



**Adirondack
Park Agency**

Solar Planning in the Adirondack Park

November 18, 2021

Planning: What are the opportunities to plan for solar in the Park? How do we move forward in a larger planning realm? How do we develop a broader plan to place each project in context?

- The Agency works proactively with prospective applicants, economic developers, and third-party permittees, to help guide projects to sites and areas within sites where solar development is best suited to occur.
- The Agency also participates diverse planning activities including the Upstate Cellular Task Force, Regional Economic Development Council planning, and local zoning and comprehensive planning activities, amongst other planning activities.
- These projects and plans do not benefit from the regulatory authority of the Agency and applicants may still apply for a solar or any other type of project on sites not identified in such plans.

Planning: What are the opportunities to plan for solar in the Park? How do we move forward in a larger planning realm? How do we develop a broader plan to place each project in context?

- As an executive agency, the Agency's powers are granted by statute by the NYS legislature through the NYS APA Act, the NYS Freshwater Wetlands Act, and the NYS Wild, Scenic and Recreational Rivers Act.
- The APA Act established the Adirondack Park Land Use and Development Plan which includes land use areas and overall intensity guidelines for the number of principal buildings that may be developed within them.
- Major Public Utilities (MPUs) do not constitute a principal building. As such, there are no maximum density restrictions for MPUs in any land use area.
- There are no specific uses that are prohibited in any land use area.

What planning role does the Agency have for solar? What opportunities does the Agency have to plan beyond the basic parameters of the APA Act?

- The Agency's opportunity to amend the Adirondack Park Land Use and Development Plan is limited to map amendments. Other changes are the purview of the New York State legislature.
- Any effort to regulate or plan for areas where solar projects or any other land use may locate would require an act of the New York State legislature.
- The Agency actively partners with outside entities on diverse planning initiatives.

Agricultural Land: Agricultural Districts are not perfect for determining where agriculture use is occurring. Additionally, local assessments do not always reflect actual land use and so agriculture use determined by local land use classifications are imperfect as well.

- The Agency recognizes that Agricultural Districts and local land classifications are imperfect measures for how much land is in agricultural use in the Park.
- The Agency reports both statistics with the understanding that these measures may not be exact figures.

How much farmland is “suitable” for solar?

- It is difficult to determine how much existing farmland could accommodate solar use.
- The Agency has not evaluated site-specific development constraints on much of the Park’s farmland.
- Site considerations including wetlands, key wildlife habitat, and visual impacts may render many agricultural lands unsuitable for solar development upon project review.
- Solar project developers seek sites that provide for quick permitting times and are typically proposed on lands with few wetlands, critical wildlife habitats, steep slopes, or other environmental constraints.
- Often, current and former agricultural lands have less of these constraints than an undeveloped property.

Are we looking at dual use for farmland?

- To date, no project application has proposed solar projects in conjunction with active farming or grazing activities around the panels.
- Projects with adequate sizes for grazing are anticipated to trigger NYS Office of Renewable Energy Siting (ORES) jurisdiction and review.
- The Agency does not have the legislative authority to require one private sector activity, such as solar electricity generation, to include another activity, for example farming, as part of its project.

New York State Energy Research and Development Authority (NYSERDA): Is NYSERDA working with APA to identify all solar project sites, or just those where NYSERDA is the applicant?

- NYSERDA has various tools to incentivize renewable development and to work with developers, but similarly to the Agency, NYSERDA does not have the ability to tell developers where to site solar projects.
- The Agency has worked with NYSERDA to identify one project at Benson Mines (in pre-application) on which NYSERDA anticipates being the applicant.
- NYSERDA has not worked with the Agency to identify sites on any other approved project, proposed project, or pre-application.

Is NYSERDA pre-permitting only larger projects that require Office of Renewable Energy Siting approval or are they pre-permitting smaller projects as well?

- It is anticipated that the Benson Mines solar project being pursued by NYSERDA will involve an Agency permit, and not an ORES permit.
- As such, it is the Agency's understanding that NYSERDA is actively pursuing projects that are smaller than the ORES jurisdictional threshold (25MW).

Does NYSERDA pre-permit projects or does the end user go through permits themselves?

- Pre-permitted projects refer to projects where a third party pursues the Agency's permitting process with the intention of transferring the permits to an end user that will be identified in the future.
- At this time, NYSERDA is anticipated to be the applicant on the Benson Mines project. NYSERDA would then transfer the entitlements to another developer or end user upon conclusion of the permitting process.

Solar Policy: Should the Agency have a policy for solar?

