

As the refrigerated and frozen food industry embraces sustainability and LEED certification, Primus is keeping pace with in-house services devoted to sustainable design-build solutions.

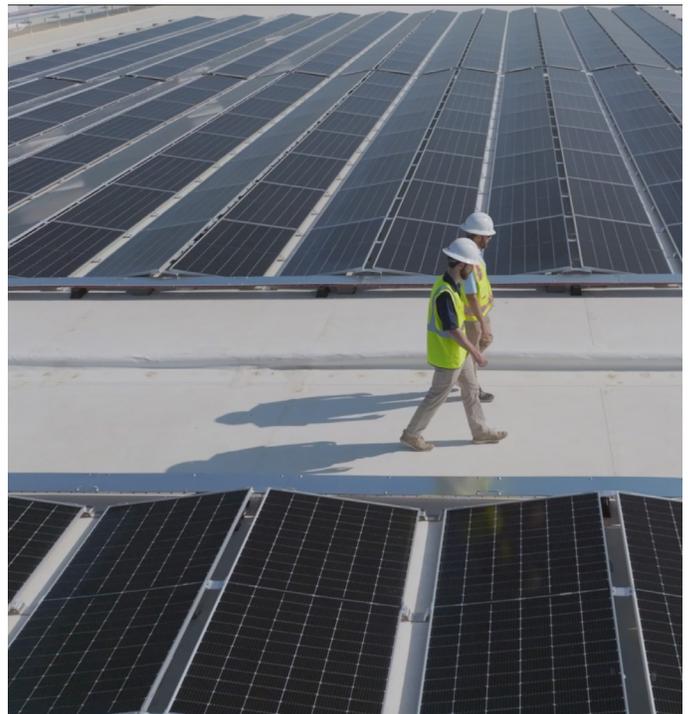
## LEED (LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN)

is a rating system used by the USGBC (United States Green Building Council) to distinguish projects that reflect sustainable design and construction practices. Not every project seeks LEED certification, but the framework provides sustainable solutions every project can benefit from.

First, some history. LEED certification wasn't always an option for cold storage warehouses. Changes to the rating system's requirements have opened the door to cold storage facilities earning every level of LEED certification. Primus supported IARW (International Association of Refrigerated Warehouses) when they worked with USGBC to update the energy modeling and ventilation requirements for refrigerated facilities. That work led to two Credit Interpretation Rulings: #10423 and #10424.

Before the interpretations were issued, energy modelers had a difficult time creating a valid baseline model for cold storage buildings. The only standards they had to reference were from ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers), and those didn't address cold storage spaces. The new LEED interpretations allow modelers to reference cold-storage specific guidelines from IARW to project energy savings more accurately and create better baseline models.

The interpretations also addressed ventilation requirements. Previously, cold storage facilities were held to the same ventilation requirements as all other buildings submitting for LEED certification. However, introducing outdoor air to refrigerated spaces creates condensation. Once USGBC understood the consequences of introducing outdoor air to these building types, they agreed that freezer spaces should not be held to the same ventilation requirements.



In addition to the interpretations, LEED v4 (the current industry standard) now incorporates specific pathways for warehouses and data centers, allowing cold storage warehouses more opportunities to seek LEED certification.

There are a total of 110 points available in the LEED rating system. Certification levels are determined by the number of points achieved (Certified: 40–49 points, Silver: 50–59 points, Gold: 60–79 points, and Platinum: 80+ points).

Primus has recent experience pursuing LEED Gold certification on a greenfield cold storage warehouse project in Ridgeville, SC. The tenant is respected world-wide for its commitment to sustainability. Primus engaged its in-house sustainability program manager at project kick off to ensure the LEED process ran efficiently for the duration of the project. Below are some of the LEED credits pursued.

### Surrounding Density and Diverse Uses

Camp Hall Campus outside of Charleston was the ideal site for this credit because of its close proximity to several logistics hubs, a highway and rail.

### Reduced Parking

This project will achieve at least a 20% reduction in parking based on the base ratios recommended by the Parking Consultants Council. The project will also provide electric vehicle and golf cart parking.

