

Britain's Hotter Summers Are Exposing the Limits of Existing Cooling Infrastructure

2 hours ago



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How facilities management can strengthen cooling resilience before extreme heat becomes the norm.

Successive summers have shown that prolonged periods of extreme heat are no longer unusual in the UK. June 2026 became England's warmest June since records began, with provisional temperatures reaching 37.7°C in Norfolk and prompting the Met Office to issue its first red extreme heat warnings of the year. July has already delivered another significant heatwave, bringing widespread disruption as refrigeration failures left supermarket shelves empty and forced retailers to dispose of spoiled chilled and frozen products.

While empty freezer cabinets are highly visible, they represent a much wider challenge. Across the country, cooling and refrigeration systems installed decades ago are increasingly operating outside the environmental conditions they were originally designed to handle. As temperatures continue to rise, cooling has become essential for business continuity and operational resilience.

Heat Is Becoming a Strategic Business Risk

Recent weather records suggest that extreme heat is shifting from an exceptional event to an expected feature of the UK's climate. The national record of 40.3°C, set during July 2022, is no longer viewed as an isolated anomaly. Met Office projections indicate temperatures could approach 45°C by the middle of the century if current climate trends continue.

The implications extend far beyond discomfort. The Environmental Audit Committee has warned that, without significant adaptation, annual heat-related deaths could reach 10,000 while economic losses from reduced productivity and health impacts may total around £60 billion each year.

Cooling demand is rising alongside outdoor temperatures. Government modelling forecasts substantial growth in cooling requirements throughout this century, with air conditioning expected to become commonplace in millions of English homes by 2050.

Higher temperatures also place increasing pressure on the electricity network. Analysis by Drax indicates that once temperatures exceed around 20°C, electricity demand increases by approximately 350 MW for every additional degree, largely because of greater use of refrigeration and air conditioning. National Grid has similarly forecast that peak cooling demand could triple over the next decade. During recent heatwaves, these spikes have coincided with reduced wind generation and falling evening solar output, creating periods of tight electricity supply.

For businesses, this combination of rising energy consumption, constrained grid capacity and heavily loaded cooling equipment creates a significant operational risk, particularly when equipment failures occur during periods of maximum demand.

Cooling Systems Built for Yesterday's Climate

A large proportion of the UK's existing cooling infrastructure was installed when summer temperatures rarely approached today's extremes.

Many supermarket refrigeration systems, for example, were designed around maximum ambient conditions of roughly 32°C. Once outside temperatures climb well beyond that threshold, compressors must work continuously, efficiency falls sharply and the likelihood of equipment failure increases.

The same issue affects ageing air-conditioning installations. Equipment intended to operate efficiently within more moderate outdoor temperatures often struggles to maintain performance during prolonged periods above 35°C.

Since cooling systems commonly remain in service for 15 to 20 years, many assets currently operating will spend the remainder of their lifespan in a climate considerably warmer than the one they were specified for. Organisations often only discover these limitations during an extreme weather event, when food has already spoiled, offices have become unworkable or critical equipment is beginning to overheat.

More Cooling Capacity Isn't the Complete Answer

Installing larger chillers or adding extra cooling equipment may appear to be the obvious solution, but increasing capacity alone rarely addresses the underlying problem.

Oversized systems increase electricity consumption, contribute to peak demand when the grid is already under pressure and can drive higher operating costs and emissions. If maintenance, controls and asset condition remain poor, even larger systems may still prove vulnerable during periods of exceptional heat.

There is also a wider sustainability challenge. Through the Global Cooling Pledge agreed at COP28, the UK

committed to reducing emissions associated with cooling by 68% by 2050. Simply installing additional mechanical cooling without improving efficiency risks working against those long-term climate objectives. Future cooling strategies therefore need to balance resilience with decarbonisation rather than prioritising one at the expense of the other.

Why Facilities Management Has a Central Role

FM already oversees the systems that determine how buildings respond to extreme temperatures, including HVAC, refrigeration, electrical infrastructure and building management systems. Energy teams focus on reducing consumption and supporting decarbonisation programmes, placing FM at the intersection of operational resilience and energy performance.

That position makes facilities management uniquely placed to treat cooling infrastructure as a strategic asset rather than simply another maintenance responsibility.

