

How does solar benefit your community?

100 MW of solar power in PA means...

2,400
construction jobs

200-600
permanent operations jobs

A 5 MW project

- requires **27.5** acres of land
- powers **780** homes

A 20 MW project

- requires **110** acres of land
- powers **3,120** homes

With solar, many communities throughout Pennsylvania benefit.

The distribution of solar projects throughout the state provides power, jobs, and economic benefits in many more communities.

Maximize the benefits to your community:

- Provide farmers with new revenue sources
- Bolster local tax revenues
- Create permanent, high-wage jobs

Investing in jobs of the future

Communities throughout Pennsylvania are embracing solar energy.

Expanding solar development creates a demand for more jobs. If Pennsylvania does not act now, we will lose out on the future growth of this emerging industry.



Animals grazing amid solar panels



Local

Solar energy is locally produced and locally used.



Stable

Solar costs do not fluctuate based on market dynamics of supply and demand.



Secure

Solar can limit disruptions for communities during emergencies and natural disasters.

PA: An Energy Leader

- #1** provider of electricity to other states
- #2** natural gas-producing state
- #3** net supplier of energy to other states
- #3** coal-producing state
- Top 3** in electricity production
- #32** in solar energy production

What does a solar project mean for a community?

Solar projects provide stable, high-paying, local jobs.



\$64K - \$175K for Construction & Installation Workers

\$69K for Equipment & Supply Chain Workers

\$72K for Onsite Labor

In Pennsylvania, solar employment grew eight percent from 2017 to 2019. At the end of 2019, solar jobs accounted for 35 percent of the state's clean energy generation workforce. Some other key facts about solar energy jobs:

- 100% of construction, operations, and maintenance labor is local
- The distributed nature of solar projects and solar energy production means that more communities benefit from these jobs.

Solar Projects: Economic Impacts

5 MW Solar Project

Local Economic Impacts - Summary Results

| During construction period | Jobs | Earnings (\$M) | Output (\$M) | Value Added (\$M) |
|--|------------|----------------|----------------|-------------------|
| Project Development and Onsite Labor Impacts | 47 | \$6.60 | \$8.82 | \$7.22 |
| Construction and Interconnection Labor | 32 | \$5.63 | n/a | n/a |
| Construction Related Services | 15 | \$0.97 | n/a | n/a |
| Equipment and Supply Chain Impacts | 42 | \$2.92 | \$11.82 | \$5.92 |
| Induced Impacts | 37 | \$2.37 | \$6.31 | \$3.57 |
| Total Impacts | 126 | \$11.89 | \$26.95 | \$16.71 |

| During operating years (annual) | Jobs | Earnings (\$M) | Output (\$M) | Value Added (\$M) |
|--|-----------|----------------|---------------|-------------------|
| Onsite Labor Impacts | 20 | \$1.44 | \$1.44 | \$1.44 |
| Local Revenue and Supply Chain Impacts | 4 | \$0.31 | \$1.00 | \$0.65 |
| Induced Impacts | 4 | \$0.30 | \$0.79 | \$0.49 |
| Total Impacts | 29 | \$2.05 | \$3.23 | \$2.58 |

Notes: Earnings and Output values are millions of dollars in 2021 dollars. Construction period related jobs are full-time equivalent for the construction period. Plant workers include operators, maintenance, administration and management. Economic impacts "During operating years" represent impacts that occur from plant operations/expenditures. The analysis does not include impacts associated with spending of plant "profits" and assumes no tax abatement unless noted. Totals may not add up due to independent rounding. Induced effects are the values stemming from household spending of Labor Income, after removal of taxes, savings, and commuter income. The induced effects are generated by the spending of the employees within the business' supply chain.

Read more about the [JEDI Models for Solar Project Impacts](#).

20 MW Solar Project

| During construction period | Jobs | Earnings (\$M) | Output (\$M) | Value Added (\$M) |
|--|------------|----------------|-----------------|-------------------|
| Project Development and Onsite Labor Impacts | 177 | \$24.76 | \$33.10 | \$27.10 |
| Construction and Interconnection Labor | 121 | \$21.14 | n/a | n/a |
| Construction Related Services | 57 | \$3.62 | n/a | n/a |
| Equipment and Supply Chain Impacts | 158 | \$10.96 | \$44.39 | \$22.21 |
| Induced Impacts | 138 | \$8.89 | \$23.68 | \$13.41 |
| Total Impacts | 474 | \$44.62 | \$101.17 | \$62.72 |

| During operating years (annual) | Jobs | Earnings (\$M) | Output (\$M) | Value Added (\$M) |
|--|-----------|----------------|---------------|-------------------|
| Onsite Labor Impacts | 24 | \$1.67 | \$1.67 | \$1.67 |
| Local Revenue and Supply Chain Impacts | 10 | \$0.74 | \$2.34 | \$1.29 |
| Induced Impacts | 7 | \$0.48 | \$1.28 | \$0.77 |
| Total Impacts | 42 | \$2.89 | \$5.29 | \$3.73 |

