

CASE STUDY

TAYLOR FARMS & POWERSHINGLE®

PROJECT HIGHLIGHTS

LOCATION: SAN JUAN BAUTISTA, CALIFORNIA

COMPLETED: DECEMBER 2022

NUCOR PRODUCT: POWERSHINGLE®

ENERGY OUTPUT: 1.32MW

TAX BENEFITS: ~40%

NUCOR STEEL TONNAGE:

BAR: **55 TONS** — NUCOR STEEL UTAH

PLATE: **39 TONS** — NUCOR STEEL ARKANSAS

BOLTS/FASTENERS: **3.5 TONS** — NUCOR FASTENER

GALVANIZED COIL: **46 TONS**

18 TONS — NUCOR STEEL GALLATIN

28 TONS — NUCOR STEEL ARKANSAS



A GRID PUSHED TO ITS LIMITS

The electrical grid in California is strained at a point seldom seen in history. Prolonged heat and extreme weather events have led to power outages and rolling blackouts, threatening businesses and livelihoods throughout the South and American West.

Taylor Farms in San Juan Bautista cannot afford to be without electricity, even for a few hours. The 450,000-square-foot facility is a 50-acre farm processing operation where vegetables are trimmed, mixed into salads and packaged for shipment and sale. The need for constant refrigeration to help ensure the safety of the nation's food supply is paramount.

When the California Independent System Operator (ISO) – which oversees the electrical grid serving 80% of the state – called for customers to reduce their energy use, it threatened Taylor Farms' ability to ensure food safety and operate its business.

TESTIMONIALS

"Nucor PowerShingle allowed us to build the kind of elevated solar structures we have always wanted. Not only is it functional, efficient and affordable...it is also beautiful. Its semitransparent glass solar panels allow natural sunlight to filter through, making for a very pleasant and highly usable space... and thanks to recently increased federal tax credits, payoff [is] faster than ever before."

RACHEL MOLATORE

Director of Communications

Taylor Farms

"The semi-transparent glass solar panels allow natural sunlight to filter through, making for a very pleasant and highly usable space. [Nucor has] been a great team to work with, and we're looking forward to continuing the relationship."

WYATT MAYSEY

Director of Sustainability

Taylor Farms

NUCOR®

RENEWABLE ENERGY WITH UNPRECEDENTED BENEFITS

Taylor Farms found an ideal solution in PowerShingle – a revolutionary solar panel technology that is manufactured in the USA and provides both reliable energy and dry, shaded storage.

PowerShingle utilizes a highly effective water-shedding design that keeps everything beneath clean and dry, eliminating the need for costly sub roofing typically required with conventional solar systems. It also features a bifacial design that gathers sunlight from both sides, providing a steady supply of clean, affordable solar energy.

The PowerShingle system didn't require Taylor Farms to give up any valuable farmland to install the elevated solar structures. The PowerShingle arrays consist of three 585-foot long canopies elevated 14 feet, offering more than 75,000 square feet of weather-protected canopy and clean power generation. This structure can generate up to 1.32 MW of clean energy per hour, while allowing produce to be stored and cars and other equipment to operate freely underneath.

For Taylor Farms this is a win on all fronts: reliable and sustainable energy, cost savings, and versatility in utilizing existing space for storage and packaging, all from one product.

PowerShingle's pre-engineered solar structures, which work with any Nucor purlin design and can be customized with spans of up to 200 feet, are made from 80% recycled domestic steel and can be certified Econiq™, Nucor's net-zero carbon steel.

PowerShingle maintains greater efficiency than standard solar arrays. Over the lifespan of a typical array – typically 30 years – solar panels lose about 1% of efficiency per year. PowerShingle, however, loses only about 0.66% efficiency per year, meaning an array can be in service for 10 years longer than standard arrays.

With federal tax incentives for converting to solar energy, the cost savings achieved with PowerShingle could be substantial.

Taylor Farms is already considering expansion of the solar program to its other farms, spread across the United States, Canada and Mexico.

