Cold Storage:

Where Fundamentals Meet ESG

Overview

- Cold storage fundamentals remain attractive with low vacancy and limited supply risk
- Significant power utilization within cold storage buildings is exacerbated by aging building stock
- These buildings are critical infrastructure for the food supply chain; demand for space will steadily rise despite their energy usage
- Climate change and geopolitical conflict place stress on food supplies; cold storage buildings add resiliency to the supply chain
- Modern cold storage space increases the sustainability and resiliency of the food supply chain, while improving operational efficiency for space users

BGO has an extensive and successful track record in cold storage, investing on behalf of a variety of clients and strategies, including our U.S. Cold Storage Fund launched in 2021. Since 2015 BGO has acquired or developed 20 cold storage buildings totaling nearly six million square feet in the United States. Additionally, we have committed $1.56 billion of equity to cold storage operating companies. In this edition of Perspective, we take a brief look at the compelling aspects of cold storage investment, considering both fundamentals and pricing. We then review the ESG opportunity represented by this industrial subsector — particularly in terms of environmental and social sustainability. Lastly, we examine one of our latest state-of-the-art cold storage developments.

Since 2015 BGO has acquired or developed 20 cold storage buildings totaling nearly six million square feet in the United States.

Pictured: FlexCold, Jacksonville, FL

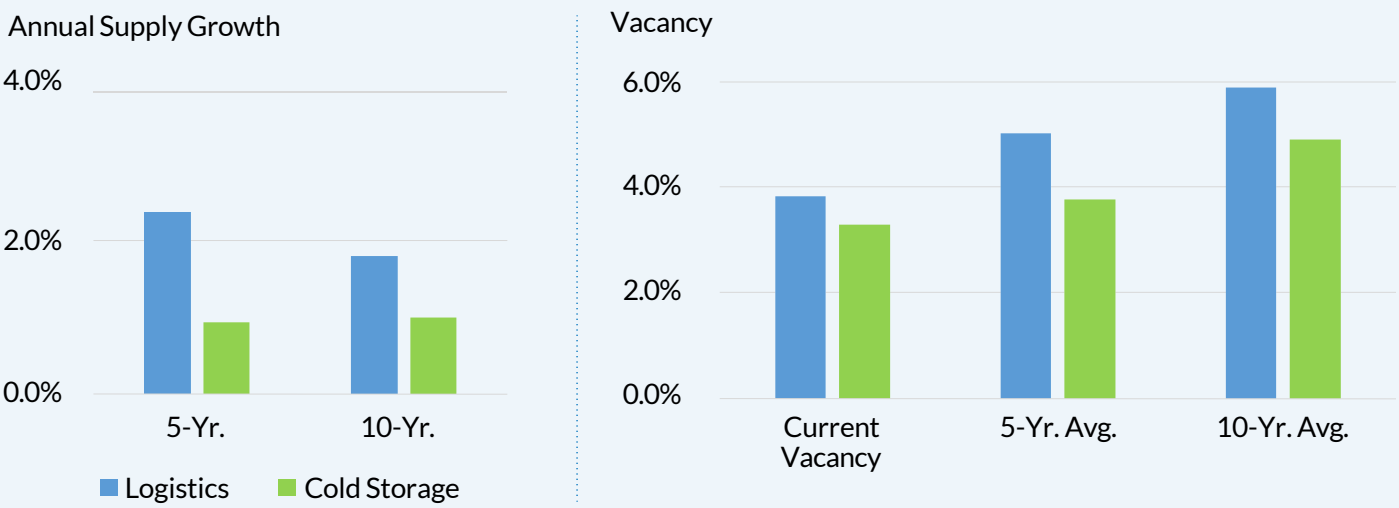
Cold Storage Fundamentals

The specialized nature of cold storage supports both healthy property fundamentals and attractive pricing. Demand for space rises along with global population growth, and food consumption tends to be steady through business cycles. Retail sales data show that in the roughly 30 years prior to the pandemic the worst year-over-year decline in food and beverage spending was only 1.4% in December of 2008.[1] Diversification away from most traditional dry storage warehouse demand drivers adds further appeal. Growth in prepared foods, online ordering, direct to consumer delivery, healthy lifestyles that favor fresh or frozen foods over those heavy in preservatives, and greater use of temperature sensitive pharmaceuticals are demand tailwinds.

The limited supply of space enhances the attractive demand characteristics. Buildings are more expensive to build and require a more specialized skill set given the complexity of their construction. Cold storage supply growth has consistently run at a slower rate than logistics supply growth, as depicted in the chart below. This has also led to a growing level of functional obsolescence within the sector.

