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REPORT

RISING TEMPERATURES, RISING RISKS:

AN INVESTOR GUIDE TO HEAT HAZARDS AND WORKER SAFETY



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EXTREME HEAT POSES GROWING RISKS TO BUSINESSES AND WORKERS—BUT INVESTORS CAN HELP

While climate change is driving headline-grabbing catastrophic storms and floods, it's also the force behind another, equally dangerous, but silent threat: prolonged, extreme, and increasingly lethal heat across the globe.¹ These heat events are among the most dangerous weather-related threats to human health and carry serious impacts for the global economy due to workforce disruption, rising costs, and risks for businesses.²

Workers are facing increased dangers from heat every year. The International Labour Organization (ILO) estimates that in 2020 more than 70 percent of the world's workforce—more than 2.4 billion workers—was exposed to excessive heat on the job. That figure has increased more than 34 percent since 2000.³ Incredibly, estimates put the rate of heat-related deaths across the globe at nearly half a million people each year, which is likely a significant underestimate because of the frequency of co-occurring health conditions.⁴ But even non-fatal exposures to heat and humidity levels can exacerbate underlying conditions, such as kidney and cardiovascular disease, and increase risk of traumatic injury.⁵

Chronic and acute heat exposure is particularly threatening to workers in outdoor industries, such as agriculture, construction, and utility line repair. However, it is also increasingly concerning for workers in indoor settings, such as restaurants, warehouses, and manufacturing plants, that are not prepared to provide adequate ventilation or cooling.⁶

The pervasiveness of heat waves and long-duration hot and humid weather poses risks to employers as well. When companies fail to adequately protect their workers from heat exposure, they may be inviting health emergencies, accidents, and injuries. As a result, they can face a range of business risks such as productivity and revenue losses, increased workers' compensation claims, and potentially litigation.⁷

This puts companies—and their investors—at risk. Failing to protect workers from heat hazards in the workplace is not merely an operational oversight; it exposes workers to serious harm and creates significant financial, legal, and reputational risks for companies.

Investors also should be concerned because the financial impacts of worker heat stress can extend well beyond the profits and losses of individual companies. The ILO conservatively estimates that, due to climate change, global heat-related losses of working hours could increase by more than 50 percent by 2030 (relative to 1995).⁸



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However, investors may be unaware that the companies they invest in are not prioritizing the health and safety of their workers. Moreover, investors may lack the necessary resources, experience, and knowledge to assess whether companies are credibly addressing the threat of heat stress within their workforce.

To help investors better understand how companies can prevent heat injuries and assess heat risk exposure and its impacts on revenue growth and profitability, this brief covers:

- how extreme heat events and chronic heat harm the health and safety of workers;
- the business case for taking action to protect against heat;
- steps companies can take to reduce business risks associated with heat-related health threats; and
- questions investors can ask companies to evaluate whether they are taking action to reduce these risks.