Instead of reacting to failures, organisations should identify where cooling outages would have the greatest operational or financial consequences and use monitoring, maintenance and planned investment to reduce those risks. Cooling infrastructure deserves the same level of strategic attention commonly given to fire protection, electrical resilience and IT systems.

Employee wellbeing also forms part of this picture. Although UK legislation does not currently specify a maximum workplace temperature, the Health and Safety Executive is expected to consult on workplace heat management during 2026, while trade unions continue to campaign for statutory limits. As temperatures continue rising, managing indoor heat is increasingly becoming both a legal and organisational responsibility.

Improving Cooling Performance Through Smarter Management

Strengthening resilience does not always require major capital investment. In many cases, better maintenance and operational practices can deliver significant improvements.

Preventative maintenance remains the first priority. Heatwaves expose weaknesses that might otherwise go unnoticed, including dirty filters, fouled condensers, refrigerant losses and poorly configured controls. Regular seasonal inspections, cleaning programmes, leak detection and functional testing of pumps and fans help prevent failures before peak summer conditions arrive. Continuous monitoring of pressures, temperatures and operating hours also allows engineers to identify deteriorating performance before equipment breaks down.

Operational optimisation offers further opportunities. Many cooling systems still operate using fixed settings that take little account of changing weather or electricity demand. Modest increases to office cooling setpoints where appropriate, overnight pre-cooling of buildings with high thermal mass, staggered chiller start-up schedules and temporary reductions in non-critical cooling loads can all reduce electricity demand without compromising building performance.

Critical environments require additional resilience. During the July 2022 heatwave, failures affecting

cooling systems contributed to service disruptions at Google Cloud and Oracle data centres in London, with Google attributing its outage to multiple simultaneous failures across redundant cooling equipment. Facilities supporting essential operations should therefore incorporate genuinely independent backup systems, tested failover arrangements and redundancy levels appropriate to the operational risk. In sectors such as food retail, resilience planning may also include portable refrigeration, alternative cooling capacity and clearly defined procedures for protecting temperature-sensitive stock.

Asset replacement should also be guided by future climate conditions rather than historical assumptions. Equipment that cannot reliably perform under today's peak temperatures should be prioritised for renewal using modern, energy-efficient technologies. Refrigerant selection has likewise become increasingly important as proposed reforms to GB F-Gas regulations accelerate the transition away from high-global-warming-potential refrigerants.

Building design should not be overlooked. Industry guidance consistently recommends reducing heat gains before increasing mechanical cooling capacity. External shading, reflective roofing, improved glazing, night-time ventilation and green infrastructure all reduce internal temperatures and lessen the burden placed on cooling systems. Keeping plant rooms and condensers cooler also improves efficiency and reliability, making passive measures among the most cost-effective resilience investments available. Regulations such as Part O of the Building Regulations already require overheating mitigation in new residential developments, signalling the direction of future standards across the wider built environment.

Making the Financial Case

The commercial consequences of cooling failure are often immediate.

For food retailers, refrigeration breakdowns during a heatwave can result in significant product losses, empty shelves and reduced sales precisely when customer demand is highest. Chilled and frozen goods are frequently among the most profitable product categories, making outages particularly costly.

The impacts extend beyond retail. Data centre failures can interrupt critical digital services, while cooling failures affecting healthcare facilities or other essential infrastructure may have far-reaching operational consequences.

Compared with these potential losses, investing in preventative maintenance, optimisation and planned upgrades is relatively inexpensive. Effective cooling management reduces the likelihood of disruption, lowers energy consumption, supports carbon reduction targets and provides a far stronger financial return when avoided business interruption is considered alongside energy savings.

Preparing for a Hotter Future

Extreme heat is becoming a defining characteristic of the UK's changing climate rather than a series of isolated events. As temperatures continue to increase, existing cooling infrastructure will face growing pressure across supermarkets, hospitals, offices, industrial facilities and data centres.

Although government policy is beginning to acknowledge these challenges, resilience ultimately depends on decisions made at individual buildings and estates. Organisations that maintain equipment proactively, optimise system performance, invest before assets fail and incorporate passive cooling measures into their

estates will be far better prepared for future heatwaves.

Facilities management has already demonstrated its importance in supporting the energy transition. The same strategic approach now needs to be applied to cooling resilience. By viewing cooling as a critical business asset rather than a reactive maintenance issue, organisations can protect operations, reduce energy consumption and ensure people, products and services remain safe during increasingly extreme summers.