

A FUTURE SPACE FOCUS REPORT



CAN BRITAIN'S COLD CHAIN STAND THE HEAT?

Exploring what changing demand and evolving operational pressures mean for the UK's temperature-controlled logistics network.

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INTRODUCTION

In the year that marked the UK's hottest summer on record, the resilience of the nation's cold chain has become a headline topic. Rising temperatures have brought greater attention to the economic and operational pressures facing the network, highlighting both its significance and its potential vulnerabilities.

Despite being a relatively niche logistics subsector, the cold chain is vital infrastructure. Temperature-controlled storage and transportation networks underpin around half of the nation's food supply and a significant proportion of its pharmaceutical distribution. Highly specialised logistics facilities form a critical part of this network, providing the controlled environments needed to safely store products and support their movement through the supply chain.

The importance of a resilient cold chain is clear: disruption can directly affect food availability, the supply of essential healthcare products and wider economic activity.

Against this backdrop, this report examines the expanding and changing demands being placed on the cold chain, from evolving consumer habits and growth across temperature-sensitive product categories to the changing climate and increasingly complex operational requirements.

We consider whether the logistics real estate supporting the UK's cold chain is equipped not only for today's needs, but also those of the future, and how occupiers can prepare and respond through informed decision-making around location, power, building specification and adaptability.



Approximately 49% of food and beverages produced and sold by UK manufacturers, valued at £50 billion, consists of chilled or frozen products.¹



Around one-fifth (£2.7 billion) of pharmaceutical products produced and sold by UK manufacturers require cold chain logistics.²



The cold chain directly adds £14bn in gross value to the UK economy each year, supporting 184,000 jobs and contributing £3.7bn in tax revenue.³



There are around 500 major cold stores in the UK, from smaller cross-docking operations and local delivery points up to 47-metre-high automated units capable of storing over 150,000 pallets of frozen and chilled products.⁴

PART 1: The cold chain under pressure

Cold storage is a highly specialised market, with several periods over the last five years alone demonstrating how quickly disruption and changing supply chain requirements can impact available space.

During the COVID-19 pandemic, the Cold Chain Federation reported that the UK effectively ran out of available long-term cold storage as disruption to established product flows placed acute pressure on capacity. CoStar recorded vacancy at just 0.7% in late 2022⁵ and changes to post-Brexit ordering requirements, which created uncertainty around the timing of imports and exports, also brought the network close to capacity on several further occasions.⁶

While recent data points to a gradual increase in cold storage vacancy rates, partially driven by speculative development of pharmaceutical-focused space, it remains a relatively small and specialised subsector, meaning a few individual buildings can have

an outsized impact on the headline vacancy rate. The significant shifts in availability seen in recent years highlight a broader question around preparedness. This is particularly relevant within the UK food system, which has historically been geared towards efficiency. Defra's UK Food Security Report 2024 stresses the prevalence of just-in-time models and low stockholding among many UK businesses, which can compound the impact of single points of failure within the supply chain.⁷

Long-term capacity requirements therefore need to account not only for demand under normal operating conditions, but the ability of cold chain networks to respond to future shocks. This does not necessarily mean simply holding more stock or providing more space; resilience depends on having sufficient capacity, flexibility and supporting infrastructure in the right places when it is needed.



PART 2: Demand is expanding and changing

Looking further ahead, a growing population will increase the underlying requirement for food and other temperature-sensitive products. The Office for National Statistics projects that the UK population will expand by 7.3%, or 4.9 million people, from 2022 levels to mid-2032.⁸

The relationship between population growth and cold storage requirements will not be linear, as improvements in forecasting, inventory management and supply-chain efficiency enable existing capacity to be used more effectively. However, it is not only the number of consumers that is changing; the UK's demographic profile, the way people shop, what they eat, and their lifestyle choices are evolving too.

Modern consumers expect convenient and seamless access to food throughout the day, 365 days a year. The traditional supermarket shop has been supplemented by home deliveries, convenience stores and direct-to-customer services, increasing the number of routes through which temperature-controlled products now need to travel, creating demand for more complex, and in some cases more localised, cold chain networks.

