American Farmland Trust

Expanding Clean Energy While Protecting Our Best Farmland with Smart Solar Siting

America needs to expand renewable energy development, much of which will occur on agricultural lands. But new solar panels should not be sited on our best farmland—our most productive, versatile and resilient farmland. "Smart solar siting" policies and programs can guide clean solar development onto land where it has the least impact on agriculture and the environment. American Farmland Trust is working with multi-stakeholders to accelerate the expansion of renewable energy generation and cut greenhouse gas emissions while maintaining our regional food systems.

Opportunity and Threat. Northeast states have set ambitious goals for reducing greenhouse gas (GHG) emissions and dramatically increasing the generation of renewable energy. In August 2017 nine Northeast states recommitted to the Regional Greenhouse Gas Initiative (RGGI) and agreed on a proposal to cut global-warming pollution from the region's power plants an additional 30 percent between 2020 and 2030. To achieve these goals, states have set renewable energy targets that will require dramatic increases in solar and wind energy.

Clean energy development creates opportunities for farmers and landowners to reduce their energy expenses and earn new income, but also poses threats to farmland and local food systems. Flat, open farm fields, often the most productive farmland, are highly desirable for solar siting due to ease of access and fewer cost to clear vegetation and construct facilities. Most of the large-scale solar projects have been proposed on farmland, many on land with the most productive prime soils. At the same time, solar leases can generate valuable income and smaller scale solar panels often can be sited on farm buildings and under-utilized land. The challenge is with larger, utility-scale solar electric generating facilities and not with smaller, projects that primarily generate electricity for on-farm use.

Increasing Competition for Land. This new pressure compounds the severe "competition for land" in the Northeast including traditional demand for sprawling residential development, expanded local food production, and increased renewable energy, which has a larger land footprint than carbon energy. The recently completed New England Food Vision calls for building the region's capacity to produce at least 50% of its food, which would require three times as much land producing food in the future. In addition, expanding solar energy will consume significant amounts of additional land. In New York, for instance, National Renewable

Energy Laboratory estimated meeting Governor Cuomo's goals would require over 33,000 acres of solar generation.

The good news is that to meet these goals it is not necessary to convert our most productive farmland and sensitive environmental lands to utility-scale solar facilities. New research is documenting that states and regions can more than meet their ambitious solar energy goals on marginal and developed land without sacrificing its productive farmland and sensitive wildlife habitat. In addition, emerging "farm compatible" solar projects are demonstrating successful dual-use approaches to solar generation that are compatible with continued farming such as rotational grazing of livestock.

But fears that large areas of farmland could be converted to solar panels have been heightened in recent years as private solar companies sent offers to tens of thousands of landowners across the region. These fears, conflicts, and uncertainties have led to delays and even moratoria on constructing new solar facilities in some localities. This ultimately works against expanding clean energy, reducing costs, and combatting climate change.

Smart Solar Siting. The solution is *smart solar siting* that maximizes potential renewable energy while minimizing impact on the Northeast's most productive farmland and other resources. Successful examples of this approach across the country include identifying "least conflict" land, i.e., lands preferable for solar siting and steering large-scale commercial solar siting to those areas such as industrial zones, municipal landfills, other developed land, or less productive agricultural land. This requires mapping of the state's most productive, versatile, and resilient farmlands, which AFT is doing in its *Farms Under Threat* initiative and limiting siting on those lands.

Unfortunately, information and guidance on smart solar siting on farmland is fragmented and does not provide local officials what they need to develop policies and understand implications of approving siting permits. The rush to site facilities, driven by federal and state financial incentives, has been occurring without comprehensive state policies on renewable energy development and environmental protection and without integration into comprehensive municipal land use planning. This can lead to unintended consequences such as conversion of valuable and sensitive lands as well as delays in approvals for siting permits. It also can expose municipalities to legal challenge and the burden of addressing applications in a laborious, piece meal fashion.

Solar Siting Workshop. To address this challenge, AFT co-sponsored a workshop "Siting of Renewables on Farmland—Finding a Balance Between Protection and Profitability" on December 1, 2017 in Enfield, CT with over forty representatives invited from eight Northeast states. Participants shared information, practices, and experiences, identified what is working and where there are challenges, and laid out next steps for research and networking. The presentations and discussion demonstrated the divergence in approaches between states and the need for more sharing. Participants identified the following as the most critical research and analysis needs:

- analyses estimating the demand for land to satisfy renewable energy targets and types of lands that could achieve those goals;
- overlay mapping to isolate "least conflict" lands;
- identifying best practices; and
- establishing a clearinghouse for policies, guidance, and technical assistance for officials, landowners, and farmers.

Lastly, participants were eager to continue networking and sharing information.

AFT Smart Solar Siting Project. In response, AFT launched its Smart Solar Siting project to tackle these issues and provide new resources for communities, organizations, landowners, and farmers to achieve the dual goals of expanding solar energy generation while protecting farmland. Working in partnership with conservation and clean energy groups, AFT will help:

- Map the most productive, versatile, resilient agricultural land across the region leveraging AFT's new *Farms Under Threat* maps;
- Identify marginal lands more suitable for solar siting;
- Analyze potential supply to achieve renewable energy goals while avoiding the most productive farmland and lands of environmental significance;
- Develop best practices, policies, and case studies from across the region and the nation;
- Create a clearinghouse of information comparing legislation, policies, and practices across Northeast states and support ongoing sharing among network practitioners;
- Train local communities, land trusts, and individuals to use these new maps, analyses, and best practices in their planning via webinars and workshops;
- Advocate for policies to support smart solar siting at state and local levels; and
- Communicate how smart solar siting can be a win-win for farmers, renewable energy, the public, and the environment.

AFT is a trusted convener and advocate for farmland protection, agricultural viability, conservation, and renewable energy. Together with farm leaders, environmentalists, and energy entrepreneurs we can promote smart solar siting to help address climate change, expand renewable energy while protecting our farmland and environmentally sensitive lands.

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AFT's mission is to save the land that sustains us by protecting farmland, promoting environmentally sound farming practices, and keeping farmers on the land. Conserving farmland by the acre and soil by the inch is a powerful strategy for reducing greenhouse gases and improving productivity. With pioneering research, innovative tools, and aggressive advocacy, AFT is helping farmers, ranchers, and landowners play a unique role in reducing the growing threat of climate change while increasing food production and improving soil health.

To learn more about American Farmland Trust's Smart Solar Siting work visit our web site at www.farmland.org/solar and contact Jimmy Daukas at jdaukas@farmland.org or 301-908-7824.