South Ripley SOLAR PROJECT

Solar FAQs

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Who is ConnectGen?

ConnectGen is a renewable energy company comprised of seasoned energy industry professionals focused on developing wind, solar, and energy storage projects across the United States.

Founded in 2018, ConnectGen's strategy is to apply its proven ability to develop, construct and operate clean energy assets to create a multi-technology portfolio of generation and storage projects. The company currently has 139 megawatts (MW) of solar projects in operations and is developing over 4,000 MW of wind, solar and energy storage projects across North America. ConnectGen LLC is a subsidiary of 547 Energy. 547 Energy is Quantum Energy Partners' clean energy platform company.

Does the South Ripley Solar Project have the right of eminent domain?

No, the South Ripley Solar Project is a merchant generator of renewable energy, not a fully regulated public utility company with an obligation to serve utility customers, and therefore does not have the power of eminent domain in New York State. Eminent domain is defined as the right of the government to take private property for a public purpose.[1] ConnectGen does not have the right to utilize eminent domain and will secure all land rights for the project through voluntary contractual agreements with project participants.

Additionally, in general, New York State law prohibits investor-owned utilities such as National Grid from owning large-scale generation facilities, like the South Ripley Solar Project. While National Grid may have the ability to take property by eminent domain in order to provide safe and reliable electric transmission and distribution service, current law would not allow National Grid to utilize eminent domain to take a private merchant generation projects. Therefore, eminent domain will not be used under any circumstance for the South Ripley Solar Project.

Does solar power make economic sense?

Solar power is now one of the cheapest new sources of electricity in most of the world due to declining equipment costs, improved technologies, and public policy supporting the procurement of renewable energy across the country,[2] especially New York, which has a mandate to procure 70% of its energy from renewable sources by 2030.[3]

In the last decade, the cost to install solar has dropped by more than 70%, and as of Q3 2019, prices are at their lowest historical level across all market segments.[4] With continuing technological innovations, new utility-scale solar energy projects are now often cost-competitive with new natural gas generation. In fact, new solar projects are often cheaper than both coal and natural gas.[5] Because solar PV is a technology and not a fossil fuel (like oil, gas and coal), costs will continue to decline as research continues to improve existing technology.

Adding to the growing appeal, solar energy is uniquely able to offer electricity at a fixed-price contract over the life of the project because renewable energy has no fuel cost and therefore no fuel price risk, allowing it to act as a hedge against future volatility of natural gas prices.[6]

1. https://ag.ny.gov/real-property/faqs-about-nys-eminent-domain-procedure-law
2. https://www.bloomberg.com/news/articles/2020-04-28/solar-and-wind-cheapest-sources-of-power-in-most-of-the-world
3. https://climate.ny.gov/
4. https://www.seia.org/solar-industry-research-data
5. https://www.lazard.com/perspective/lcoe2019/

How do solar panels work?

Solar photovoltaic (PV) panels are constructed of silicon, tempered glass, electrical wiring, and a metal frame. Silicon, an element most commonly found in sand, has conductive properties that allow it to absorb and convert sunlight into electricity. When light interacts with a silicon cell, it causes electrons to be set into motion, which initiates a flow of electric current in a process known as the "photovoltaic effect".[7]

Is solar power reliable?

No electricity source runs 100% of the time, including coal, gas, and nuclear plants. While solar is variable as a power resource, that does not mean that it is backed up with a coal or gas plant should the clouds cover the sun. The variability of solar can be predictably forecast and used to complement other generation sources. Grid operators have decades of experience managing changes in supply and demand; sudden, unexpected outages at large conventional power plants are more costly and difficult to manage than the gradual, predictable changes in solar output.[8] Because of the balancing efforts grid operators undertake, it's simply untrue that fossil fuel reserves run around the clock for when the sun doesn't shine.

Further, the combination of solar + storage makes solar power available when the sun isn't shining. The batteries charge when the resource is abundant and stores the excess energy, releasing it during peak hours. In addition to allowing for access to solar power when it is not readily available, the integration of storage can keep electricity prices from fluctuating, manage energy ramps during periods of peak demand, and mitigate the risk of curtailment.

What will the South Ripley Solar Project look like?

A solar project is a large group of solar panels that operate together as one power generation facility, delivering electricity to the existing electric grid. Solar projects are typically arranged in north to south rows with access buffers between each row, not less than 8 feet wide. In addition, access roads will be built between major panel areas to allow operations and maintenance staff to access the solar panels.

