ABOUT EDP RENEWABLES NORTH AMERICA



OPERATIONAL PROJECTS

6

WIND FARMS



10,200+ MEGAWATTS

EDPR NA'S OPERATIONAL PROJECT IMPACTS



CREATED 650+ permanent jobs¹ 10,000 construction jobs¹



GENERATED the equivalent of **2.7 million+ homes'** energy consumption²



MAINTAINED **278+ million hours** of operational history³



PAID

\$550+ million to landowners⁴ **\$520+ million** to local governments⁴



17+ billion gallons of water AVOIDED⁵ **15+ billion pounds of** CO_2^{-6}



INVESTED **\$16+ billion (approx.)** in capital⁷

1. Full-time equivalent jobs calculated by dividing number of contractor hours worked during construction by 2080.

2. Power generation calculated using a 35% capacity factor for wind based on 2019 AWEA Wind Powers America Annual Report. Solar power

generation is based on power generation calculated using a 25% capacity factor. Household consumption based on the 2022 EIA Household Data monthly average consumption by state.

3. Calculated based on each turbine in EDP Renewables North America's fleet and the hours of operation from 2007 to 2019.

4. Cumlative landowner payments and local government payements through 2023.

5. Assumes 0.58 gallons of water consumed per kWh of conventional electricity from Lee, Han, & Elgowainy, 2016.

6. Based on the U.S. Environmental Protection Agency (EPA) Greenhouse Gas Equivalencies Calculator, Janurary 2024.

7. Assumes the average cost of an installed wind farm is \$1.7 million/MW for projects built between 2012 and 2016 and \$1.4 million/MW for projects built after 2018. Based on U.S. DOE 2015 and 2019 Wind Technologies Market Report. Utility fixed-tilt solar projects are \$1.02/Wdc and single-axis tracking projects are at \$1.11/Wdc, based on Q4 2023 SEIA U.S. Solar Market Insight.

Shy Place Solar Park

Jasper County, Georgia

Shy Place Solar Park is a proposed solar power generation site that would provide affordable, reliable energy to the local grid. The solar park would be located in Jasper County about five miles northeast of Monticello.

49 250 MW

ANTICIPATED OPERATION DATE: 2028

ANTICIPATED START OF CONSTRUCTION: 2027

Many project and permitting details have yet to be determined. These dates reflect our internal goals and are subject to change.



Shy Place Solar Park's generation would be equivalent to the average consumption of more than **41,000 Georgia homes**.¹

Shy Place Solar Park would save more than 317 million gallons of water each year and
 would prevent the air pollution that causes smog, acid rain, and climate change.²



Economic Benefits

All economic data reflects the estimated amount throughout the life of the project.



CAPITAL INVESTMENT **\$400+ million**









Shy Place Solar Park would consist of singleaxis tracking bifacial PV panels on a site of approximately 2,000 acres.



Shy Place Solar Park would **contribute to the national energy security** for the state of Georgia and the U.S., helping diversify domestic supply.





Georgia has among the highest solar potential in the southeast. **Georgia ranks 7th in the nation** for cumulative installed solar capacity.³

Power generation calculated using a 25% capacity factor. Household consumption based on the 2022 EIA Household Data monthly average consumption by state.
 Assumes 0.58 gallons of water consumed per kWh of conventional electricity from Lee, Han, & Elgowainy, 2016.
 Solar Energy Industries Association. "Solar Data Cheat Sheet." 2023.

ShyPlaceSolarPark.com

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Scan the QR code below with your phone camera to hear from some of our South Carolina landowners speaking about their experience with hosting solar and working with EDPR NA.







www.ShyPlaceSolarPark.com | landon.redmon@edp.com



Solar ENERGY: Powering Local Economies

Explore the town below to see how the economic benefits of an EDP Renewables North America solar park flow through a community.

PROVIDING STABLE INCOME

The reliable revenue stream provided by a solar park lease agreement can give landowners the financial freedom to expand their business, save for retirement, or pay for college.



REINVESTING IN THE COMMUNITY

With the additional income from a solar park lease, landowners have greater resources to reinvest in the community by increasing their spending at area businesses.

ATTRACTING GROWTH

Companies are increasingly interested in powering their operations with clean energy at a fixed price. The availability of clean power generated by the solar park can help attract further business development to the project area.

STRENGTHENING LOCAL INFRASTRUCTURE

Government payments directly from the solar park, as well as increased economic activity from landowners and local businesses supported by the solar park, help fund essential services such as roads, schools, and fire departments.