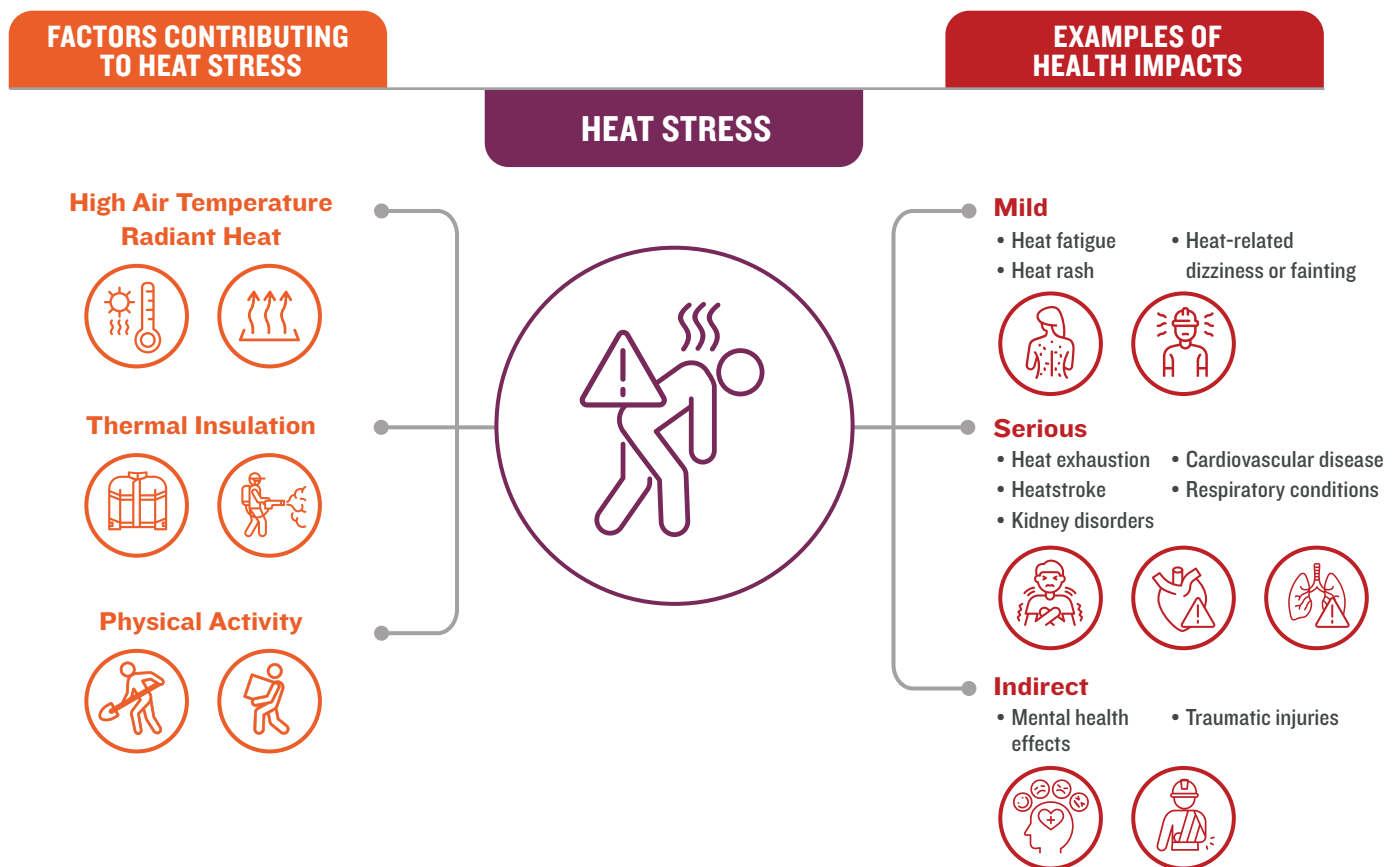
HEAT STRESS IS BAD FOR HUMAN HEALTH

To better assess how companies are managing heat risk for their workers, investors will benefit from a clear understanding of how the human body reacts to extreme heat.

The human body is carefully regulated to maintain its core temperature within a narrow range via processes such as sweating, increasing blood flow to the skin, and adjusting breathing rate.⁹ Physical, emotional, and cognitive harms can result when those natural processes are overwhelmed by any combination of high air temperature, radiant heat from hot surfaces such as industrial equipment, thermal insulation from heat-trapping clothing or protective gear, and physical activity (figure 1).

Heat stress can directly result in health outcomes ranging from mild rashes and cramps to fatal heatstroke. Because extreme heat affects every organ in the human body, it also can exacerbate chronic physical and mental health conditions, which can increase the likelihood of serious illness or death from conditions such as kidney and heart disease. Further, heat stress increases the chance of traumatic injuries from slips, trips, and falls through its effects on decision-making skills, mood, and motor skills (figure 1).¹⁰ Most consequentially, a severe elevation of core body temperature can result in permanent disability or death within as little as 15 to 30 minutes without appropriate treatment.¹¹

FIGURE 1: FACTORS LEADING TO HEAT STRESS AND EXAMPLES OF RESULTING HEALTH IMPACTS



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HEAT HARMS MILLIONS OF WORKERS EVERY YEAR

The ILO estimates that globally, excessive heat is responsible for 22.85 million occupational injuries every year.¹² Growing evidence shows that repeated damage from prolonged heat stress is driving chronic kidney disease among outdoor laborers around the world, with elevated numbers found in many regions.¹³

According to data from the Bureau of Labor Statistics (BLS), an average of 34 private and public sector workers die each year from heat-related causes in the United States (measured from 1992 to 2022).¹⁴ Furthermore, an average of 3,389 private and public sector workers each year experience heat-related illnesses or injuries that require at least one day away from work (measured from 2011 to 2020).¹⁵ However, these numbers are likely significant undercounts, in part because of systematic underreporting by workers and employers, data gaps (e.g., Colorado only started reporting to BLS in 2022), and exemptions from federal reporting requirements for certain industries (e.g., small agricultural operations and national security agencies).¹⁶

Heat-related illnesses and injuries are a problem for nearly every major industrial sector in the United States (table 1). Workers engaged in strenuous outdoor labor, such as those delivering packages or building houses, tend to have the

highest rates of heat-related illness and injury. However, heat-related illnesses also regularly occur in buildings or enclosed spaces that lack adequate cooling or ventilation (e.g., warehouses) and at work sites with heat-generating equipment or processes (e.g., commercial kitchens).¹⁷

