

Iowa Solar Energy Fact Sheet

Solar energy in Iowa is growing

- As of August 2019, Iowa had at least 118 megawatts (MW) of total installed solar capacity.¹ This is up from approximately 2 MW of solar installed in 2012.
- Iowa is on track to exceed 1000 MW once the remainder of 2019 installations are added and with the addition of Worthwhile Solar Farm East (149 MW), Worthwhile Solar Farm West (300 MW), Big Dave Solar Farm (300 MW), and Wapello Solar (100 MW).²
- Invenergy received approval in late 2019 for the Worthwhile Solar Farm East (149 MW), Worthwhile Solar Farm West (300 MW), and Big Dave Solar Farm (300 MW), making them the largest in Iowa.³
- Every one of Iowa's 99 counties has solar projects installed that benefited from the Iowa upfront solar tax credit.⁴ This includes 5,158 projects and counting.
- Dubuque, Washington, and Winneshiek County are solar hot spots, each with more than 200 solar installations. Farmers and rural businesses are leading the use of solar in such areas.⁵
- As of August 2019, Iowa had more small-scale distributed solar than most Midwest and Plains states.⁶

Solar energy strengthens Iowa's economy

- There were nearly 850 jobs supported by the solar industry in Iowa in 2018. Nationally, 86% of solar jobs are serving homes and businesses while only 14% are in utility-scale solar.⁷
- Renewable energy jobs are growing much faster than job growth in other sectors. Clean energy jobs increased 3.6% between 2017 and 2018 in Iowa.⁸ Nationally, solar installers are the fastest growing occupation.⁹
- There are nearly 100 Iowa businesses involved in the solar energy supply chain.¹⁰
- Investments of \$249.0 million is associated with solar projects that benefited from the Iowa solar tax credit alone, meaning the total investment in solar is even higher.¹¹
- The two Worthwhile and Big Dave Solar Farms combined will generate an estimated \$77.5 million in new local tax revenue and \$195 million in land lease payments over 35 years.¹²
- Solar lease payments range from \$600 - \$715 per acre while average cropland rents in 2019 were \$219.¹³

Solar energy costs are declining

- Costs have come down significantly in recent years. Lazard recently reported that utility-scale solar's levelized costs declined 89% between 2009-2019.¹⁴
- According to data provided by the Iowa Department of Revenue, average residential solar costs per kilowatt in 2014 were \$3,400, falling to \$2,644 in 2019. Average business solar costs per kilowatt were \$3,143 in 2014, falling to \$2,035 in 2019.¹⁵

Utility solar and community solar are part of Iowa's solar success

- Cedar Falls Utilities has built the largest community solar project in Iowa at 1.5 MW.

- Many consumer-owned utilities have developed solar projects supported by Iowa's 476C production tax credit, including 3 municipal utilities (over 3.8 MW) and 10 electric coops (over 2.48 MW).¹⁶

Iowa has the potential to be a solar leader

- Iowa ranks 16th among U.S. states in the technical potential for solar energy production. This puts Iowa ahead of states such as Florida, Georgia, Missouri, North Carolina and South Carolina.¹⁷
- Alliant Energy recently filed testimony regarding resource planning that shows significant additions of solar, including 100-200 MW by 2024 and as much as 900 MW over the 20 year planning horizon.¹⁸
- There are over 2,890 MW of potential solar projects in Iowa that are being studied for connection to the grid by the regional grid operator MISO.¹⁹
- Siting one MW of solar takes between 5 and 10 acres of land.²⁰ Iowa could meet 10% of our electricity requirements with about 1.2 GW of solar, requiring between 6,000 and 12,000 acres of land or a range of 0.02% to 0.04% of Iowa farmland if the solar farms were located on current farm ground.

¹Energy Information Administration, *Electric Power Monthly*, Table 6.2B Net Summer Capacity Using Primarily Renewable Energy Sources by State (data from August 2019 as reported in October 2019) at <http://www.eia.gov/electricity/monthly/?scr=email>. The EIA estimate of 118 MW as of October 2019 is consistent with available Iowa data on installed solar capacity from the Iowa Department of Revenue, Iowa Utilities Board, solar installers, multiple utilities, and may be conservative.

² Iowa Environmental Council estimates based on data available from EIA, Iowa Dept. of Revenue, Iowa Utilities Board, the Iowa Solar Energy Trade Association, and utilities.

³ Iowa Utilities Board, *Applications for a Generating Certificate* (September 2019) GCU-2019-002, GCU-2019-003 and GCU-2019-004 at <https://efs.iowa.gov/efs/ShowDocketSearch.do>

⁴ Iowa Department of Revenue, *Solar Energy System Tax Credit Annual Report for 2019* (released December 31, 2019) available at <https://tax.iowa.gov/report/Reports>.

⁵ *Id.* at Figure 1, p. 6.

⁶ EIA, *Electric Power Monthly*, Table 6.2B. Iowa's 118.1 MW of estimated distributed/small-scale solar was higher than distributed solar estimates for Indiana, Michigan, Minnesota, Nebraska, Wisconsin, Kansas, North Dakota and South Dakota.

⁷ The Solar Foundation, *Solar Jobs Census 2018* at <https://www.thesolarfoundation.org/national/>.

⁸ The Clean Energy Trust, <https://www.cleanjobsmidwest.com/state/iowa>.

⁹ Bureau of Labor Statistics, *Fastest Growing Occupations* (for years 2018-2028) at <https://www.bls.gov/ooh/fastest-growing.htm>.

¹⁰ IEC estimate based on IEC research on Iowa solar businesses as well as past publications by the Solar Energy Industries Association and the Environmental Law & Policy Center.

¹¹ IA Dept. of Revenue, *Solar Energy System Tax Credit Annual Report for 2019*.

¹² Iowa Utilities Board, *Applications for a Generating Certificate* (September 2019) GCU-2019-002, GCU-2019-003 and GCU-2019-004 at <https://efs.iowa.gov/efs/ShowDocketSearch.do>

¹³ *Id.*

¹⁴ Lazard, *Levelized Cost of Energy Analysis – Version 13* (November 2019) at <https://www.lazard.com/perspective/levelized-cost-of-energy-and-levelized-cost-of-storage-2019/>

¹⁵ Iowa Department of Revenue, *Solar Energy System Tax Credit Annual Report for 2019* at page 8 for residential and business systems.

¹⁶ Iowa Utilities Board, *Renewable Energy Tax Credits* (updated 3.1.19) at <https://iub.iowa.gov/document/renewable-energy-tax-credits-0>.

¹⁷ Iowa Environmental Council, *Real Potential, Ready Today: Solar Energy in Iowa*.

¹⁸ Iowa Utilities Board, Docket No RPU-2017-0002, Direct Testimony of Brent R. Kitchen (filed Aug. 3, 2017) at Schedules D and E.

¹⁹ Midcontinent Independent System Operator, Generator Interconnection Queue at https://www.misoenergy.org/planning/generator-interconnection/GI_Queue/ (last accessed Jan. 3, 2020).

²⁰ Ong et al, National Renewable Energy Laboratory, *Land Use Requirements for Solar Power Plants in the United States* (June 2013), at <https://www.nrel.gov/docs/fy13osti/56290.pdf>.