C&I Success Story

Black Hills State University in South Dakota



Project **Background**

Black Hills State University (BHSU), nestled in Spearfish, South Dakota, near the Wyoming border, is currently embarking on an ambitious mission to drastically curb its carbon footprint. The plan, called the President's Climate Commitment, aims to make the school completely carbon neutral by the year 2030.

To meet its sustainability goals, this masters-level state university with more than 3,800 students has been hard at work installing rooftop PV systems on many of its buildings.

Project **Overview**

CUSTOMER:	Black Hills State University
LOCATION:	Spearfish, South Dakota
TYPE:	Behind-the-meter roof mount
SIZE:	~ 800kW
PRODUCT:	2,124 Trina TSM-PE14A TALLMAX modules, CPS Inverters, Panelclaw racking
Completion:	June 2020

Key Drivers

- Sustainability goals
- Energy and operational cost savings
- Carbon Neutrality by 2030

Implement Sustainability

How BHSU's New PV System Came Together

In 2015, BHSU and GenPower, a solar project developer, were partnering on an educational seminar for commercial businesses that want to implement sustainability. Through the development of that program, BHSU began to explore PV systems with GenPro as a means to reach the school's bold renewable energy goal.

When it came time to implement the most recent project, GenPro turned to Trina Solar's C&I Solutions. This smart solution's bundled system design of high-quality modules, inverters, and racking combine to optimize the PV system's performance. This means a lower levelized cost of energy (LCOE) and quicker return on investment (ROI) for BHSU.

One of the project challenges came early in the process, primarily with BHSU finding a way to finance the project that created savings for the customer while staying within South Dakota's legislative boundaries. Trina Solar's C&I Solutions helped ensure the project delivered maximum value and met the customer's goals.



For this behind-the-meter PV system, Trina Solar provided 2,124 TallMax M modules. Each of these monofacial modules can provide up to 400W of power. The Tallmax M is one of the industry's most trusted solar panels as they help reduce failures, improving system safety and performance. All Trina modules come with MC4 connectors, allowing contractors to easily construct strings of adjacent panels together by hand.

The modules are connected to string inverters supplied by CPS. Using PanelClaw's clawFR racking allowed for faster build time with a no-tool module installation and a single bolt hardware kit. The clawFR also allowed for more design options, all without sacrificing the racking's reliability.

The system also uses Tigo TS4 MLPE modular platforms that meet National Electrical Code (NEC) 2017/2020 for module-level rapid shutdown.

Trina's high-efficiency modules come with a 12-year product warranty and a 25-year performance warranty. The CPS inverters carry a 10-year product warranty, while the PanelClaw racking has a 25-year product warranty. These warranties help ensure the project stays on track and that the entire PV system can achieve expected performance goals during the installation's lifetime.

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Project **Success**

Trina's C&I Solutions utilizes an all-in-one model for seamless component procurement that eliminates the need for EPCs to manage multiple vendors. By engineering the design and handling the procurement process, Trina's C&I Solutions ensured equipment interoperability during the installation and interconnection. The one-stop shopping also reduced the chances of problems and delays in the project.

Now, the addition of more solar PV panels to BHSU's campus buildings brings the university much closer to its goal of being 100 percent renewable. Along with a few other solar PV systems that came online last year, the school is now on track to generate 1.3 MWh of power annually, and the campus will be powered by 78 percent renewable energy. BSHU anticipates a savings of more than $100,000 annually from all of its solar installations.

This solar PV project is also the first large roof mount behind-the-meter installation in the State of South Dakota.

C&I Solutions **Partnership**

Interested in the benefits of partnering with Trina Solar C&I Solutions? Reach out to our local team today!

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