In California, which now mandates reporting of indoor work-related heat stress incidents, indoor exposures accounted for nearly one-fifth of heat-related workers' compensation claims filed between 2010 and 2018.¹⁸ Across the country, a significant share of warehouse workers, fast-food workers, and restaurant workers surveyed in 2024 reported regular exposure to unhealthy levels of heat in their indoor workplaces.¹⁹

In both indoor and outdoor industries, certain workers experience higher risk due to unavoidable exposure to heat hazards, economic pressures such as quotas or piecework compensation (i.e., pay per unit of production), protective clothing that traps heat, and workplace stressors such as retaliation and discrimination.²⁰ The stakes are especially high for workers who, due to historic inequities, may have fewer resources to avoid heat hazards or to recover from heat-related injuries, illnesses, or income losses.²¹



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For instance, Black and Latine workers are frequently segregated into more dangerous and lower-paying industries and occupations with higher exposure to heat hazards.²² They are also more likely to be temporary or gig workers, who generally are afforded fewer protections than “formal” employees.²³ Immigrant workers, especially those who are undocumented, often face language barriers, fewer protections under state and federal labor laws, greater rates of retaliation by employers, and less access to health-protective amenities and services such as quality housing and medical care.²⁴ In particular, temporary agricultural workers on H-2A visas are often at the mercy of employers who don’t live up to their legal obligations to provide appropriate housing, food, or transportation.²⁵

Finally, it’s important to note that workers endure both acute heat stress during the kind of multiday heat waves that make the nightly news and chronic heat stress throughout the course of what would be considered typical summer weather. In fact, the ILO has reported that “nine out of ten worker exposures to excessive heat, and eight out of ten occupational injuries linked to excessive heat, occur outside of a heatwave.”²⁶ In the United States, a nationwide analysis of more than 800,000 injuries reported by employers to the Occupational Safety and Health Administration (OSHA) in 2023 found that the odds of a traumatic workplace injury increased starting on days with a heat index as low as 85 °F (29.4 °C).²⁷ As discussed above, heat stress can increase injuries through its effects on mood, decision-making skills, and motor abilities.

TABLE 1: ANNUALIZED RATE AND TOTAL NUMBER OF NONFATAL HEAT-RELATED INJURIES OR ILLNESSES IN THE PRIVATE SECTOR THAT REQUIRED AT LEAST ONE DAY AWAY FROM WORK, BY NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) SECTOR, UNITED STATES, 2021–2022*

NAICS Sector	Examples of Heat-Sensitive Industries	Examples of Heat-Sensitive Job Tasks**	Total Number of Heat-Related Cases***	Annualized Rate of Heat-Related Cases per 10,000 Full-Time Workers***
Transportation and warehousing	Express delivery services, warehousing, airport operations	Delivering packages, unloading merchandise, handling airline baggage	950	0.8
Administration and support and waste management	Solid waste management, facilities support services, landscaping	Collecting residential trash, installing HVAC systems, trimming trees	720	0.7
Utilities	Electric power generation, natural gas distribution, water and sewage systems	Restoring electricity services, checking for gas leaks, digging trenches	60	0.6
Information	Wired and wireless telecommunications, satellite communications, motion picture production	Installing fiber cables, climbing communication towers, preparing equipment on film sets	340	0.6
Agriculture, forestry, fishing, and hunting	Crop production, animal production, commercial fishing	Weeding, cleaning horse stalls, maintaining equipment	90	0.5
Manufacturing	Chemical manufacturing, motor vehicle manufacturing, chocolate manufacturing	Cleaning tanks, painting trucks, sorting cocoa beans	980	0.4
Construction	Building construction, road construction, electrical and other wiring installation contractors	Roofing, flagging traffic, installing solar panels	620	0.4
Arts, entertainment, and recreation	Amusement and theme parks, golf courses and country clubs, sports teams and clubs	Lifeguarding, caddying, acting as a team mascot	40	0.2
Accommodation and food services	Full-service restaurants, fast food restaurants, hotels and motels	Washing dishes, delivering pizzas, collecting used towels	250	0.2
Wholesale trade	Lumber wholesalers, industrial machinery wholesalers, grocery merchant wholesalers	Operating forklifts, pulling part orders, delivering cases of food	100	0.1
Retail trade	Automobile dealers, home centers, supermarkets	Repairing vehicles, baling cardboard boxes, collecting shopping carts	310	0.1
Health care and social assistance	Nursing care facilities, emergency relief services, after-school services	Serving food, providing emergency medical services, overseeing children	270	0.1

* The NAICS system is used by U.S. government agencies to classify business establishments for the purpose of official economic statistics.