- The Agency has a Policy on Energy Supply, Conservation and Efficiency in the Adirondack Park as well as a flyer on solar and wind energy.
- In 2018 the Board authorized the public release of a proposed updated Policy on Renewable Energy Production and Energy Supply.
- More than seventy comments on the policy were submitted. Public opinion was divided on whether the Park should be a location for solar and wind energy projects.
- At the December 13 - 14, 2018 Agency meeting it was agreed to make no changes to the existing policy at that time.
- The Agency developed its Solar Generation Facility application in 2019 and updated the application in 2021.

Forest Land: When is forestland suitable for solar development? How many trees are acceptable to take down for a solar project?

- Forests throughout the Adirondack Park vary in their ecological value, environmental functions, and ecosystem context.
- Individual characteristics of different parcels are reviewed upon receipt of a formal application.
- Based upon the development considerations and conditions of the site, various evaluations may be required including a biological inventory to assess the ecological value of the forest being converted.

Wetlands: What are the potential impacts of solar panels in wetlands?

- Avoid, Minimize, Mitigate
- Must review the value of the wetland systems and functions they are providing.
- Consider what changes to the specific wetlands may occur as a result of the project, both during and after construction.
- Depending on the site, some potential impacts include wetland fill, ground disturbance and sedimentation, shading, vegetation removal, and soil compaction.

Do we have guidance on when a developer could impact wetlands?

- The Agency's regulations provide developers with clear guidance on wetland impact review and implications.
- To supplement this information, the Agency has drafted its "Compensatory Wetland Mitigation Guidelines" to help developers navigate wetland impacts.

When is it better to go into a wetland than cut down trees?

- This balance is considered throughout Agency project review.
- The answer is site-specific based upon the Section 805(4) development considerations including key wildlife habitats, visual impact, and wetland values and quality.

Why bore under wetlands for power lines?

- Directional drilling can be preferential because it does not result in an open cut at the surface.
- Open cuts have temporary impacts to wetland functions, some of which may become permanent, such as introducing invasive species.
- Directional boring has negligible impact on wetlands.

Remediation: Is remediation under Agency control? Do we make clear what the remediation on the land will be?

- As part of every solar project, the Agency requires a decommissioning plan that is enforceable through the Agency's enforcement processes.
- Agency staff check the specifics of each decommissioning plan to be sure that all aspects of development will be removed to a sufficient soil depth to allow for future re-use of the site.

Wildlife: Have we evaluated for animal migrations?

- Impacts on habitat and animal migration are evaluated on all projects proposed to the Agency.
- Agency staff consult with the Department of Environmental Conservation (DEC) if the proposal is likely to result in the taking of any species listed as endangered or threatened. The Agency requires DEC signoff on the potential taking as part of the application review.
- Agency staff also check that fence designs allow for passage of small to medium sized animals beneath / through fencing.

Soils: What kinds of questions do we ask about soils?

- The “Application for Solar Generation Facility” contains soil-related questions in the context of solid waste disposal, suitability for any proposed on-site wastewater treatment, and erosion and sedimentation controls.
- If in the course of project review additional considerations related to soils arise, the Agency asks those site-specific questions through its Notice of Incomplete Permit Application process.
- One of the Section 805(4) development considerations is “viable agricultural soils” which are maintained through solar development.

Do soil removal plans need to be consistent with Department of Environmental Conservation regulations and/or oversight?

- The Agency coordinates its review with the Department of Environmental Conservation (DEC).
- DEC regulations and oversight address hazardous waste, soil contamination, and remediation needs for a given use.
- Consistent to NYSERDA's guidance to local municipalities, "viable agricultural soils" are preserved through solar development.

General Environmental Constraints: Have we covered all of the environmental constraints for solar? What are the general considerations we should have on solar projects?

- The Agency's review of environmental constraints for solar projects are outlined in Sections 809(10) and 805(4) of the Adirondack Park Agency Act. The Agency's Section 805(4) development considerations allow the Agency to evaluate all potential environmental impacts related to solar projects.
- Inherent in any solar project are the review of constraints including forest resources, open space resources, existing drainage and runoff patterns, scenic vistas, natural and man-made travel corridors, and wetlands, amongst others.
- The Agency's Solar Generation Facility Application outlines the general considerations for projects that are jurisdictional to the agency.

Can we be creating design standards for environmental impact?