Alongside these increased routes to market, shifts in established categories and the emergence of new temperature-sensitive products are broadening cold chain requirements.

Three areas illustrate how changing consumer preferences are translating into evolving demands on temperature-controlled logistics:



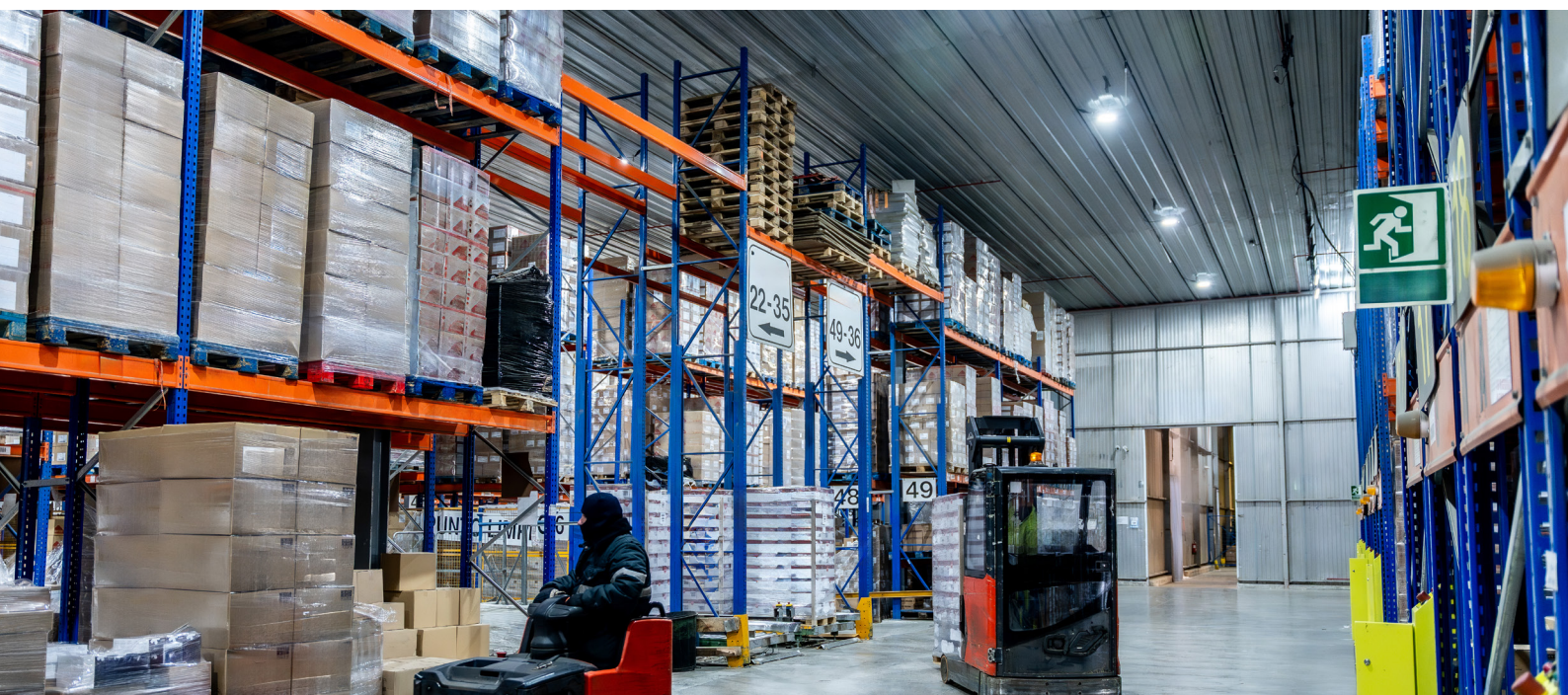
FROZEN DEMAND



TEMPERATURE-CONTROLLED PHARMACEUTICALS



HUMAN-GRADE PET FOOD



FROZEN DEMAND

Frozen foods experienced a significant uplift in retail value following the pandemic and subsequent cost-of-living pressures, with UK sales reaching £8.5 billion in the year to March 2024, almost 12% higher than the previous year. More recent data suggests this elevated level of spending has been sustained: the market reached £8.8 billion in the 52 weeks to November 2025. Over this later period, sales value increased 2% year-on-year.⁹