** Unpublished NRDC analysis of OSHA citation records.

*** U.S. Bureau of Labor Statistics, “Biennial Nonfatal Case and Demographic Numbers and Rates: Selected Characteristics.”

HEAT EXPOSES BUSINESSES TO ETHICAL, FINANCIAL, AND REPUTATIONAL RISKS

Heat-related injuries and illnesses carry profound costs that extend far beyond direct financial impacts on businesses. Companies that fail to provide adequate heat protections for workers are effectively shifting the physical, emotional, and economic consequences of heat-driven workplace risks onto the very people least able to absorb them.²⁸ For example, many workers are excluded from workers' compensation coverage or receive only a fraction of their lost wages and medical costs after a workplace illness or injury.²⁹ When public programs like Medicaid or Medicare step in to cover medical bills, the true cost is externalized to taxpayers rather than borne by employers who have the power to prevent these harms in the first place.³⁰

It is unacceptable that workers are still falling ill—and dying—when employers fail to act on well-known and preventable heat exposure risks.

Protecting workers from heat isn't just the right thing to do; it's the smart thing to do. When heat stress compromises worker safety, businesses may be exposed to a variety of financial risks ranging from productivity losses to medical expenses to reputational damage and lost customers. To make the case for prevention and harm reduction, it's important for investors to understand the full complement of risks that companies can face.

HOT WORKERS ARE UNPRODUCTIVE WORKERS

A growing body of evidence shows that heat stress reduces worker productivity, especially in industries that involve outdoor labor and strenuous tasks. For example, according to the *Lancet* Countdown's estimates of heat-related labor losses, the world may have forfeited 640 billion labor hours in 2024, an increase in lost hours of 98 percent relative to the 1991 to 2000 annual average.³¹

Additionally, the ILO projects that heat stress will lead to significant near-term labor losses worldwide.³² Even when using the highly conservative estimate of a global temperature rise of 1.5 °C by the end of the century, the ILO calculates that “in 2030, 2.2 percent of total working hours worldwide will be lost to high temperatures—a productivity loss equivalent to 80 million full-time jobs” resulting in global GDP loss of USD \$2.4 trillion.³³

HEAT-RELATED INJURIES ARE EXPENSIVE

Heat-related injuries, illnesses, and deaths can impose significant costs on companies. OSHA conservatively estimates that the average total cost to U.S. employers of a single heat-related illness is nearly \$80,000.³⁴

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Additionally, as heat hazards intensify, more workers may walk off the job to avoid injury. Although data on this is sparse, one survey conducted by a weather monitoring company found that 65 percent of U.S. construction firm leaders say heat safety concerns have prompted employees to leave their jobs.³⁵ Another survey reported that frontline workers (those dealing directly with customers, clients, or other service recipients) who experience temperatures greater than 85 °F are 42 percent more likely to leave their employment within their first 90 days.³⁶ Turnover like this is expensive; one analysis found that the average cost to replace a lost worker is equivalent to almost 40 percent of their annual salary.³⁷

In contrast, recent studies indicate that companies that foster a strong culture of safety and implement systems to prevent workplace injuries not only reduce workplace harm but also tend to achieve positive financial outcomes.³⁸

WORKER INJURIES CARRY REPUTATIONAL RISKS

As instances of extreme heat increase and related injuries, illnesses, and deaths continue to rise, companies that fail to protect their workers may face public scrutiny. Recent polling in the United States suggests strong public support for commonsense protections for workers against high heat conditions.³⁹

For example, the United Parcel Service (UPS) has faced significant public criticism for failing to provide delivery personnel with the full protection needed to maintain their health. UPS drivers are exposed to ambient heat when walking to drop off packages and returning to their trucks. Additionally, their cabs are not air-conditioned, and temperatures in the back of UPS trucks can reach 125 °F

(52 °C) in some regions.⁴⁰ Such heat exposure resulted in at least 143 hospitalizations between 2015 and 2022. This has subjected UPS to unfavorable public scrutiny as well as lawsuits.⁴¹

By 2023, access to onboard air-conditioning had become a core demand for the International Brotherhood of Teamsters, which represents UPS drivers. In its new contract that year with the Teamsters, UPS agreed to deliver at least 28,000 new, air-conditioned vehicles by 2028.⁴² One year into the contract, UPS had not moved toward fulfilling its obligation, which provoked the Teamsters to return to the bargaining table.⁴³ In a new agreement, UPS committed to retrofit 5,000 trucks with air-conditioning to be dispatched by June 1, 2027, to the hottest delivery areas, mostly in southern and southwestern states. The union appears satisfied with the outcome of the negotiations and the stipulation that the retrofitted trucks will be counted toward UPS's larger obligation.⁴⁴