Older cold storage buildings face many ongoing challenges, including lower clear heights, high-GWP (Global Warming Potential) refrigerants that are phasing out or more expensive than ammonia/CO2, and inadequate insulation. With steady demand and limited new supply, cold storage also tends to enjoy a lower vacancy rate than logistics space. Furthermore, investors can acquire assets in this stable, low vacancy subsector at comparatively attractive yields versus standard logistics buildings.

Slower cold storage supply growth supports lower vacancy[2]



The ESG Case

In the current age of ESG-conscious investing, an obvious question might be, why invest in a property type that is among the leaders in greenhouse gas emissions, with more than three times the emissions intensity of traditional industrial?[3] The first response to that question comes back to necessity. While these facilities have large energy demands, without them we do not have an effective supply chain. Cold storage is critical to avoiding disruptions in food availability and costly, emissions-intensive losses of perishable food.

According to the United Nations Environment Programme Executive Director Inger Anderson, "If food loss and waste were a country, it would be the third biggest source of greenhouse gas emissions. Food waste also burdens waste management systems, exacerbates food insecurity, making it a major contributor to the three planetary crises of climate change, nature and biodiversity loss, and pollution and waste."

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>
> — Inger Anderson Executive Director, United Nations Environment Programme

A sustainable, temperature-controlled supply chain reduces greenhouse gas emissions and food loss and offsets climate and geopolitical conflict-related disruptions to food production and storage. Each year 1.3 billion tons of food expires globally due to inadequate cold storage options. Estimates suggest that 8-10% of global greenhouse gas emissions are associated with unconsumed food.[4] Nearly 50% of food is lost post-harvest.[5] A more robust cold chain can provide social equity benefits by reducing food insecurity and increasing access to fresh food.

Energy costs are certainly a consideration given the high levels of power usage at these facilities. While energy consumption at traditional warehouses accounts for 18% of their operating costs, energy consumption at refrigerated warehouses accounts for 90% of operating costs. On average, U.S. refrigerated warehouses use ~4.0x the electricity consumed by traditional warehouses.[6] Meanwhile, energy costs themselves have been rising quickly.

Skilled investors can turn these high costs into opportunities to decrease operating costs and expand profit margins, while others may be discouraged from investing in the sector. New, more efficient cooling equipment and thermal envelope improvements represent opportunities to overhaul existing facilities. But new construction offers the best approach to utilizing the latest efficiency innovations, while also allowing investors to consider local power costs, grid efficiency, and transportation costs as they choose a location.

8-10%

global greenhouse gas emissions associated with unconsumed food

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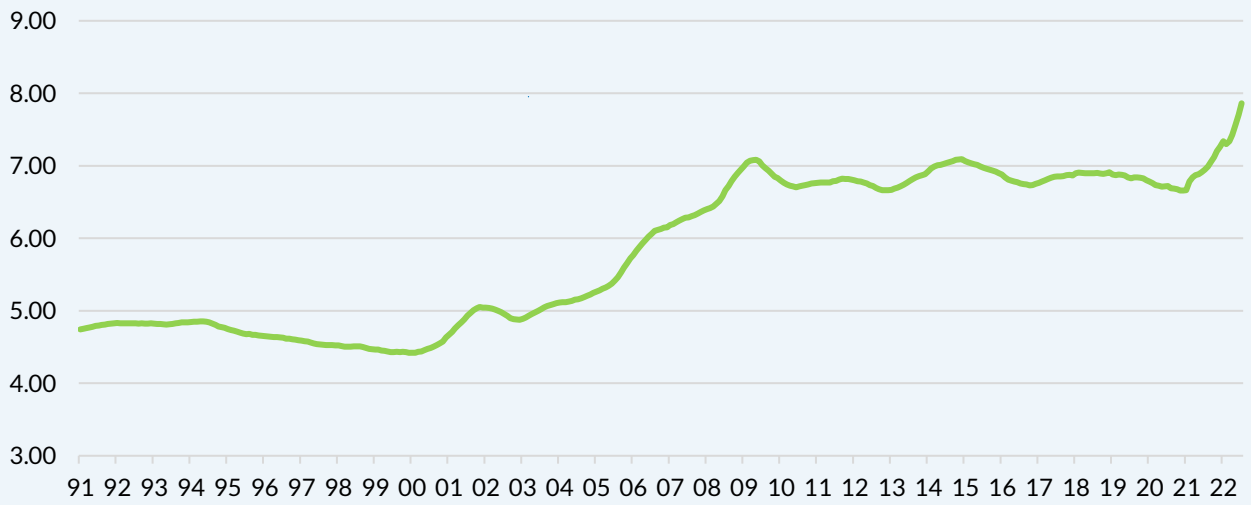
Energy cost increases have accelerated over the past year[7]