A panel array, which includes both PV panels and mounting racks, typically stands around 12 feet tall. The mounting racks are supported by steel pile foundations generally set up to 8 feet into the ground without the use of concrete. Panel designs currently being evaluated by ConnectGen rotate slowly from east to west once a day, keeping the sun at a 90-degree angle from the panels to ensure maximum energy is absorbed. Each section of solar panels is typically fenced off to ensure security and safe operation.

What other equipment is usually present at a solar project?

Other project infrastructure present at a solar project includes common electrical equipment such as inverters and transformers, and the electrical equipment necessary to deliver energy to the existing electrical grid such as underground and overhead transmission lines. ConnectGen's project will also include a battery storage facility (see Storage FAQs for more information).

6. https://www.nrel.gov/docs/fy13osti/59065.pdf
7. https://news.energysage.com/solar-panels-work/
8. https://www.forbes.com/sites/joshuarhodes/2018/08/21/what-does-100-renewable-energy-really-mean/#209166ce1ac8

Are solar panels safe?

Yes. PV panel materials are enclosed with glass and do not mix with water or vaporize into the air, so there is little to no risk of chemicals, including greenhouse gases, being released into the environment during normal use. Crystalline silicon PV panels, an extremely common panel variant used around the world, "do not pose a material risk of toxicity to public health and safety."[9] While solar panels that contain cadmium telluride have been studied extensively and shown to "pose negligible toxicity risk to public health and safety while significantly reducing the public's exposure to cadmium by reducing coal emissions,"[10] ConnectGen is not currently considering solar panels that contain cadmium telluride for the South Ripley Solar Project.

Electric and Magnetic Fields (EMF) are present everywhere in our environment, including TV antennas, radio signals, Wi-Fi, cell phones, and common household appliances.[11] EMF emissions from solar panel systems are non-ionizing and in the same extremely low frequency range as those induced by household appliances.[12]

All solar facilities are designed to strict electrical safety standards to ensure safe operation. Product safety standards, installation requirements, and building codes for solar facilities are addressed by the National Fire Protection Agency's National Electrical Code, the International Code Council's International Fire Code, the International Association of Firefighters, and several other national, state and local safety and product standards groups.[13]

ConnectGen will be fully responsible for the security of the facility and for maintaining consistent safety standards within the project area.

What happens if a solar panel gets hit by lightning?

Solar projects are designed with lightening protection on all system components, which protect against damage in the event of a lightning strike. The ground grid will be designed in consideration of the conductivity of soils in the area as well as any other nearby conductive materials that are buried or connected to the ground, such as water or natural gas pipes.

Do you work with local fire departments in your project area?

Prior to operation, we will develop an Emergency Response Plan in accordance with industry best practices, which will outline the response procedures to be employed should an emergency arise at the project site. We will work closely and collaboratively with the local departments and authorities. We provide pre-construction training to all emergency response personnel, which includes a description of the facility, any potential construction risks, and the role of emergency responders should an incident occur. After construction is complete, we will host the emergency response personnel for a site visit to make sure they are familiar with the system and our Emergency Response Plan.

Do large-scale solar projects make noise?

Temporary, elevated noise levels may occur during the construction phase of a solar project, but once construction is complete, an operating solar project emits minimal noise during the day and is dormant at night. As part of the Article 10 application process, ConnectGen will submit a detailed study of the potential noise impacts associated with the construction and operation of the facility. The results of the study will assess expected noise levels, and also propose noise limits, which will minimize and mitigate adverse impacts associated with construction and operation of the South Ripley Solar Project. In addition, ConnectGen is committed to taking steps to minimize and mitigate visual impacts of the project through vegetative buffers and setbacks from property lines, which will provide additional sound dampening benefits as well.

9. https://content.ces.ncsu.edu/static/publication/js/pdf_js/web/viewer.html?slug=health-and-safety-impacts-of-solar-photovoltaics
10. https://content.ces.ncsu.edu/static/publication/js/pdf_js/web/viewer.html?slug=health-and-safety-impacts-of-solar-photovoltaics
11. https://www.who.int/peh-emf/about/WhatisEMF/en/
12. https://www.nyserda.ny.gov/-/media/NYSun/files/Model-Solar-Energy-Law-Guidance-Document.pdf
13. https://www.seia.org/initiatives/fire-safety-solar

Do solar projects affect agriculture?

Solar projects are low impact and coexist well with agriculture, operating without any impact to adjacent agricultural properties. During the solar project's 30 year or more lifespan, the land hosting the project gets a recovery period, allowing the soil to rest and rebuild. Native vegetation can grow under the panels, allowing the land to retain water and topsoil and improving soil health over time, which can increase the value of the land for agriculture in the future.[14]

Further, ConnectGen will have a Stormwater Pollution Prevention Plan (SWPPP), which will outline ConnectGen's plans for sediment and erosion controls to manage both the amount and composition of any stormwater discharged from the project site. There are no anticipated stormwater runoff issues for land hosting or adjacent to panel areas.