Fast-food kitchens have also become a growing source of concern, with heat increasingly triggering walkouts and strikes. In 2024, workers at a California Taco Bell and KFC walked out in part due to 90-degree kitchen temperatures.⁴⁵ Similarly, in 2023, workers at a Burger King in Georgia staged a walkout after a broken air conditioner made kitchen workers ill.⁴⁶ That same year, workers at McDonald's locations in Houston and Los Angeles walked out during heat waves after air-conditioning systems failed.⁴⁷ These experiences are widespread; a survey of more than 300 California fast-food workers found that "nearly half experienced heat illness symptoms at work such as headaches, dizziness, muscle cramps and fainting."⁴⁸

EXTREME HEAT CAN DISRUPT GLOBAL SUPPLY CHAINS

Aside from the financial impacts companies may experience from heat-related illnesses within their own operations, they may be financially affected when suppliers' productivity and efficiency are compromised by exposure to excessive heat. For example, companies relying on raw materials and goods from abroad may be exposed to supply chain disruptions due to prolonged heat waves experienced by their trading partners. This is especially true for companies that source from countries characterized by labor-intensive production, where soaring temperatures can hamper manufacturing and food harvesting and limit the ability of suppliers to fill their orders.⁴⁹

One study calculated the costs of worker productivity losses due to extreme heat across the majority of the world's importing and exporting countries. The authors found that

temperature shocks may result in an average cost of \$360 million from reduced global imports.⁵⁰ Almost two-thirds of this cost is felt in countries not directly exposed to the high-temperature event. Rather, they experience losses from lower availability of imports. In other words, temperature shocks may have much wider financial impacts downstream from the exporting country, resulting in potentially millions in dollars of losses to importers.

Companies that proactively partner with their suppliers to promote best practices for worker heat protection may enhance the resilience of their supply chains, strengthen supplier relationships, and potentially reduce risk to investors.

BUSINESSES BENEFIT WHEN WORKERS HAVE HEAT PROTECTIONS

Encouraging portfolio companies to invest in heat stress interventions may yield positive monetary and societal returns and potentially reduce risks to investors.

HEAT STRESS PREVENTION CAN IMPROVE THE BOTTOM LINE

Companies that invest in heat-related interventions to protect workers may reap economic benefits.⁵¹ OSHA completed a cost-benefit analysis of implementing a proposed heat standard across numerous industry sectors in the United States and found that businesses would collectively spend \$7.8 billion (2023 USD) annually to comply with the standard but reap benefits of nearly \$9.2 billion per year—a net positive of almost \$1.4 billion.⁵²

Evidence from one heat stress intervention initiative suggests that implementing heat safety standards can both protect workers from injury and increase productivity, even when including work time lost to increased breaks.⁵³ A study of the multi-stakeholder Adelante Center for Excellence’s heat management program for Nicaraguan sugarcane workers measured the relationship between heat stress interventions and productivity. The authors concluded that shade and an increased number of rest breaks led to a 9 to 19 percent increase in productivity despite a more than 40 percent reduction in hours spent working in the fields.⁵⁴ An earlier study by the same initiative found a return on investment to the employer of 22 percent on funds spent on heat safety programs.⁵⁵

HEAT STRESS PREVENTION CAN HELP COMPANIES COMPLY WITH INTERNATIONAL STANDARDS AND EMERGING REGULATION

Companies already have clear responsibilities under international norms to protect workers from heat hazards, as global standards frame safe and healthy working conditions as fundamental human rights. The ILO identifies occupational safety and health as part of its *Fundamental Principles and Rights at Work* and includes exposure to excessive heat as a recognized occupational hazard.⁵⁶ The U.N.’s *Guiding Principles on Business and Human Rights* further requires companies to conduct human rights due diligence to identify, prevent, and address harms to worker health and safety—responsibilities that extend to conditions, such as extreme heat, that endanger life or well-being.⁵⁷ Similarly, the Organisation for Economic Co-operation and Development’s *Guidelines for Multinational Enterprises* reinforces the principle that companies must provide safe and healthy working environments and proactively mitigate foreseeable hazards as part of responsible business conduct.⁵⁸ Together,

these frameworks support the expectation that companies have an affirmative duty to assess heat exposure, implement effective protections, and remedy harms when they occur. Companies that proactively engage their supply chains to reduce their human rights risk exposure can help avoid not only reputational risk but also enforcement risk—in both cases to the benefit of investors.

