lost approximately 10% since the last ag census. However, in comparison, Maine is four times the size of New Jersey. New Jersey's solar market is much larger and more mature than Maine's and is set to grow substantially in the coming years -New Jersey's solar development goals are t 5.2 GW by 2025, 17 GW by 2035 and 32 GW by 2050. Of New Jersey's 779,000 acres all but 101,000 acres would be protected given their soil quality, farmland protection status or recognition at the county level as an agriculture development area (ADA).

New Jersey has created a 3-year Dual-Use Pilot Program to develop 200MW of solar with projects not to exceed 50 acres. Projects must be sited on unprotected farmland, continue to be actively devoted to agricultural production and vetted through the NJ Department of Agriculture. The only installations allowed for dual-use on prime farmland soil are for research purposes with Rutgers University. Enrolled land is permitted to be eligible for farmland assessment. This program can be extended and is authorized to become a permanent program with standards for dual-use including capacity limits, continued agricultural/horticultural use and decommissioning bonds.

In addition, a utility scale solar bill was passed for the development of 3.75 GW of solar by 2026. These installations would include community solar projects, net metered projects, and procurement solicitations, with a limit of up to 8,000 acres of ADA land to be development. ADA sites would require a waiver from the NJ Department of Agriculture to encourage more development off farmland. Details of these policies are currently being drafted through a stakeholder process, keeping solar development on pause for dual-use projects until more information is available.

Taxation Implications of Solar Development on Agricultural Land in Current Use

Peter Lacy, Maine Revenue Service

In Maine property tax is assessed at its best and highest value use of the property. Land used for agriculture generally is not determined to be its best and highest value use, for example in most of Maine, land is more valuable as housing. To remedy this, the Farmland Tax Program exists to protect farmland from being converted into a higher value use. However, fair market value can differ across Maine, where an acre of potato field in Aroostook County may be more valuable as farmland than a one-acre home lot. This leads to geographic differences in farmland tax program enrollment across the state.

The value of farmland has been developed for 6 different types of farmland. However, municipal assessors have discretion when applying these values and use some variation of these values. Currently there are 134,000 acres enrolled in the program which requires farm income verification and minimum acreage requirements.

If land is converted to another use, like solar energy generation, the land is removed from the program and a tax penalty is assessed. However, in 2020 the legislature passed an exemption for solar development under 5MW which provides net energy billing credits solely to the farm. In this case the solar equipment would be tax exempt and the town would be reimbursed by the state for 50% of the taxes lost on the equipment but not the land. As for dual-use projects not enrolled in net energy billing this would trigger removal from the farmland tax program. For a project that supports a farm's energy use through net energy billing as well as provides excess energy, it is unclear at this time if a portion of the project could continue to be covered by the farmland tax program.

Of note, taxation laws in Vermont allow farms in the open use taxation program to have solar installations of 50 kw or less and up to 500 kw if they are deemed as a farm improvement, where 50% of the energy is used on the farm.

Discussion of Technical Materials and Identification of Possible Group Deliverables

The group supports dual-use opportunities and is interested in finding ways to support these projects without limiting or overburdening the farmer or the developer. In addition, finding ways to drive solar development on brownfields in another policy area with strong support.

With respect to the inclusion of co-location into a policy it was suggested that a hierarchy matrix be created to give incentive values or adders to the types of co-location and dual projects in relation to project size and siting conditions (such as marginal farmland, prime farmland, disturbed land) for the next meeting.

Given that not all locations will be able to support agrivoltaics an in-lieu fee structure might also be considered with development fees going to farmland preservation. With a caveat that this may negatively impact overall solar development.

Lastly, the group supports exploring changes to the tax laws to include dual-use in the existing tax program and exploring the potential dual-use pilot projects.