- Project review is a site-specific process that evaluates the development constraints of an individual project site.
- The APA Act provides the Agency with the ability to implement the latest science and utilize current regulatory standards in the review of each project and tailor how projects can avoid, minimize, and mitigate undue adverse environmental impacts.
- The Agency works proactively with prospective applicants, economic developers, and third-party permittees to help guide projects to sites and areas within sites where solar development is best suited to occur and away from sites with significant environmental constraints.
- This process includes pre-application meetings, guidance documents, project review, and consistent permitting.

Town Support and Assistance: Do towns receive enough support on solar? Local government officials seem to want more support on zoning, farmland protection and feasibility studies from the APA.

- Agency staff are available to assist each of the Park's 101 towns and villages in local planning and zoning efforts.
- Specific to local solar regulation, the Agency is pleased to also serve as a conduit to State resources at NYSERDA and NYS Department of State.
- Fourteen towns in the Adirondack Park have adopted land use regulations specific to commercial solar, the majority of which have been based on the NYSERDA model solar code.

Community and Public Input: What is the community reaction to solar? What do towns say about solar development? Can the Agency's Local Government Services seek community input?

- When an application is received, the Agency notifies the local municipal and county governments in which the project is located, the Adirondack Park Local Government Review Board, and adjoining landowners.
- Upon permit application completion, the local municipality, the county, the Adirondack Park Local Government Review Board, and adjoining landowners are again notified.
- Additionally, a formal public comment period is opened with all major projects, including all solar projects, being listed both in the Environmental Notice Bulletin and on the Agency's website.
- The opportunities for public comment have contributed to the Agency receiving numerous comment letters on projects with high public interest.

What is the community reaction to solar? What do towns say about solar development? Can the Agency's Local Government Services seek community input?

- In contrast to the Agency, towns have zoning abilities to establish zones where solar projects can and cannot be located.
- Throughout the writing of these codes, as well as individual local project review, the public has the opportunity to comment at the municipal level.
- Agency staff will extend invitations to local government leaders who have adopted solar regulations to speak at a future Agency meeting.
- Agency staff will identify opportunities for additional community outreach.

Should we have a public hearing while solar is still in its infancy? Can NYSERDA, ORES, Ag and Markets, DEC, and APA have a combined public input session?

- The Agency will explore having a public informational and input session with pertinent State agencies.
- For relevant information, the Office of Renewable Energy Siting (ORES) hosted seven public hearings during the fall and winter of 2020 where the public and local governments had an opportunity to comment on the proposed regulations implementing the 2020 Accelerated Renewable Energy Growth and Community Benefit Act, Executive Law § 94-c.
- During the promulgation of ORES regulations, the public submitted a significant number of comments related to solar and wind energy production in the Adirondack Park. The comments are available for viewing on the ORES website.

Benefits: What are the economic benefits of solar?

- Direct benefits include construction jobs, lease payments or property purchases to local landowners, augmented revenues to municipal, school and special districts, and more affordable electricity to end users.
- Nearly 2,000 jobs in the North Country are supported by renewable energy.
- The average wage of a solar industry job is approximately \$42,000 annually.
- Most recently, Brookfield Renewable announced that it is moving the national control center for renewable power to the Town of Queensbury.
- The economic impact of a particular project varies and is dependent upon lease/property purchase agreements, payment in lieu of taxes (PILOT) or community benefit agreements, and the size of the project.

What are the benefits to the end user?

- According to NYSERDA, subscribers to Community Solar projects can see about a 10% savings on their electric bill without having to install panels on their property.
- Developers of projects already approved by the Agency have also suggested an approximate 10% savings on energy costs for purchasers of their electricity.

How does solar benefit climate change?

- According to the U.S. Department of Energy's National Renewable Energy Laboratory, solar produces less life-cycle greenhouse gas (GHG) emissions than conventional fossil fuel energy sources.
- While there are some GHG emissions produced during the manufacturing and recycling of the solar system, the generation of energy from the solar system results in zero GHG emissions.

Scale: How much solar is enough? What is our target of solar production in the Park – should it exceed Park demand? Where are we as a State and as a region in regard to solar development?

- In 2019, New York State adopted the Climate Leadership and Community Protection Act, (Climate Act). The Climate Act set nation-leading targets in GHG emissions reductions aiming toward 70% renewable energy production by 2030, 100% carbon-free electricity generation by 2040, and an overall 85% reduction in GHG emissions below 1990 levels by 2050.
- The Climate Act specifically calls for over 6,000 Megawatts (MW) of solar electricity generation in New York by 2025.
- The law did not spatially allocate where the projects totaling 6,000 MW would be developed.

How much solar is enough? What is our target of solar production in the Park – should it exceed Park demand? Where are we as a State and as a region in regard to solar development?