Electric Utility: Average Revenue per Kilowatt Hour
Industrial ($, rolling 12-mo. average)



A Case Study in Cold Storage Development

Cold storage development is an opportunity for BGO to leverage both its experience in the sector and our global ESG leadership. Our projects capitalize on the growing obsolescence of the existing cold storage infrastructure and meet the rising demands of investors, tenants, and consumers. These projects generate strong returns for our investors while having a lasting impact on the environment. Among our considerations in the development process are:

- On-site renewables: solar panels on roofs and rainwater recapture
- Efficient building envelopes: utilize high insulation value materials and paint exterior surfaces with light colors
- Refrigeration: ammonia and CO2 systems are more efficient, and ammonia has a global warming potential of zero
- Energy Star equipment: to reduce the energy requirements of all building systems
- Lighting: install LED lights on occupancy sensors to reduce energy and heating loads

Project Ridgeville, Charleston, SC

With Project Ridgeville, BGO and our partners are taking on the ambitious challenge of building a cold storage project that achieves Gold-level Leadership in Energy and Environmental Design (LEED) certification. The project's environmental focus begins with its location on the Camp Hall Campus outside of Charleston.

Camp Hall has committed to the restoration of 356 acres of wetlands damaged from previous uses in the area and the permanent protection of 2,650 acres of land that serve as wildlife habitats for a number of native species. There will also be 15 miles of multi-use trails. Importantly, the location has convenient access to the Port of Charleston, highway infrastructure, and a planned railway. Rainwater harvesting, car charging, and solar panels will help support development on the site.

The project itself will boast a wide variety of sustainable building features that will serve as credits towards its certification. These include:

- Optimized thermal envelopes that are peer reviewed and commissioned for maximum energy performance
- High reflectance white TPO roof to minimize effects on microclimates and human/wildlife habitats
- Ammonia/CO2 refrigeration system with adiabatic cooling to optimize energy performance and water consumption
- LED lighting throughout the warehouse and office
- Electric vehicle charging and electric plug-ins for trailer refrigerated units to reduce diesel emissions
- Rainwater recapture system with 50,000-gallon storage tank and filtration system to enable reuse of rainwater for refrigeration
- On site renewable energy generated by 1 MW solar system

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365

acres of wetlands damaged from previous uses

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Sector Outlook

The opportunity for successful investment in cold storage remains significant as the sector offers strong and stable fundamentals and attractive pricing. While development activity is higher today than it has been historically, new construction relative to inventory remains well-below that of logistics space. Supply risks should remain low as higher interest rates, tighter construction lending, and general economic uncertainty discourage development. The opportunity to optimize operations at aging facilities and deliver new and highly efficient product are compelling for experienced operators and developers. Government programs will be an additional tailwind, including the Inflation Reduction Act's clean energy provisions.

BGO will continue to leverage both our experience in cold storage and ESG leadership across our platform to further enhance the compelling investment opportunities we identify in this sector.

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[1] BGO Research analysis of U.S. Census Bureau data and Moody's Analytics estimates

[2] CoStar Group, Inc., 2022Q2

[3] GreenStreet, An Imperfect Storm, September 13, 2021

[4] UNEP Food Waste Index Report, 2021

[5] Coldhubs.com

[6] Coldhubs.com

[7] U.S. Energy Information Administration

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BentallGreenOak is a leading, global real estate investment management advisor and a globally-recognized provider of real estate services. BentallGreenOak serves the interests of more than 750 institutional clients with expertise in the asset management of office, industrial, multi-residential, retail and hospitality property across the globe. BentallGreenOak has offices in 28 cities across fourteen countries with deep, local knowledge, experience, and extensive networks in the regions where we invest in and manage real estate assets on behalf of our clients in primary, secondary and co-investment markets. BentallGreenOak is a part of SLC Management, which is the institutional alternatives and traditional asset management business of Sun Life.

For more information, please visit
www.bentallgreenoak.com

Paul Briggs
Managing Director,
Head of U.S. Research
(617) 790-0853
paul.briggs@bentallgreenoak.com

Gerard Mitchell
Associate,
Research & Strategy
(617) 357-6402
gerard.mitchell@bentallgreenoak.com