

CASE STUDY

Castelnuovo di Porto DC2

LEEDv4 BD+C: Core and Shell



66,000 Gallons

of Annual Indoor Water Savings

Through low-water use efficient plumbing fixtures, compared against the LEED baseline.



100% LED Lights

Energy and cost-efficient LED lights used for interior and site lighting, reducing mercury extraction, usage and exposure.



1.3M Gallons

of Annual Outdoor Water Savings

Through native and adaptive landscaping and water-conscious irrigation controllers, compared against LEED baseline standards.



0.8^{lbs/SF} Construction & Demolition Waste Generated

Significantly reduced from the LEED credit threshold of 15lb/SF, through efficient construction and demolition waste management.



55% Energy Use Reduction

Achieved via efficient lighting, HVAC, and enclosure design compared to similar warehouse buildings based on ASHRAE 90.1-2010.



10 kW Solar Photovoltaic Array

Installed on building rooftop for on-site solar generation. Array offsets 33% of building's energy usage.

KEY FEATURES

- Skylights provide significant daylight penetration by illuminating 75% of all regularly occupied areas.
- Project prioritizes reducing local impacts through Regional Priority credits for sensitive land protection and green vehicles.

PROJECT TEAM

Owner/Developer: Prologis
Architect: F-Ingegneria
Contractor: F-Ingegneria
Civil: Cian Diego

Mechanical: F-Ingegneria
Electrical: F-Ingegneria
Plumbing: F-Ingegneria
Landscape: F-Ingegneria

NOTABLE LEED THRESHOLDS

HEADLINE	INTENT	STRATEGY
Location and Transportation: Green Vehicles	Exhaust from diesel-fueled trucks is a source of exterior air pollution and can degrade the interior air quality of the building. Dock door receptacles allow drivers to utilize their truck resources without running a diesel engine.	50% of dock doors are equipped with a receptacle that truck drivers can plug into.
Sustainable Sites: Protect and Restore Habitat	Urban and developed sites often lack ecological value. Restoring or protecting natural habitats supports biodiversity, enhances ecosystem services, and creates a more sustainable site.	29% of the total site area (excluding the building footprint) is dedicated to native and adapted vegetation and has been restored to its natural conditions.
Water Efficiency: Outdoor Water Use Reduction	Potable water is a precious resource globally. Good landscape design and use of native, adapted, and drought tolerant plants can dramatically eliminate the need for irrigation while better integrating the building site into its surroundings and attracting native wildlife.	All the landscape area is planted with native/adaptive species that are watered with highly efficient drip irrigation, resulting in 79% savings
Energy and Atmosphere: Renewable Energy Production	On-site renewable energy reduces dependence on fossil fuels, lowers greenhouse gas emissions, and increases building resilience.	A rooftop solar photovoltaic (PV) system was installed that offsets 33% of the building's annual energy use, helping reduce reliance on grid-supplied electricity.
Materials and Resources: Environmental Product Declarations	Encourages use of products with transparent life-cycle data with the goal of one day reducing the embodied environmental impact of building materials.	10 permanently installed products from 5 different manufacturers include verified Environmental Product Declarations (EPDs)
Indoor Environmental Quality: Daylight	Natural lighting plays a key role in the experience of building occupants, as well as conserving energy by taking advantage of the sun's natural resources.	6.8 % of the building's roof is dedicated to skylight usage. On site measurements revealed that over 75% of the warehouse space received between 300-3,000 lux of natural light.
Innovation: Low Mercury Lighting	Mercury is a toxic chemical element and neurotoxin. It breaks down extremely slowly in the environment and once present in an organism, mercury can affect the central nervous system. In buildings, mercury releases come from breakage of lamps containing mercury.	100% LED lighting was selected for this project to eliminate the risk of mercury contamination in the building.