



C&I SOLAR SUCCESS STORY

HAYNES INTERNATIONAL

Project Background

Haynes International (Haynes), one of the largest producers of corrosion-resistant and high-temperature alloys, was seeking a cost-effective way to obtain energy savings for its tubular products facility in Acadia, Louisiana. At the same time, the company was working towards achieving its Environmental, Sustainability, and Governance (ESG) goals, which include reducing emissions through decarbonization.

In reviewing its potential options, Haynes knew it would receive a financial incentive from the 30% Investment Tax Credit (ITC), with a 10% Energy Community Tax Credit Bonus as well as an additional 10% ITC increase due to the facility's location in a low-income area. These credits meant the company could immediately cut the cost of an onsite PV installation by 50%, making solar a very attractive and cost-effective option.

Spurred by this alignment of objectives and incentives, Haynes opted to install a rooftop solar installation at its Acadia facility to achieve its savings and ESG goals.

Project Overview

CUSTOMER:	Haynes International
EPC:	Spear Commercial & Industrial
LOCATION:	Acadia, Louisiana
TYPE:	Roof Mounted
SIZE:	370/300 kW DC/AC
PV Modules:	740 Trina Solar 500W Vertex PV modules (DEG18MC.20(II))
Inverters:	6 SCA50KTL-DO/US-480-APS
Rapid Shutdown:	750 APS RSD-S-PLC
Racking:	SunModo Pitched Roof SMR Pitched Roof System
Completion:	April 24, 2023

Key Drivers

- ESG goals
- Savings
- ITC of 50%

Overcoming Small-Market Limitations

Despite Louisiana's relatively high peak sun hours and irradiance levels, the state ranks 38th in national PV capacity.¹ Through the end of 2022, data shows the state with 276 MW installed across 19 sites that generate only 0.44% of its electricity from solar.



As the cost of solar energy decreases and businesses gain interest in sustainability to reduce their carbon footprint, there is potential for significant growth. Although Louisiana currently lags in solar capacity, industry analysts project 3,134 MW capacity growth over the next 5 years that should rank Louisiana 15th nationally. Project success at the Haynes facility would go a long way to demonstrating the viability of C&I solar power in the Louisiana market.

But the state's current low capacity means a limited number of local C&I solar teams with the technical skills and industry experience necessary to handle a project of this size. Thankfully, Haynes knew who to turn to: [Spear Commercial and Industrial](#) (Spear).

Based in Austin, Texas, Spear is a leading developer of C&I solar projects and general electrical contracting, providing preeminent solar and electrical design, engineering, procurement, and construction (EPC) capabilities for customers nationwide. Spear had worked with Haynes before to build a 1.34 MW fixed ground mount PV project in Hendersonville, North Carolina.

Partnering with a C&I Solutions Team

In much the same way Haynes turned to Spear because of previous project success, Spear turned to [Trina Solar's C&I Solutions](#) team due to successful past projects.

Trina's C&I Solution's innovative one-stop-shop model provided Spear with seamless and streamlined procurement of balance-of-system (BOS) components, supplying the modules and inverters. This helped alleviate work for Spear's team so they could focus on the project without getting bogged down in dealing with multiple suppliers or distributors, which helped manage the project's soft costs.

Trina Solar supplied 744 ultra-high-power and high-efficiency bifacial [Vertex](#) modules with up to 505W power output and 21% efficiency. The Vertex modules deliver higher power generation capacity by integrating several innovative technologies, such as 210mm solar cells, multi-busbar design, non-destructive cutting, and high-density encapsulation processes. The bifacial modules will produce more energy than mono-facial modules with the same nameplate power under the same conditions. The Vertex modules are backed with Trina Solar's industry-leading 30-year warranty to ensure the facility's PV system maintains peak performance.

Additionally, Trina's C&I Solutions team ensured equipment interoperability and component optimization for faster, easier, and more efficient PV installations.

"The Trina group I work with sells solar panels, the racking system, and the inverters all bundled together, so we don't have compatibility problems," said Mark Rangel, Spear Executive Vice President. "Plus, Trina negotiates all the pricing with the other manufacturers to deliver a solution that's extremely competitive. We're a small company with a small purchasing department, so having Trina handle procurement takes it off our plate. That saves our company time and resources, and there is a lot of value in that offering."


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— MARK RANGEL, SPEAR EXECUTIVE VICE PRESIDENT

Project Success

Working together, the Spear and Trina Solar C&I Solutions teams completed the installation and interconnection of the 370/300 kW DC/AC PV system to deliver a low LCOE, project success, and more customer value.


Now Haynes' Acadia facility will enjoy the benefits of:


 1st Year Solar PV Energy Production: 530,705 (kWh/year)


 Grid Energy Offset: 4.4%


 Total Electric Bill Savings: \$2,271,394.55

 25-Year Net Present Value (NPV): \$1,505,786

 25-Year Internal Rate of Return (IRR): 53%

 Simple Payback Schedule: 2.92 years

 Levelized Cost of Electricity (LCOE): \$0.016 (\$/kWh)

 Warranties: 12-year product/30-year linear power warranties for Trina modules; 10-year warranty for inverters



However, it's not just Haynes benefiting from the solar array. Local communities and the environment will also reap the benefits of the net-zero transition as more C&I facilities, like Haynes, continue decarbonizing with solar PV systems.

By switching to a renewable energy source, the company will reduce carbon dioxide emissions by 398 US tons (796,000 pounds). That's the equivalent of removing 76 cars from the road, eliminating 909,780 miles driven and 41,034 gallons of gasoline consumed. From an ecological perspective, the CO₂ reduction is the equivalent of planting 9,256 trees across 296 acres of land.



Beyond the installation's energy savings and environmental benefits, this project also strengthened the relationships and partnerships between the stakeholders. With a promising future ahead for the C&I solar segment in Louisiana and nationwide, these partnerships will be absolutely crucial in accelerating the country's transition to a net-zero future.

C&I Solution Partnerships

Want to partner with Trina Solar C&I Solutions? Reach out to us today.



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