### Heat Island Reduction

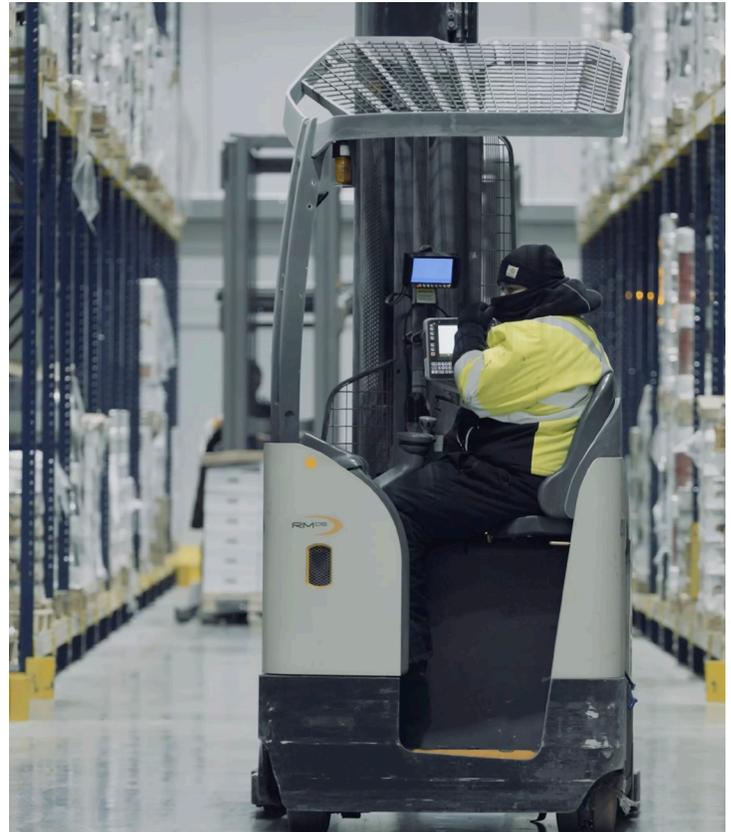
This was achieved by utilizing concrete for the project's hardscape and a high reflectance white TPO roof.

### Indoor Water Use Reduction

Low-flow water fixtures were installed to reduce indoor water use by at least 40%.

### Cooling Tower Water Use

A 50,000-gallon rain capture tank was installed to capture rainwater to be used for makeup water. The project is also using an adiabatic cooling system which utilizes a mixture of air and water for cooling and reduces the water requirement by 50% when compared to a traditional cooling tower system.



### Water Metering

Permanent water meters were installed to monitor indoor plumbing fixtures, fittings and domestic hot water.

### Enhanced Commissioning

Primus employed a third-party Commissioning Authority to ensure crucial steps in the commissioning process were completed successfully.

### Optimize Energy Performance

This project demonstrates a 32% improvement in energy performance. This was achieved by incorporating a tight and efficient thermal envelope; highly efficient LED lighting; advanced controls and metering; solar panels; and many other sustainable strategies.



### Advanced Energy Metering

This credit was achieved by installing advanced energy metering for all building energy sources and any individual energy end uses that represent 10% or more of the annual consumption of the building.

### Renewable Energy Production

This is the first cold storage warehouse Primus has designed and built that features solar energy. Installing a one-megawatt system on the roof offsets at least 3% of the building's energy costs.

### Storage and Collection of Recyclables

Recycling was a priority on this project. Primus made sure there were areas dedicated to recycling that were accessible to waste haulers and occupants of the entire building.

### Construction and Demolition Waste Management

Primus worked with local waste haulers to create a waste management plan that diverted at least 50% of the project's construction waste.

### Building Product Disclosure and Optimization (BPDO) Credits

Primus incorporated products that provide compliant Environmental Product Disclosures (EPDs); are made of recycled and locally-sourced materials; provide life-cycle information; and have environmentally, economically, and socially preferable life-cycle impacts.

### Enhanced Indoor Air Quality Strategies

Primus included compliant permanent entryway systems that capture dirt and particulates at all entrances; sufficiently exhausting each space where hazardous gases or chemicals may be present; providing MERV 13 filters at all ventilation systems that supply outdoor air to occupied spaces; and monitoring CO2 concentrations within all densely occupied spaces.

### Low Emitting Materials

This project is utilizing low emission sealants, adhesives and flooring.

### Regional Priority Credits

LEED provides six location-specific credits for every zip code. These are considered regional priority credits. Two of the six in this region are focused on water. To reduce the strain on local watershed, Primus focused on Outdoor Water Use Reduction and Indoor Water Use Reduction credits. Water will also be reduced elsewhere, such as rainwater and recycled condensate water use for the cooling system.



Primus is committed to providing sustainable solutions to our cold storage customers. Projects like this one, that achieve LEED Silver or higher, are evidence of that commitment. Interested in learning more about our sustainable design-build solutions? Contact Calvin Austin at [caustin@primusbldrs.com](mailto:caustin@primusbldrs.com) or 804.691.4050.