To reduce potential regulatory risk, companies may benefit from proactively responding to emerging international and domestic heat-related regulation and legislation, positioning themselves for compliance in a rapidly evolving regulatory landscape. Specific heat regulations in the United States do not exist at the federal level and vary significantly from state to state.⁵⁹ However, it would behoove companies that have supply chains that cross state lines or international borders to stay ahead of the most protective regulations.

As global temperatures rise, an increasing number of countries—including China, Japan, and Spain—have adopted worker heat protections through laws and regulations. However, protections vary in rigor and enforceability across jurisdictions.⁶⁰ In the United States, as of this writing, seven states—Washington, Oregon, California, Nevada, Colorado, Minnesota, and Maryland—have established their own heat standards. In addition, a heat standard rulemaking is underway in New Mexico, and legislators in multiple states have introduced related bills.⁶¹ Even in states where such protections are banned, progress is still possible, via either voluntary corporate commitments or worker-driven measures. In Florida, for example, the Coalition of Immokalee Workers, through its Fair Food Program, has introduced a legally binding heat safety standard, demonstrating how meaningful protections can be achieved despite state-level restrictions.⁶²

Staying on top of new and changing rules and regulations may be challenging for investors. For a helpful summary of workplace heat regulations by state, review the “Heat Rule Comparison Tool” developed by the BlueGreen Alliance, a coalition of labor unions and environmental organizations.⁶³

As regulatory standards continue to strengthen worldwide, companies that implement effective heat stress prevention measures will likely be better positioned to meet their human rights responsibilities, comply with emerging legal requirements, and adapt to a rapidly evolving regulatory landscape. Early action can also help companies build more resilient supply chains, protect their workforce, and build long-term value for shareholders.

In an era of rising temperatures and commensurate risk, leading on heat safety is not just a matter of basic human ethics and regulatory compliance. It can be a strategic advantage as well.



INVESTORS HAVE A ROLE TO PLAY IN PROTECTING PEOPLE AND PORTFOLIOS FROM HEAT RISK

Excessive heat is no longer a distant climate projection. It is a current and escalating threat to workers and the companies that depend on them. As temperatures continue to rise, investors have a vital role to play in ensuring that companies understand and manage the human and financial risks posed by unsafe heat exposure. By engaging portfolio companies on their heat stress policies, practices, and performance, investors can help safeguard worker well-being, strengthen business resilience, and protect long-term shareholder value.

The questions outlined in this guide offer a practical starting point for meaningful engagement—helping investors assess whether companies are conducting credible heat risk assessments, implementing effective protections, and preparing for a rapidly evolving regulatory landscape.

Additional resources, such as the World Health Organization and World Meteorological Organization’s *Climate Change and Workplace Heat Stress: Technical Report and Guidance* and BlueGreen Alliance’s *Checklist for a Model Heat Illness Prevention Rule* can further support investor efforts to evaluate corporate performance and identify gaps.⁶⁴

Ultimately, protecting workers from dangerous heat is not only a legal and ethical responsibility but a strategic imperative that contributes to stable operations, stronger supply chains, and healthier communities. Investors who act now can help drive the widespread adoption of heat-safety practices that save lives, reduce risks, and create long-term economic value.

WHAT QUESTIONS SHOULD INVESTORS ASK TO BETTER UNDERSTAND COMPANIES' EXPOSURE TO AND MANAGEMENT OF WORKER HEAT STRESS?

Many companies don't disclose whether or how they are addressing heat risk to their workers. Therefore, an important first step is to ask companies to clarify how they are protecting workers from heat hazards and whether they have developed a heat action plan to prevent heat-related injuries, illnesses, and deaths. In so doing, they may be able to mitigate their business risk and protect their social license to operate.

MANAGEMENT OF HEAT-RELATED RISK EXPOSURE

1. Is oversight for worker heat protection embedded in the responsibilities of senior management?
2. Are worker-related heat risks and protections discussed at the board level?
3. How does the company's approach figure into its operational and capital expenditures and budgeting process?
4. Has the company considered heat-related risks in its supply chain? Are heat stress mitigation measures included in supplier expectations?
5. Has the company assessed its heat-related legal and regulatory risk, including risk of employee lawsuits?
6. Does the company support heat safety legislation and regulation? How is the company preparing for potential heat regulations at the local, state, or federal level?
7. Has the company performed a workplace-level heat risk assessment across all its operations?
8. Does the company disclose its heat-related risk management efforts and results publicly?