EVOLVING PRODUCT MIX

(year to November 2025)



FROZEN SNACKS

11% value growth

6.9% unit growth



HANDHELD ICE CREAMS

8.6% value growth

1.6% unit growth

While overall unit sales softened by 0.4%, demand continues to evolve across the category, with frozen snacks recording 11% value growth and 6.9% unit growth, and handheld ice cream increasing 8.6% in value and 1.6% in units.¹⁰ For cold chain operators, this changing product mix reinforces the importance of flexible infrastructure capable of adapting as demand shifts between product categories.

Earlier this year, Farmfoods, the British supermarket chain specialising in frozen produce, committed to three units totalling around 800,000 sq ft in Daventry. Taken on a considerable 25-year lease, the facilities will support frozen and ambient storage, transportation and recycling as the retailer expands its UK operations.¹¹ The scale and duration of the commitment demonstrate how long-term business growth can translate into significant logistics requirements, while highlighting the value of sites capable of accommodating future expansion.

TEMPERATURE-CONTROLLED PHARMACEUTICALS

The cold chain plays a critical role in the storage and distribution of certain medicines and vaccines. Across the pharmaceutical network, Good Distribution Practice (GDP) standards govern the storage, handling and transportation of medicines under appropriate conditions, helping to maintain their quality and integrity throughout the supply chain.

The critical role of temperature-controlled infrastructure was brought into sharp focus during the COVID-19 pandemic, when the urgent vaccine rollout created highly specialised requirements across the cold chain.



The Pfizer/BioNTech vaccine, for example, initially required storage between -60°C and -80°C, prompting the NHS to quickly establish transport routes and vaccination hubs capable of managing ultra-low-temperature storage and distribution.¹²

The experience demonstrated the importance of preparedness and adaptable infrastructure: pharmaceutical innovation can rapidly create new cold storage and distribution requirements that existing networks must be able to accommodate.

More recently, the rising popularity of GLP-1 medications (which mimic a natural gut hormone to help lower blood sugar and reduce appetite) demonstrates how pharmaceutical innovation and a consumer trend can have a ripple effect across the cold chain. The doubling in usage among UK consumers in just nine months from 3.1% in June 2025 to 6% in March 2026 has created rapid requirements for pharmaceutical storage and distribution while simultaneously affecting food consumption and product development.¹³

As many injectable GLP-1 medications require temperature-controlled handling and distribution, growing adoption is contributing to increased requirements for specialist pharmaceutical logistics globally. In June 2026, UPS announced a \$48 million investment in 27 temperature-controlled facilities across Europe, Asia and the Americas, citing GLP-1 injectables as a

significant driver.¹⁴ Investment in UK-specific pharmaceutical cold chain infrastructure is also emerging: in June 2026, GEODIS opened a new temperature-controlled, GDP-compliant pharmaceutical warehouse in Manchester, providing 2,000 pallet positions.¹⁵ Rapid GLP-1 adoption forms part of a wider shift towards increasingly sophisticated, temperature-sensitive medicines, which are directly available to consumers outside of NHS pathways, creating new requirements for specialist healthcare logistics infrastructure in the UK.

The food-market implications of growing GLP-1 adoption are more nuanced. Users typically consume less food volume overall, potentially reducing demand for some food categories, but changing eating habits are also prompting product innovation around smaller, more protein-dense and nutrient-rich meals. In January 2026, Morrisons launched a 53-product Applied Nutrition range, including seven portion-controlled ready meals developed with GLP-1 users in mind, while Co-op introduced four 250g mini meals for consumers with smaller appetites, not replacing larger portion sizes, but adding to the category. In July, Fit Foods launched a further five-product Mini Meals range across 450 Tesco stores.¹⁶ These new ranges illustrate how healthcare innovation can translate into new food SKUs and formats moving through temperature-controlled supply chains, potentially adding complexity to storage, picking and fulfilment requirements.



