

PENNSYLVANIA PULSE

FOR A HEALTHIER, MORE RESILIENT PENNSYLVANIA



Pennsylvania PULSE (Project to Utilize Light and Solar Energy) is a clean energy project comprised of seven new solar farms in six counties across Pennsylvania. In total, the 191 megawatt (AC) project will supply 361,000 megawatt-hours of electricity annually to 16 Commonwealth of Pennsylvania agencies, making it the largest solar commitment by any government entity in the United States.

The project supports the Commonwealth's commitment to mitigating climate change by reducing its carbon emissions, with power generation as a leading contributor to greenhouse gas emissions that negatively affect our environment and the health of Pennsylvanians. Pennsylvania PULSE will enable the Commonwealth to reduce its carbon footprint by 157,800 metric tons of CO₂ each year, with new home-grown renewable energy projects that will bring health and economic benefits to Pennsylvania.

STATISTICS

- Capacity: **191** Megawatts (AC)
- Electricity Supplied: **50%** of the Commonwealth of PA's annual electricity consumption will be sourced from these new solar assets
- Construction jobs: **400** workers, the majority local Pennsylvanians
- Emission Reduction: **157,800** metric tons of CO₂ per year

For each year, that's like removing emissions from ...

34,092 fuel burning cars, 

26,716 homes' electricity use, 

or charging **20 billion** cell phones. 

A BRIGHT, LOW CARBON FUTURE FOR THE COMMONWEALTH

A collaboration formed by shared sustainability goals



This project is a shining example of a public-private partnership that is fostering renewable energy development while diversifying the Commonwealth's energy portfolio and increasing security with locally generated power. Constellation and Lightsource bp have entered into a Power Purchase Agreement (PPA) that will deliver the solar energy required by the Commonwealth in its formal Award to Constellation. Lightsource bp is developing and will finance, build, own and operate the solar farms. Constellation will purchase the electricity generated and provide it to the Commonwealth.

The seven solar farms will be distributed among six Pennsylvania counties: Columbia, Juniata, Montour, Northumberland, Snyder, and York.

The following Commonwealth of Pennsylvania agencies have accounts that will be supplied electricity in this award

- Department of Agriculture (DAG)
- Department of Conservation & Natural Resources (DCNR)
- Department of Environmental Protection (DEP)
- Department of General Services (DGS)
- Department of Human Services (DHS)
- Department of Military & Veterans Affairs (DMVA)
- Department of Corrections (DOC)
- Department of Revenue (DREV)
- PA Fish & Boat Commission (FBC)
- Department of Labor & Industry (L&I)
- PA Department of Transportation (PennDOT) (PADOT)
- Department of Health (PDOH)
- PA Game Commission (PGC)
- PA Historical & Museum Commission (PHMC)
- PA Liquor Control Board (PLCB)
- PA State Police (PSP)

Project timeline



The contracted power supply start with the meter read will begin in January-2023.

SOLAR PROJECT DETAILS

- Through its award to Constellation, approximately 50% of the Commonwealth's annual electricity consumption will be sourced from these new solar projects, based upon historic consumption data compiled by the Commonwealth's long-time energy consultants, the Pennsylvania State Facilities Engineering Institute.
- The solar fields will generate electricity during daylight hours, and the excess solar production credits will cover the nighttime, or non-solar, hours.
- A mapping tool from The Nature Conservancy was used to confirm that the project sites are not located on high value biodiversity areas or wildlife corridors that are critical for species to adapt and respond to climate change.
- The contracted rate for solar electricity is very competitive relative to historic rates for traditional grid power. The contracted rate for this project is fixed over the 15 year term, providing long-term price protection and budget certainty for a commodity that has been historically volatile.
- The Solar Renewable Energy Certificates (SRECs) generated by the project will be retired upon purchase by the Commonwealth, ensuring that such SRECs cannot be used for compliance or voluntary purposes by any other entity, thereby preserving the existing SREC market.