HEAT ACTION PLAN BEST PRACTICES

9. Has the company developed a heat action plan that is activated to protect workers during dangerous heat conditions?
10. How often is the plan evaluated and refreshed?
11. How is worker input collected and meaningfully incorporated into the development and evaluation of the plan?
12. Does the heat action plan include emergency procedures for responding to a worker experiencing a heat emergency, and are employees trained in that response?
13. Does the company monitor environmental heat stress at work sites using a recognized metric? Does the plan have specific heat thresholds, so workers and managers know when protections go into effect?
14. What actions has the company taken to mitigate heat risk in its physical operations? (For example, has the company installed air-conditioning, ventilation, or heat shields?)
15. Does the plan include access to cool, potable water and shaded or air-conditioned rest areas?
16. Are workers provided with both voluntary and mandatory rest breaks? How does the company ensure that workers feel empowered to take voluntary heat-related breaks?
17. Does the company have a heat acclimatization protocol for new and returning workers?
18. Does the company regularly train employees on how to identify heat-related symptoms and procedures to address them? Is that training conducted in a language and format that the company's workforce will understand?

ENDNOTES

- 1 United Nations, “Extreme Heat Is Breaking Records Worldwide: UN Weather Agency,” August 7, 2025, <https://news.un.org/en/story/2025/08/1165597>; Seth Borenstein, “‘Climate Change Is Kicking Our Butts.’ March Smashes Heat Records for Continental US,” Associated Press, April 8, 2026, <https://apnews.com/article/march-temperature-record-weather-el-nino-369298794ffd94665ed78a6b4f3b0267>.
- 2 Global Heat Health Information Network and World Meteorological Organization (hereinafter WMO), *Extreme Heat Risk Reduction: Towards a Common Global Framework*, 2025, <https://coecdr.preventionweb.net/media/107175/download?startDownload=20260217>.
- 3 Andreas Flouris et al., eds., *Heat at Work: Implications for Safety and Health. A Global Review of the Science, Policy and Practice*, International Labour Organization (hereinafter ILO), 2024, https://www.ilo.org/sites/default/files/2024-07/ILO_OSH_Heatstress-RI6.pdf.
- 4 World Health Organization (hereinafter WHO), “Climate Change, Heat and Health,” May 28, 2024, <https://www.who.int/news-room/fact-sheets/detail/climate-change-heat-and-health>; Gloria Dickie, “Millions Sweltering Under Extreme Heat Worldwide as Summer Arrives,” Reuters, June 20, 2024, <https://www.reuters.com/business/environment/millions-sweltering-under-extreme-heat-worldwide-summer-arrives-2024-06-20/>.
- 5 Gina Jiménez, “Growing Threat to Heat Exposed Workers: Chronic Kidney Disease,” *Inside Climate News*, October 30, 2025, <https://insidclimatenews.org/news/30102025/workers-heat-exposure-chronic-kidney-disease/>; Kristie L. Ebi et al., “Hot Weather and Heat Extremes: Health Risks,” *Lancet* 389 (2021): 698–708, [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)01208-3/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)01208-3/fulltext); Barrak Alahmad et al., “A Nationwide Analysis of Heat and Workplace Injuries in the United States,” *Environmental Health* 24, no. 65 (2025), <https://ehjournal.biomedcentral.com/articles/10.1186/s12940-025-01231-1>.
- 6 Juanita Constible et al., *On the Front Lines: Climate Change Threatens the Health of America’s Workers*, NRDC, 2020, <https://www.nrdc.org/sites/default/files/front-lines-climate-change-threatens-workers-report.pdf>.
- 7 BlueGreen Alliance (hereinafter BGA) and NRDC, “Economic Benefits of Workplace Heat Safeguards,” 2025, <https://www.bluegreenalliance.org/wp-content/uploads/2025/03/Economic-Benefits-of-Workplace-Heat-Safeguards.pdf>.
- 8 ILO, *Working on a Warmer Planet: The Impact of Heat Stress on Labour Productivity and Decent Work*, 2019, https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_711919.pdf.
- 9 Ebi et al., “Hot Weather and Heat Extremes.”
- 10 Flouris et al., *Heat at Work*.
- 11 National Institute for Occupational Safety and Health, “Heat-Related Illnesses,” September 10, 2024, <https://www.cdc.gov/niosh/heat-stress/about/illnesses.html>.