Pharmaceutical innovation can rapidly create new cold storage and distribution requirements that existing networks must be able to accommodate.



HUMAN-GRADE PET FOOD

The nation's cold chain is not only made up of human consumables and pharmaceuticals. Fresh and raw human-grade pet-food formats often require chilled or frozen storage throughout the supply chain, in contrast to traditional ambient pet food.¹⁷ With the UK human-grade pet food market forecast to grow at a compound annual growth rate (CAGR) of 6.6% between 2025 and 2030, increasing demand for high-quality fresh products is creating additional requirements for the cold chain.¹⁸

CASE STUDY



Butternut Box, the UK's largest provider of direct-to-consumer fresh pet food

Growing demand for fresh, human-grade pet food created specialist property requirements for Butternut Box. In 2020, the business took a 151,000 sq ft facility at Tritax Big Box's Doncaster scheme, bringing cooking, packing, freezing and storage together within one operation.

In 2023, as a result of continued growth and a requirement for additional fulfilment and distribution capacity, Butternut Box committed to a further 134,000 sq ft facility at the same location, taking its total footprint to approximately 285,000 sq ft. Both facilities are now subject to 20-year leases, demonstrating the importance of having the ability to expand at a strategically suitable location as demand grows.

For Butternut Box, bringing production and fulfilment together has helped improve quality, reduce operational inefficiencies and provide the capacity to scale with customer demand. The company's experience also illustrates how emerging product categories can rapidly create demand not only for standalone cold store facilities but also integrated cold chain ecosystems.



PART 3: Quality over quantity

Changing consumer preferences, emerging product categories and continued innovation are broadening the range of products and formats moving through temperature-controlled supply chains. For occupiers, the priority should not simply be securing sufficient capacity but ensuring that their infrastructure has the flexibility and capability to accommodate increasingly complex operational requirements, whilst also being able to respond to disruption and support future growth.

The composition of the UK's cold storage stock changes relatively slowly. Analysis of cold storage properties tracked by CoStar (cold storage buildings over 100,000 sq ft recorded within its database) indicates that around 6.1 million sq ft of new space has been delivered over the past decade, equivalent to approximately 10% of current tracked stock. However, over the same period, the total amount of cold storage space recorded by CoStar increased by only 2.6 million sq ft, from approximately 60.1 million sq ft to 62.7 million sq ft. The figures suggest that a significant proportion of new development has replaced or offset space leaving the

market, rather than simply adding to overall capacity.¹⁹ As a result, around 90% of the cold-storage space tracked by CoStar is more than ten years old. Age alone does not determine a building's suitability, but older facilities may face greater challenges in accommodating evolving requirements around power, energy efficiency, automation and refrigeration.

For occupiers, this places increasing importance on the capability and specification of individual facilities. Three factors are particularly important:



POWER: A CRITICAL REQUIREMENT



THE CLIMATE: AN EVOLVING RISK



LOCATION AND LABOUR: ACCESS TO THE RIGHT PEOPLE



CO-OP, BIGGLESWADE
Extensive rooftop solar PV array



POWER: A CRITICAL REQUIREMENT

For many cold chain occupiers, access to sufficient and resilient power is becoming a fundamental property requirement rather than simply an operational consideration.

Cold stores require a constant supply of energy to maintain tightly controlled temperatures, from frozen food environments operating well below zero to specialist pharmaceutical products requiring ultra-low-temperature storage. With the largest facilities capable of holding more than 150,000 pallets of product, interruptions to power can have significant operational and financial consequences.