LOCAL BENEFITS

- **Job creation:** For construction, each project will employ 75 to 100 workers. Using a staggered schedule, Lightsource bp estimates that 400 workers will be engaged in the construction of these new clean energy assets for Pennsylvania. The vast majority of these workers will come from central Pennsylvania.
- **Revenue for landowners:** The solar farms are located on land leased by Lightsource bp from local landowners, providing families with a diversified and reliable source of revenue while keeping the land in the family for generations.
- **A healthier environment:** The solar energy produced by the project will avoid greenhouse gas emissions in the region of 157,800 metric tons of carbon dioxide each year.
- **Biodiversity conservation:** Studies have confirmed that solar projects can increase wildlife populations and overall biodiversity by allowing soil and habitat to regenerate from previous intensive land use practices.
- **Soil improvements:** Solar projects can improve the soil for future agriculture. Over the life of a project, soil will be protected from erosion, have far fewer chemicals than traditional farming, and allowed the opportunity to “rest” similar to fallowed parcels under USDA's Conservation Reserve Program.
- **Land maintained:** Lightsource bp's solar projects are monitored and maintained by a team that ensures all equipment is functioning properly and safely, as well as vegetation management and upkeep. During the operational life of the projects, Lightsource bp will have a multi-million-dollar operations budget to maintain the facilities and the land, which will be primarily spent in the region.



FAQS

How safe is a solar farm?

A solar project is about as safe as a facility can be. There are no air or chemical emissions from the solar farm. No trucks will be coming and going on a daily basis once construction is complete. The power will leave the solar project on lines just like the power lines in your neighborhood.

Is it a concern that we're losing farmland to solar?

Urban sprawl and rural subdividing are the primary contributors to loss of farm ground. Solar energy temporarily sets aside farm ground and protects it from permanent loss due to urban expansion.

Can the land be returned to agriculture?

At the end of the project, the installation will be dismantled, completely removed and recycled. Your farmer neighbors will be able to return to row crop agriculture or pursue the type of agricultural practice that best suits their farm needs at the time.

Are solar farms noisy?

Solar projects are quiet neighbors. Any sound from our the solar projects will be limited to inverters and a transformer which cannot be heard past the project boundaries.

What kind of technology do solar projects use?

Solar projects use conventional solar panels just like those installed on the roofs of homes and businesses. The technology has been in use for decades.

What are solar panels made of?

Solar panels are mostly glass, aluminum, silicon (refined sand) and semi-conducting material. The glass is designed to withstand hail and is tempered, like the windshields of cars, and consequently is resistant to breakage.

Are solar projects safe for birds?

For our solar projects, we're using solar photovoltaic, or PV, panels. This technology is designed to absorb as sunlight in order to generate electricity. Solar PV technology will not harm birds. In fact, we have seen bird habitats increase at our solar projects because once they're built, they are undisturbed for many years.

Is glare an issue?

Solar panels are designed to absorb, not reflect, sunlight and reflect less light than glass or water. Regardless, when required by the FAA, a study will be completed to confirm that glare will not interfere with aviation.

Will solar panels end up in a landfill in my area?

All solar panels will be recycled. Solar panels used at our solar projects pass rigorous testing to prove they are non-hazardous under federal law and could be disposed of in regular landfills just like household garbage. However, Lightsource bp is committed to recycling all solar panels for our solar projects in the U.S. – that includes any panels damaged during construction, operations, and all panels at the end of life/decommissioning.

How are the panels kept clean?

Generally, rainfall helps to keep the panels free of dust and dirt.

Will a solar project cause traffic disruption?

Once a solar project is in place it requires very little maintenance and with monthly visits in regular cars or 4x4s there is no traffic disruption. While solar projects are being constructed, a traffic management plan will be put in place.

Who is paying for the installation of the solar systems?

Lightsource bp is leasing the land from local residents and will finance, build, own, operate and maintain the solar projects with private capital. The projects are not being funded by Pennsylvania residents.

Will new transmission lines be run?

No new transmission lines are needed. The parcels selected for these solar projects have access to existing transmission infrastructure, so we do not need to build new transmission lines.

Is solar power suited to the Pennsylvanian climate?

Lightsource bp specifically selected these sites because they have some of the best solar irradiation in the Commonwealth of Pennsylvania. Additionally, solar panels do not require direct sunlight to produce electricity, only daylight, and actually perform more efficiently in cooler temperatures.

Do solar projects have any permanent lighting?

There is virtually no permanent lighting at a solar farm. Motion-activated and down-ward facing lights are located only at gates and at some equipment.