



POWER GENERATION & TRANSMISSION

MAY 2025

TED Renewables' mission is to be a committed developer of clean, affordable power generation projects recognized and respected for the creativity and integrity of our staff, the success of our business and the quality of our projects. Princess City Solar is a proposed 156-megawatt solar project from the TED Renewables team that will create new jobs and substantial local revenue for Pocahontas County and Calhoun County, Iowa. In this edition of the Princess City Solar Project Newsletter, we want to share some information about power generation and the electricity grid.

Where does electricity come from?

For decades, Iowans have worked hard to create one of the most robust electric industries in the country which supports tens of thousands of families. By producing an abundance of energy, Iowa has kept its electricity rates low and consistently ranks in the top 10 for affordability.¹ But, how do customers receive power? Whether it's from a nearby coal or natural gas plant, wind project, solar facility, or other generation source, ALL utility-scale power is transmitted through the grid. The grid is comprised of substations, transformers, and power lines that connect the source of generation (supply) to individuals and businesses (demand), typically by way of a public utility company.²

You might think that your local utility generates and delivers all the electricity that its customers use, but utilities actually buy and sell electricity in a market that spans many utility territories. For Iowa and other midwestern states, MISO (Midcontinent Independent System Operator) is the regional transmission operator that oversees the supply and demand of electricity from Minnesota to Louisiana and runs the electricity market for utilities.³ MISO is the authority, safely balancing supply to meet demand. They coordinate a roster of power plants to ensure there is enough supply to meet the needs of consumers every minute of every day.

Power on the grid moves along the path of least resistance. If there is an energy need close to a generation site, the need will likely be fulfilled by that generation source. Once all the needs for energy near the generation site are fulfilled, energy will continue down the line to meet other energy demands. This is how it's possible for Iowa to be an energy exporter. Utility-scale power generation supplied to the grid boosts the local economy through new jobs, substantial new tax revenue and drought-proof lease payments. It can also bolster the resilience of the local energy system by bringing generation close to consumers. If you'd like to know more about how the electric grid works, visit: <https://www.eia.gov/energyexplained/electricity/delivery-to-consumers.php>

Community Engagement

.....

Sponsorships/Donations:

Calhoun County
Food Bank

Upper Des Moines
Food Pantry

Newell-Fonda
Food Bank

Laurens Food Bank

Princess City 155
Celebration/Heritage
Days

Pocahontas Economic
Development

.....





From source to demand

Solar panels harvest energy from the sun which is converted from direct current (DC) to alternating current (AC) by inverters in the project's interior. The power is then transported via medium-voltage cabling to the project substation, where the voltage is increased before being routed onto an overhead transmission line. Transmission lines are like highways - they can carry a lot of energy to destinations across the region, but they also have local off ramps. These off ramps are the substations all around us which step down the voltage of electricity to be used in homes, farms, and businesses. The first off ramps in this area are in rural Pocahontas County and Sac County. If there's extra electricity, it will continue to the next substations near Storm Lake, Pocahontas, Rockwell City, and to a couple of large industrial consumers. If there's still extra electricity, it'll continue on. This is an example of how electricity supplies the grid by flowing down the path of least resistance.

What matters for local benefits isn't where the electricity goes but where the generator is. Having Princess City Solar in Pocahontas and Calhoun Counties will stimulate the local economy and provide new tax revenue for the counties and schools.



Why Calhoun County and Pocahontas County, Iowa?

1. As Calhoun County and Pocahontas County continue to grow and seek development that supports economic expansion and workforce development, the Princess City Solar Project is a viable solution to complement growth by providing a significant tax base, and an expanded workforce.
2. Private landowners have expressed interest in diversifying their financial portfolios and preserving multigenerational real-estate assets by voluntarily signing lease agreements, exercising their property rights to do so.
3. There is the availability of local workforce for construction and long-term maintenance of a utility-scale solar project.
4. Calhoun County and Pocahontas County, Iowa, consist of flat, cleared land, with direct access to existing transmission infrastructure with available capacity.
5. Utility-scale solar meets the significantly increasing demand from regional Iowa utilities and commercial and industrial customers for locally generated, clean energy to reduce state energy imports, while meeting ever-growing electricity usage.



CITATIONS

1. <https://www.eia.gov/state/?sid=IA>
2. <https://www.eai.gov/energyexplained/electricity/delivery-to-consumers.php>
3. <https://www.misoenergy.org/about>



**PRINCESS CITY
SOLAR**

FOR MORE INFORMATION ON THE PRINCESS CITY SOLAR PROJECT:

PHONE: (712) 291-3111 | **EMAIL:** INFO@PRINCESSCITYSOLAR.COM

OFFICE: 213 MAIN ST. FONDA,

OFFICE HOURS

MONDAY 9 AM - 1 PM; THURSDAYS NOON - 4 PM;
AND BY APPOINTMENT