Operators are increasingly exploring ways to reduce the energy intensity of cold chain operations and strengthen resilience. For frozen food, initiatives such as 'Move to -15°C' are assessing whether traditional temperature set-points can be adjusted without compromising food safety or quality. Research underpinning the initiative suggests that raising frozen-storage temperatures by 3°C could materially reduce energy consumption, potentially easing both operating costs and power requirements.²⁰

The building itself also has an important role to play. On-site renewable generation, energy-efficient building systems and, where appropriate, battery storage can help occupiers reduce reliance on grid electricity, manage operating costs and strengthen

energy resilience. Yet there remains significant scope for investment to accelerate progress in this area: a 2026 Cold Chain Federation survey found renewable energy in place at only 29% of surveyed cold storage sites.²¹

For existing facilities, this creates opportunities for occupiers and landlords to work together to improve energy infrastructure. Depending on the building and lease arrangements, this could include retrofitting rooftop solar, improving energy efficiency or introducing battery storage and other technologies to help manage peak power requirements. For new facilities, considering these requirements from the outset provides greater opportunity to integrate energy infrastructure around an occupier's operational needs.

Ultimately, the availability of sufficient power today is only part of the equation. Occupiers should consider their future requirements, including greater automation, refrigeration loads and potential expansion, alongside the scope to generate, store and manage energy more efficiently on site. Early engagement with landlords and developers can help ensure that power requirements are considered alongside location and building specification, rather than becoming a constraint once operational decisions have already been made.



On-site renewable generation, energy-efficient building systems and, where appropriate, battery storage can help occupiers reduce reliance on grid electricity, manage operating costs and strengthen energy resilience.



THE CLIMATE: AN EVOLVING RISK

Alongside growing power requirements, the changing climate is adding another dimension to infrastructure resilience. Climate resilience is becoming a property consideration as well as an operational one.

Recent periods of extreme and sustained heat have provided a warning of the conditions cold chain infrastructure may increasingly need to withstand. Higher ambient temperatures can increase the demands placed on refrigeration systems, building fabric and power infrastructure, increasing the importance of assessing how facilities will perform under changing conditions.²²

Modern development provides greater opportunity to consider these requirements from the outset, while existing facilities may also be capable of adaptation through targeted investment. Occupiers should assess whether existing and prospective facilities can maintain performance under higher ambient temperatures, considering building fabric, refrigeration capacity and power resilience.²³

Experience from hotter climates also provides potential lessons for future UK building design, from measures that reduce solar heat gain to greater consideration of building orientation, materials and thermal performance.

These considerations reinforce the wider preparedness challenge highlighted in Part 1: cold chain resilience depends not only on having sufficient capacity, but infrastructure capable of continuing to perform when normal operating conditions are disrupted. Strengthening that resilience is critical to the UK's food and health security, national resilience and crisis preparedness.



**Climate resilience
is critical to the UK's
food and health security**





LOCATION AND LABOUR: ACCESS TO THE RIGHT PEOPLE

Even when a building can meet an occupier's technical requirements, location remains fundamental to its long-term suitability.

Cold chain networks must balance supply-chain connectivity and transport access with sufficient power and the proximity of an appropriate workforce. The right balance will differ by operation, but these factors can significantly narrow the pool of genuinely suitable locations.

Access to the right workforce is particularly important as cold chain operations become more technologically sophisticated. Automation can reduce reliance on some difficult-to-recruit roles, while simultaneously increasing demand for specialist technicians needed to operate and maintain increasingly complex facilities. Existing recruitment pressures across the sector are significant. The Cold Chain Federation reports that seven in ten key cold chain roles are considered difficult to recruit or worse, while 71% of refrigeration engineers are over 45 and only 6% of cold chain HGV drivers are under 30.²⁴

For occupiers, workforce considerations should therefore form part of property decision-making from the outset. Alongside access to the right labour pool, building specification can play an important role in supporting workforce attraction, retention and productivity. Modern facilities can be designed around evolving workforce requirements, from safe and comfortable working environments and appropriate amenities to greater automation. Early engagement with owners and developers can help ensure these requirements are considered alongside wider operational needs from the outset.