At the end of the solar project's useful life, the project is decommissioned and the land can be returned to agricultural use.[15] In addition, a solar project can offer a consistent, weather-resistant source of income for rural farmers and their local economies, providing an alternative "crop" that diversifies farmers' revenues and ensures ongoing viable agricultural operation on the remaining farmland.

Will people still be able to hunt near the South Ripley Solar Project?

Hunting will be permitted in and around the project area until the South Ripley Solar Project goes into operation. During construction, ConnectGen will coordinate with participating landowners to ensure that hunting activities are conducted in a safe manner while construction workers are on-site. Once operational, hunting will no longer be allowed within panel areas, but landowners will be able to hunt on parcels around the project area without restriction. Limited fencing, a security measure put in place in accordance with industry best practices and local requirements, will be erected around panel areas, but collection easements between panel areas will not be fenced to allow wildlife to traverse the project area without disruption.

What benefits do utility-scale solar projects bring to local communities?

Utility-scale solar projects represent a significant investment into the local and surrounding communities. Host landowners will receive annual lease payments for thirty years or more. The projects also benefit communities by contributing millions of tax dollars to towns, counties, and local school districts that host the projects.

Utility-scale solar projects also benefit communities by creating local construction jobs, generating revenue for local businesses, and supporting community organizations through sponsorships and donations.

Who will be responsible for maintaining the South Ripley Solar Project once it is constructed?

ConnectGen will be fully responsible for maintaining the solar facilities and any properties within the projects' boundaries, including reseeding the disturbed areas with native plants and grasses that will allow flora and fauna to utilize the panel areas. Landscape maintenance at the project site will be performed by companies contracted directly by ConnectGen.

Will herbicides be used during maintenance activities?

ConnectGen will develop and implement a Vegetation Management Plan that establishes vegetation goals and identifies the specific treatments that may be used to ensure safe and reliable operation of the facility. Common practices to control and manage vegetation will involve mechanized and agrarian means; however, herbicides may be employed, depending on the target plant species, land use activities and landowner input. ConnectGen is committed to the conscientious use of appropriate management techniques to control vegetation in a way that is designed to minimize the risk of unreasonable adverse effects on human health and the environment.

14. https://www.energy.gov/eere/solar/farmers-guide-going-solar
15. https://www.seia.org/sites/default/files/2019-11/Solar%20Ag%20Land%20Usage%20FactSheet%202019-PRINT.pdf

Who will be responsible for decommissioning the South Ripley Solar Project?

ConnectGen's lease agreement states that the company is responsible for the decommissioning and removal of project infrastructure at the end of the project's life.

Additionally, New York State will require a Decommissioning and Restoration Plan be put in place as part of the state Article 10 permitting process. The Decommissioning and Restoration Plan will outline the various ways in which ConnectGen will safely and responsibly remove installed solar equipment and how the property within the project area will be restored to as close to its state prior to construction as possible. ConnectGen will put financial security in place early in the life of the project to ensure that host communities and landowners will bear no responsibility for decommissioning or restoration.

What happens to the solar panels once they have been decommissioned?

Solar PV panels typically consist of glass, polymer, aluminum, copper, and semiconductor materials,[16] which can be safely disposed of in landfills at the end of the project life. In addition, recycling technologies have emerged in the last several years that have enabled these materials to be recovered and recycled at the end of their useful life.[17] In other cases, solar PV components can be reused or refurbished to have a "second life" of generating electricity.[18] The industry continues to work with recycling partners and to research and explore additional cost-effective recycling technologies.[19] The Article 10 Decommissioning and Restoration Plan will include provisions for end-of-life disposal methods and will ensure compliance with appropriate regulations governing disposal of PV panels at the end of the project life.

When will the South Ripley Solar Project be completed?

ConnectGen expects to start construction on the South Ripley Solar Project in 2022, with a goal to complete construction and begin delivering energy in 2023. Landowners and members of the community will be kept apprised of the project's milestones and progress throughout the development and construction phases of the project.

16. https://www.seia.org/sites/default/files/2019-05/SEIA-EOL-Considerations-PV-Factsheet-May2019.pdf
17. https://www.irena.org/publications/2016/Jun/End-of-life-management-Solar-Photovoltaic-Panels
18. https://www.seia.org/initiatives/recycling-end-life-considerations-photovoltaics
19. https://www.seia.org/initiatives/seia-national-pv-recycling-program

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