Statewide Growth in Solar

Innovative Solar Projects

Penn State Mont Alto 70 MW Solar Project

Penn State Powered by the Sun: [Solar Projects at Penn State - Penn State Sustainability Institute](#)

In 2019, Penn State entered into a 25 year Solar PPA (Power Purchase Agreement) with Lightsource bp. This 70 MW project uses more than 150,000 solar panels sited across 3 locations in Franklin County near Penn State's Mont Alto campus. The project went into service October 2020 and provides 25% of Penn State's state-wide electricity requirements.² Since the three sites began operation through June 1, 2021, the system has generated nearly 75 million kWh of electricity.³ Beyond the energy produced, and the cost savings, the solar array provides educational and career opportunities to grow the industry: [Penn State's new solar array creates student research and intern opportunities](#).

State Government Stabilizes Energy Costs - Pennsylvania PULSE

[Solar Project to Produce Half of State Government's Electricity](#)

In March 2021, Pennsylvania announced an initiative to produce half of the state government's electricity from solar power. Seven projects, equaling 191 megawatts (MW) of solar power are expected to produce 361,000 MWh of electricity per year to supply the energy for 16 state agencies. This initiative provides a number of benefits, including fixed, stable electricity costs for 15 years, insulating the state from future energy price increases.

² [Solar Projects at Penn State - Penn State Sustainability Institute](#). Undated. Accessed on June 2, 2021.

³ Dashboard Portals: [Nittany 1](#), [Nittany 2](#), and [Nittany 3](#). Accessed on June 2, 2021. Data on generation through June 1, 2021.

Sample Solar Projects Across PA

It is difficult to predict when and where all of the planned solar projects will be completed, but there are already a diverse array of solar projects in communities throughout Pennsylvania:

- [Sites for York Co. and Juniata Co. solar farms revealed](#)
- [Solar farm project possible in Piney | News | thecourierexpress.com](#)
- [80-acre solar farm in Franklin County](#)
- [Growth in solar power sparks a land rush](#)

Each solar project is different, but they often have one thing in common: they generally lease the land on which they are located. Various sources have reported lease rates, and while they vary by location, and electrical service provider, they generally range between \$300 and \$2,000 per acre depending on the location.⁴

Solar projects require 3-7 acres of total land per MW for utility scale solar projects. The exact acreage depends on the solar technology and scale generation. Assuming an average of 5.5 acres per MW based on a study by NREL and input from solar developers, and a lease rate of \$1,000 per acre, a 5 MW solar project would require 27.5 acres and generate lease income between \$19,250 to \$27,500 per year. A 20 MW solar project would require 110 acres and generate lease income between \$77,000 and \$100,000 per year.⁵

Solar projects located on less productive land provide a double benefit to farmers and landowners by diversifying and increasing their revenue stream.

"It's our most marginal land," said Ed Johnson, a third-generation farm owner in Easton, Washington County. Most of his land is leased to other farmers but the income from the new Branscomb solar farm being built by CS Energy pays about 20 times what cropland would pay.⁶

Solar Growth Drives the Need for Workers

In April 2021, the Pennsylvania Department of Environmental Protection (DEP) released the report, produced by the BW Research Partnership. The [PA 2021 Clean Energy Workforce Development Needs Assessment & Gap Analysis](#) estimated that Pennsylvania's solar employment grew 8 percent (+396 jobs) from 2017 through 2019, despite declines in the national solar workforce. At the end of 2019, solar jobs accounted for 35 percent of the state's clean energy generation workforce. According to the report, Pennsylvania has just over 550 MW of installed solar capacity. The DEP's 2018 target of achieving 10 percent solar electricity generation by 2030 would require an additional 11 gigawatts (GW) of generation capacity over the next decade.

⁴ See [What's the average solar farm lease rate?](#) Undated. Accessed on June 1, 2021.

⁵ Ong, Sean, et al. (2013) Land-Use Requirements for Solar Power Plants in the United States. National Renewable Energy Laboratory. Available from <https://www.nrel.gov/docs/fy13osti/56290.pdf>.

⁶ Karlin, Rick, Rick Karlin. (May 6, 2021) [Growth in solar power sparks a land rush](#), accessed on May 20, 2021.