70%

of key cold chain roles are difficult to recruit

71%

of refrigeration engineers are over 45

6%

of cold chain HGV drivers are under 30



PART 4: A future-ready cold chain

Meeting future cold chain demand will require continued investment in the quality and capability of infrastructure, not simply more space.

As operational requirements become increasingly complex, occupiers need to look beyond floorspace alone and consider whether their facilities have the location, power, specification and flexibility required to support resilient, efficient operations over the long term.

FUTURE-READY INFRASTRUCTURE: ADAPT OR DEVELOP?



Future-proofing a cold chain network does not necessarily require a new purpose-built facility. Existing space can often be adapted through investment in refrigeration, insulation, energy infrastructure and technology, provided the fundamentals, including location, power and building specification, can support the occupier's long-term requirements.

Where those fundamentals cannot be achieved efficiently, or where suitable existing space is unavailable, a purpose-built facility can provide greater freedom to design around an occupier's specific requirements, from temperature zones and automation to energy infrastructure and future expansion.

The decision is therefore less about new versus existing space, and more about which route can best deliver the resilient, adaptable, efficient and sustainable infrastructure an occupier needs in the right location.



WHAT DOES FUTURE-READY COLD CHAIN LOGISTICS SPACE LOOK LIKE?

For new developments, considering future requirements from the outset provides greater opportunity to build long-term resilience into the specification. At Tritax Big Box, buildings are constructed to a 50-year design life, with our approach regularly reviewed to reflect evolving industry requirements, including the impacts of climate change and the transition towards greater electrification.

RESILIENT & ADAPTABLE:

Able to withstand extreme weather, including increased temperatures, heavier rainfall and flood risks, alongside power disruption and changing operational pressures, while providing the flexibility to accommodate new products, temperature zones, technologies and future expansion.

EFFICIENT:

Designed to maximise capacity and operational efficiency through modern refrigeration, automation, high-density storage and greater building height, enabling occupiers to make more effective use of space, energy and labour.

SUSTAINABLE:

Energy-efficient building fabric, refrigeration and smart technology, alongside renewable generation and energy storage, can help reduce emissions, manage operating costs and strengthen long-term resilience.

STRATEGICALLY LOCATED:

Positioned to support the needs of the wider supply chain, with appropriate transport connectivity, sufficient and resilient power, access to the right workforce and scope for future growth.

KEY TAKEAWAYS:



Cold chain demand will be impacted by both long-term structural trends and changing consumer behaviour. Population growth will increase the underlying requirement for temperature-controlled supply chains, while emerging product categories will reshape requirements across individual sectors with an overall outlook of growth for the sector.



The changing climate is raising the bar for cold chain resilience. As extreme seasonal heat becomes a greater operational risk, occupiers need to consider whether their facilities can continue to perform effectively under more challenging conditions.



Future-readiness is about capability, not simply capacity. The right location, sufficient and resilient power, appropriate building specification and flexibility to adapt to evolving demands and potential disruptions will increasingly determine whether facilities can support occupiers' long-term operational requirements.

**WANT TO FIND OUT MORE?
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About Future Space

Future Space is Tritax Big Box's flagship thought leadership and research programme, examining the structural trends shaping the UK logistics industry. Through proprietary research, occupier surveys and market intelligence, the programme explores how evolving supply chains, consumer behaviour, technology and global trade are influencing occupier requirements and real estate decision-making.

This Cold Chain Report builds on insights from the Future Space programme, alongside additional market research and findings gathered through industry engagement.

Now in its ninth year, the latest Future Space survey was conducted in the final quarter of 2025 by supply chain market analysts Analytiqa on behalf of Tritax Big Box, owner of the UK's largest logistics investment and land development portfolio, and international real estate advisors Savills. The survey captured the views of almost 400 occupiers, institutional investors and developers on the trends shaping industrial and logistics space over the next 12-24 months and beyond.

Occupiers, including manufacturers, retailers and 3PLs, accounted for 47% of the 398 responses, with the remaining 53% comprising investors, developers and other key industry stakeholders.



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