SUPPORTING LOCAL BUSINESSES

Solar park construction generates an economic boost for the project area, with hundreds of workers relying on local businesses for food, lodging, materials, and contractor services. Once the project is in operation, the solar park continues to count on local businesses for ongoing maintenance needs, such as mowing, panel washing, and equipment.

About Solar Technology

Solar is a critical and rapidly growing part of America's electric grid, producing enough energy to power more than 35.8 million homes nationwide and counting.¹



Renewables

Solar projects are safe, clean, and have minimal impact on the land while providing a valuable economic boost to the rural economies that host them.

It would take less than 0.6% of total U.S. landmass to power the entire country with solar PV.² This represents half as much land as is currently being used to grow corn for ethanol production.³

Solar is affordable to build and maintain, helping boost America's energy independence in the process. The price of solar has been falling for years, dropping by about 70% since 2010. Average operation and maintenance costs have fallen nearly 60% since 2011. In many cases, solar energy is cheaper than traditional forms of generation,⁴ giving utilities and corporate off-takers access to reliable, cheap energy at a fixed price. These guaranteed rates help keep consumer costs low and stable.



Requiring no water to generate power, solar energy saves 136 billion gallons of water each year that would otherwise be consumed by the traditional power industry.⁵

U.S. solar also avoids 224 million metric tons of carbon pollution annually, which is the equivalent of removing 53 million cars from the road.⁶

HOW A SOLAR PARK GENERATES ENERGY





The solar panels absorb sunlight and generate direct current (DC) electricity. Many have trackers installed to tilt toward the sun as it moves across the sky. The electricity goes through an inverter, converting it to alternating current (AC) electricity.

Then it flows into the grid, supporting the region's energy needs.

¹Solar Energy Industries Association. "What's in a Megwatt?" 2023.
² Paul Denholm, Robert M. Margolis. "Land-use requirements and the per-capita solar footprint for photovoltaic generation in the United States." 2008.
³U.S. Department of Agriculture Economic Research Service. "Feed Grains: Yearbook Tables." June 15, 2021.
⁴ Lazard. "Lazard's Levelized Cost of Energy Analysis - Version 14.0." October 2020.
⁵ Calculated using the Environmental Protection Agency's AVERT tool.
⁶ Solar Energy Industries Association. "Solar Data Cheat Sheet." 2023.

Soldrascheighbor

Solar energy powers millions of businesses, schools, and households every day with clean electricity safely produced on American soil.

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PANEL RESILIENCY

Solar panels are built to withstand extreme weather and are very resilient against high winds and hail.

EDPR projects are designed to withstand 11 strikes of hailstones 2.2 inches in diameter. If an extreme weather event harms the solar park, EDPR will quickly clean up any damaged equipment and the surrounding area, and replace broken components as needed.

PROPERTY VALUES

Solar Energy & Property Values

Research from multiple academic institutions and project-specific assessments have shown little to no **negative property value impacts**.⁴

Renewabl

Projects are monitored 24/7. The local

Operations team is on-site during the day, and our continuously staffed Remote Operations Control Center inside our Houston headquarters monitors at all times including throughout the night, receiving nearly real-time data for the entire operating fleet, allowing them to identify issues and respond appropriately.

AREA EFFECTS



Solar panels are nearly silent neighbors.

Inverters are typically at least 100 feet from the nearest dwelling, and the sound of inverters from this distance is quieter than a refrigerator hum. As inverters only make sound when they are working, no noise is typically emitted at night.¹

Property value experts agree upon the criteria that typically correlate with decreases in property value increased noise, odor, and traffic—none of which result from having a solar park as a neighbor. Solar parks are very quiet facilities that do not emit odor or pollution, and once construction is complete, they have minimal impact on traffic in the area.⁴

What helps improve property values – quality schools, roads, and local services – are further strengthened by projects' contributions into the local tax base, funding those very services.

Visual appearance also plays a role. This is one area where solar parks could have an impact depending on neighbors' preferences, as we are visually changing the landscape. However, there are many tools to mitigate visual impact, which typically include setbacks and screening. Shy Place Solar is a heavily screened site, with dense existing vegetation and trees obscuring the project from nearly all outside views.



Solar panels are designed to capture light,

not reflect it. Most solar panels have antireflective coatings and are less reflective than water or windows. Any reflected light would be wasted potential energy!²



The ground beneath and around EDPR NA solar projects is maintained with a vegetative ground cover suitable to the local environment, which helps mitigate the possibility of heat increases.³ Any heat increases that do occur are very small and dissipate completely as you leave the solar park's immediate area.