- The APA Act, does not set target levels for the provision of private sector and utility services, including renewable energy.
- Similarly, the APA Act does not set maximum levels for the provision of private sector services.
- Agency staff routinely partner with outside entities on economic and community development planning efforts that often include targets for economic development.
- These goals and targets cannot be mandated by the Agency's regulatory authority.

What volume of solar is appropriate for the Park? How much solar is too much?

- The APA Act does not limit the number or size of MPUs, which include electricity generating facilities, in any land use area.
- The Act does not prohibit any uses in any land use areas.
- Under the Act, applicants have the right to propose any type of project on privately-owned land in Park.
- The Agency considers factors including the development considerations in APA Act section 805(4) and whether the project has no undue adverse impacts under APA Act section 809(10) in determining whether a particular project will be permitted.
- Efforts to set a limit to how much solar may be developed in the Park or to regulate or plan for areas where solar projects may or may not locate would require an act of the New York State legislature.

With the solar projects that are proposed, we are halfway to the total electric energy demand within the Park.

- The Agency, to-date, has approved projects that total 35MW of solar energy.
- All approved permits, proposed projects, and pre-applications currently being evaluated by the Agency would, if approved and developed, cumulatively provide 164MW of electric generation capacity.
- The Agency has identified that the year-round population of the Park would need 223 – 312 MW of solar capacity to provide for just their household usage.
- Additional analysis is necessary to determine the total electricity needs of the Park including for seasonal residential, industrial, hospitality, government, and commercial usage.
- Some or all of the approved permits, proposed projects, and pre-applications being evaluated by the Agency may never actually be constructed, approved, or formally proposed for an Agency permit.

What if 1,000,000 acres are developed? That will certainly have undue adverse impacts.

- This is a challenge for all uses without density limitations, including solar.
- Other types of projects that lack density limitations include coal-fired and other power plants, industrial agricultural facilities, schools, and manufacturing facilities.
- It is the Agency's understanding that towns within and outside the park are also being confronted with cumulative impacts to their communities from solar developments.

Incentives: Is there any way the Agency can incentivize solar in certain areas and discourage solar in other areas?

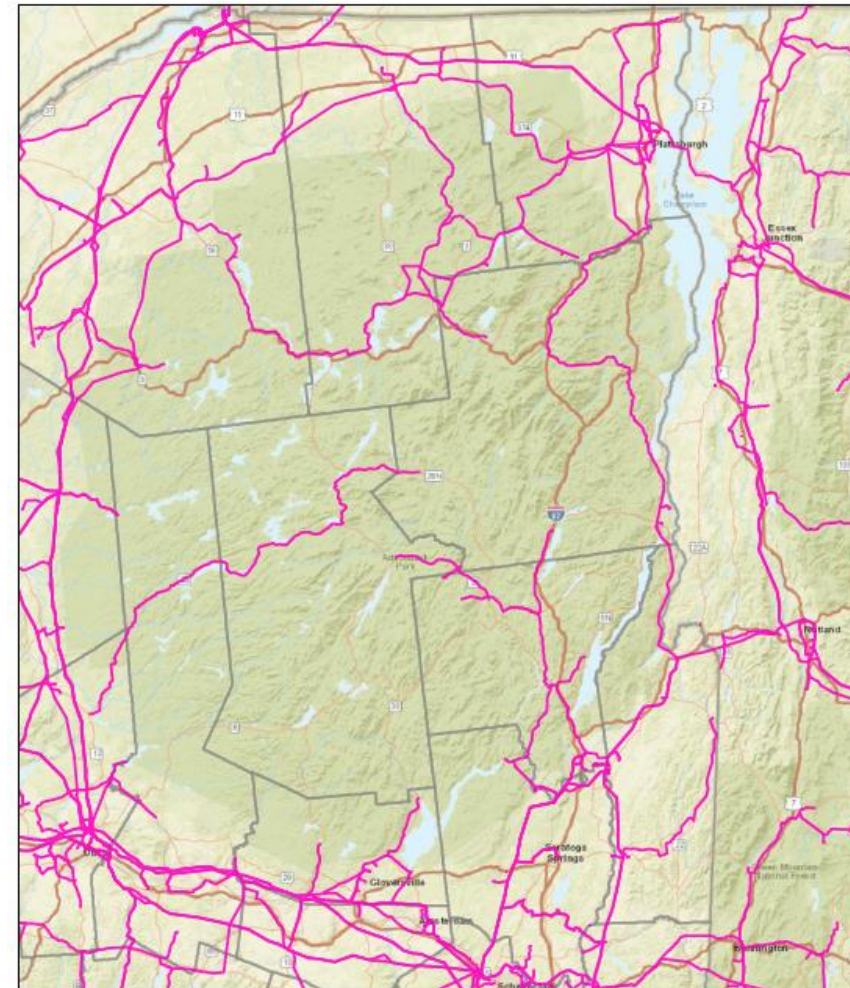
- The Agency works proactively with prospective applicants to help guide projects to sites and areas within sites where solar development is best suited to occur.
- Projects that take advantage of Agency guidance typically benefit from a more-streamlined permitting process as significant environmental impacts are avoided during site selection.
- Efforts to establish financial or other types of formal incentives would require an act of the New York State legislature.