¹ American Clean Power Association. "Solar as a Neighbor: Living Near a Solar Project." July 2024.

² National Renewable Energy Laboratory. Research and Analysis Demonstrate the Lack of Impacts of Glare from Photovoltaic Modules. July 2018. ³V. Fthenakis and Y. Yu. IEEE 39th Photovoltaic Specialists Conference. "Analysis of the potential for a heat island effect in large solar farms." 2013 ⁴Gaur, V. and C. Lang. (2020). Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island. Submitted to University of Rhode Island Cooperative Extension. September 29, 2020.

The University of Rhode Island study's conclusion that there may be an impact to non-rural communities is surmised is that "land is abundant in rural areas, so the development of some land into solar does little to impact scarcity, whereas in non-rural areas it makes a noticeable impact.

Capturing sunlight, quietly producing electricity and shade, and requiring minimal maintenance while being safe and sustainable there is no question as to why solar power has become the fastest-growing electricity source in history.

> Maurizio Dikdan, EDP Renewables **Solar PV Technician Engineer**

Solar Panel Contents & Durability

Photovoltaic cells PANEL COMPOSITION

Photovoltaic cells, the part of a panel that generates electricity, are largely made of silicon. Silicon is the second-most common element on earth, which is also found in most consumer electronics, from cell phones to computer chips.¹

By mass, 90% of a solar panel is made up of glass and aluminum.

The thin layer of solar cells is sealed on both sides and covered with glass and an aluminum frame. Solar panels are designed and manufactured to withstand extreme weather conditions and events. Panels use a fully sealed technology that blocks trace metals from entering surrounding soils, even if cracked, similar to phone screens. Solar panels do not contain any liquid, so nothing is able to leak out.¹





20 MW PV Plant Component Materials by Weight (kg/kW)

140

Modern commercial solar panels do not contain sufficient hazardous materials to pose a danger to the environment and human health when in operation or at their disposal.

FROM RAW SILICON TO PV MODULES

120 100 kg/kW 80 60 Shy Place Solar's panel type 40 20 0 Silicon Fixed Silicon Single-**Axis Tracking** Tilt Steel Copper Aluminum Glass Silicon Image from U.S. Department of Energy. Encapsulent

The extraction of silicon from quartz and sand is followed by reduction into ingots, which are further refined into wafers. Fragments of silicon are melted together to form polysilicon wafers. Solar cells are fully sealed by encapsulants, then protected by tempered glass.





WHAT ABOUT LEACHING?

EDPR requests TCLP (Toxicity Characteristic Leaching Procedure) reports from every panel manufacturer that it works with. This procedure attempts to replicate the conditions that a solar panel would experience if it were disposed of in a landfill over a long period of time. The materials and its surroundings are then tested to ensure there is nothing toxic leaching from the former panel.

EDPR procures panels that pass TCLP testing and are thus able to be disposed in landfills as regular solid waste, indicative of the safety of the materials inside even in the harshest of conditions. However, EDPR's Close the Loop program keeps solar panels out of landfills through strong recycling initiatives.

¹ American Clean Power Association. "Solar Panels are Safe for Your Community." July 2024



Caretaking the Land, Wildlife, & Environment

PRE-PROJECT: SITE DESIGN & ENVIRONMENTAL DUE DILIGENCE

• The development of Shy Place Solar Park has been in accordance with local, state, and federal permitting standards and industry best practices. Numerous surveys and studies are being conducted to minimize or avoid impacts to wetlands, natural vegetation, and cultural resources. We are actively coordinating with the Georgia Department of Natural Resources and the U.S. Fish & Wildlife Service, sharing our proposed project area and

general siting principles as a foundation for discussion.

FIELD SURVEYS (COMPLETED, IN PROGRESS, OR UPCOMING):

- Protected Species Assessment
- Hydrologic and Hydraulic Study
- Phase I Environmental Site Assessment
- Geotechnical (Soil Sampling) Study
- Wetlands & Waters Delineation
- Cultural Resources Survey

AGENCIES WORKED WITH:

- U.S. Fish & Wildlife Service
- Jasper County
- Georgia Dept. of Natural Resources
- Georgia Environmental Protection Division
- OPERATIONS: EQUIPMENT & LAND MAINTENANCE
- The land under and around the solar park will be planted with a locally suitable seed mix. This mix is designed for the local climate and soil type and will aid in keeping ground temperatures cool. EDPR is responsible for managing the project area's vegetative ground cover, and often employs local services to assist.
- During the 35-year lifespan of the project, the land is able to rest. The soil replenishes nutrients and increases its biodiversity, boosting soil fertility for its life after the solar park.
- The project is monitored 24/7 and is maintained by a local operations team. Our Remote Operations Control Center is continually staffed around the clock at our Houston Headquarters, receiving real-time performance data on every solar inverter in our fleet, allowing for immediate awareness and response for any abnormalities that arise.