Energy Grid: Some lands are unproductive, but it is hard to get transmission infrastructure to those sites. How does this factor into project siting?

- Solar developers seek to maximize the financial benefit of a project.
- As such, developers search for sites with proximity to three-phase power and easy interconnection points.
- The need to construct significant new transmission infrastructure renders many sites in the Adirondacks financially unfeasible for solar development.

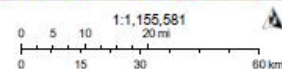
We need more information about transmission grid to see where solar is most likely to be built.

- Proximity to the transmission lines is a critical site consideration for solar developers.
- It is important to note that not all transmission lines have the same carrying capacity and as such may not be suitable to carry power from additional development.
- For example, the Champlain Hudson Power Express project is building new transmission lines under Lake Champlain to efficiently transport power from Quebec to downstate regions instead of using the existing grid.



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Transmission Lines



Land Availability: Need to keep in mind that much of the Park's land is undevelopable due to steep slopes, wetlands, etc.

- This is correct. Development constraints may prevent certain portions of land from being developed.

Miscellaneous: Are panels ever totally flat?

- Solar panels seek to maximize exposure to the sun.
- As the Adirondack Park is located a latitude of approximately 43-degrees north, and the nearest latitude that the sun reaches is 23.5-degrees north, it is anticipated that solar panels will tilt to have an orientation to capture the southern exposure.
- Most proposals seen by the Agency involve single-axis panels that track east-to-west as the earth rotates to align panel surface areas to the sun.

What is the purpose of fencing?

- Security and safety are the primary purposes for fencing.
- Fencing is designed to protect people and property from accidentally coming into contact with electrical equipment.

Is fencing or planting better for screening?

- Typically, trees provide the most natural-appearing screening for solar projects.
- Determined on a site-specific basis, a combination of fencing and trees may be used to screen a project.

Is it possible to not have fences around solar projects?

- For projects over 25 megawatts and subject to the jurisdiction of ORES, fencing is required by the ORES regulations. See 19 NYCRR §900-6.4, Facility Construction and Maintenance, subdivision (i) “Fencing. All mechanical equipment, including any structure for storage of batteries, shall be enclosed by fencing of a minimum height of seven (7) feet with a self-locking gate to prevent unauthorized access.”
- For any project 5 megawatts or larger, New York Code requires that “[a]ccess to PV electric supply stations shall be restricted by fencing or other adequate means in accordance with 110.31.” See, Section 691.4(2), NFPA 70 (National Electric Code). This cross-referenced section of New York Code requires that “a wall, screen, or fence shall be used to enclose an outdoor electrical installation to deter access by persons who are not qualified. A fence shall not be less than 2.1 m (7 ft) in height or a combination of 1.8 m (6 ft) or more of fence fabric and a 300 mm (1 ft) or more extension utilizing three or more strands of barbed wire or equivalent.” See, Section 110.31, NFPA 70.

Is it possible not to have fences around solar projects?

- For projects less than 5 megawatts, the protections listed out under Section 690 of NFPA 70 control. The fencing requirements for such facilities are largely dependent on the site, the equipment used, and the individual authority having jurisdiction for code purposes. Solar projects without fences are allowed under the National Electric Code so long as the conductors are not readily accessible.
- Fencing may also be required by the local authority having jurisdiction.

Conclusions

- Agency staff review all projects based upon the environmental constraints outlined in Sections 809(10) and 805(4) of the Adirondack Park Agency Act.
- The APA Act provides the Agency with the ability to implement the latest science and utilize current regulatory standards in the review of each project and tailor how projects can avoid, minimize, and mitigate undue adverse environmental impacts.
- Through diligent review, Agency staff are confident that undue adverse impacts to the Park's unique resources can be avoided.