• At the end of the solar park's useful life, the solar park will be decommissioned or repowered. During decommissioning, the solar panels, inverters, and other related equipment will be safely removed, and recycled

as much as possible. Project leases obligate this project to remove all equipment after the project life and restore the land to as close to its original pre-construction state as possible. The decommissioning process will follow all regulatory guidelines, ensuring safe disposal or recycling of equipment, in compliance with environmental standards.

• Through the project leases, EDP Renewables (EDPR) has provided financial assurances for the

decommissioning of the project. We would post a bond for the amount required for the full decommissioning of the project. The bond value would be updated once the project begins commercial operation. The bond value would be determined by a licensed professional engineer, and a licensed engineer would update the bond value every 5 years. The project and EDP Renewables are committed to being good neighbors and ensuring that no equipment is left in Jasper County after the project life.

"My land is very important to me. EDPR hasn't done anything that can't be removed off the land.

They've planted grass on it to keep it from eroding. They really respect the land and the landowners."

- Walt P., South Carolina landowner

Solar Park Construction

Building a solar park is a major construction project that takes approximately a year to complete and employs hundreds of people. Here are some of the goods and services we can source locally:

TECHNICAL & CONSTRUCTION EMPLOYMENT

- Civil contractors
- Concrete supply and delivery
- General laborers
- Safety staff
- Excavation and restoration
- Gravel supply and delivery
- Heavy equipment operators

SERVICES

- Accommodations and catering
- Vehicle and equipment
- maintenance
- Vehicle and equipment rentals
- Security
- Fuel supply

Throughout the construction process, we work closely with local stakeholders and officials to ensure everyone is informed and construction activities are minimally disruptive.

SITE PREPARATION

To prepare a site for a new solar project, vegetation and large rocks are first removed. In some cases, a grading technique is employed to provide a level foundation for the construction of the solar modules. Great care is taken to salvage topsoil, prevent erosion, and maintain natural drainage patterns.

SECURITY FENCE

To protect the public during construction activities, as well as to prevent trespassing and vandalism, a chain link fence is erected around the perimeter of the project location.

LAYING UNDERGROUND CABLES

Buried electrical collection cables are installed to connect the solar arrays, inverters, and transformer. The buried lines are contained within the project location and buried to a minimum depth of three feet.

INSTALLING INVERTERS & TRANSFORMERS

The electricity generated by the PV panels is in the form of direct current (DC). Inverters are installed to convert the DC output of the PV cells into alternating current (AC) suitable for supplying the electrical grid. The AC power then goes through a transformer to increase the voltage before connecting to the electrical grid.

DRIVING & DRILLING PILES

Following site preparation, metal beams (typically steel or aluminum) are spaced out and inserted into the ground using piledrivers to serve as the foundation for the solar modules.

INSTALLING TABLES, TRACKERS, & PANELS

A typical solar park is comprised of thousands of photovoltaic (PV) panels that are mounted to tables and affixed to the foundation to form a solar array. In most cases, trackers are installed to aim the panels toward the sun and increase power production throughout the day.

INTERCONNECTION

The power then passes from the project substation, where the voltage was increased, to a substation owned by the utility. From the utility's substation, the renewable electricity will be sent to homes, businesses, and utilities.

FULLY OPERATIONAL

Once the solar project is complete, it will be monitored on a continuing basis to ensure all components of the system are operating properly. Vegetation within the project area will be maintained, and the solar panels will be washed on a regular basis.

What will Shy Place Solar Look Like?



Shy Place Solar Park is a thoroughly screened site with very minimal changes to local views. Dense pine trees and other existing vegetation prevent the panels from being seen from roadways for the majority of the site. The below visual simulation represents what one could expect to see in the very few instances where panels are visible.

View from Bullard Road South of Rock Eagle Road looking South:



SHY PLACE SOLAR JASPER COUNTY, GA - SCREENING VISUALIZATION

PREPARED BY

SEPTEMBER, 2024

LOCATION 11 EXISTING CONDITIONS







LOCATION 11 PROPOSED SOLAR ARRAY

SEPTEMBER, 2024