- 12 ILO, *Ensuring Safety and Health at Work in a Changing Climate*, 2024, <https://www.ilo.org/publications/ensuring-safety-and-health-work-changing-climate>.
- 13 See, e.g., Carrie Arnold, “A Mysterious Kidney Disease Is Killing Thousands of Young Men—What’s Behind It?,” *Scientific American*, June 9, 2025, <https://www.scientificamerican.com/article/a-mysterious-kidney-disease-epidemic-is-killing-thousands-of-young-men-whats/>; Kristina Jakobsson et al., “Heat Stress and Chronic Kidney Disease,” *Journal of Exposure Science & Environmental Epidemiology* 33 (2023): 622–30, <https://www.nature.com/articles/s41370-023-00537-x>; Natalie Donback, “Rising Heat, Failing Kidneys: Climate’s Hidden Toll on Migrant Workers,” *Grist*, November 25, 2025, <https://grist.org/health/rising-heat-failing-kidneys-climates-hidden-toll-on-migrant-workers/>.
- 14 Occupational Safety and Health Administration (hereinafter OSHA), “Proposed Rule: Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings,” Document ID OSHA-2021-0009, *Federal Register* 89, no. 169 (August 2024): 70702, <https://www.federalregister.gov/documents/2024/08/30/2024-14824/heat-injury-and-illness-prevention-in-outdoor-and-indoor-work-settings>.
- 15 Ibid.
- 16 Colorado Department of Public Health & Environment, “Bureau of Labor Statistics Survey of Occupational Injuries and Illness FAQs,” accessed April 10, 2026, <https://cdphe.colorado.gov/bls-soii-faqs>; See, e.g., Rebecca L. Reindel, Ayusha Shrestha, and Chenay Arberry, *Death on the Job: The Toll of Neglect 2025*, 34th edition, AFL-CIO, April 2025, https://aflcio.org/sites/default/files/2025-04/2512%20AFL-CIO%20DOTJ%202025%20N-BUG_FINAL.pdf; MinJung Kyung et al., “Underreporting of Workers’ Injuries or Illnesses and Contributing Factors: A Systematic Review,” *BMC Public Health* 23 (2023): article 558, <https://doi.org/10.1186/s12889-023-15487-0>; David Michaels and Gregory R. Wagner, “OSHA Injury Data: An Opportunity for Improving Work Injury Prevention,” *American Journal of Public Health* 115, no. 4 (April 2025): e1–e8, <https://doi.org/10.2105/AJPH.2024.307934>; Bureau of Labor Statistics, “Survey of Occupational Injuries and Illnesses: Concepts,” in *Handbook of Methods*, 2015, <https://www.bls.gov/opub/hom/soii/concepts.htm>.
- 17 OSHA, “Overview: Working in Outdoor and Indoor Heat Environments,” accessed February 17, 2026, <https://www.osha.gov/heat-exposure/>.
- 18 David Metz, Shannon Prier, and Benjamin M. Miller, *Standardized Regulatory Impact Assessment (SRIA) of the Proposed California Regulation for Heat Illness Prevention in Indoor Places of Employment*, RAND Corporation, 2021, <https://doi.org/10.7249/WRA1386-L>.
- 19 Shift Project, *Heat Exposure in Indoor Service Sector Workplaces*, Harvard Kennedy School, June 2025, https://shift.hks.harvard.edu/wp-content/uploads/2025/06/Heat_Report_Final.pdf.
- 20 Constible et al., *On the Front Lines*; WHO and WMO, *Climate Change and Workplace Heat Stress: Technical Report and Guidance*, 2025, <https://iris.who.int/server/api/core/bitstreams/5334abaf-063d-4163-94ae-a1154bb48e83/content>.
- 21 Michael A. Flynn, “Health Equity and a Paradigm Shift in Occupational Safety and Health,” *International Journal of Environmental Research and Public Health* 19, no. 349 (2022), <https://doi.org/10.3390/ijerph19010349>.
- 22 See, e.g., Elizabeth S. McClure et al., “Forty Years of Struggle in North Carolina: Workplace Segregation and Fatal Occupational Injury Rates,” *American Journal of Industrial Medicine* 67, no. 6 (2024): 539–50, <https://doi.org/10.1002/ajim.23586>; Marina Zhavoronkova, Rose Khattar, and Mathew Brady, “Occupational Segregation in America,” Center for American Progress, March 29, 2022, <https://www.americanprogress.org/article/occupational-segregation-in-america/>.
- 23 Seth Sandronsky, “The Plight of Blue-Collar Temp Workers,” *Counterpunch*, November 27, 2020, <https://www.counterpunch.org/2020/11/27/the-plight-of-blue-collar-temp-workers/>; Demetra Smith Nightingale and Stephen A. Wander, “Informal and Nonstandard Employment in the United States,” Urban Institute, 2011, <https://www.urban.org/sites/default/files/publication/32791/412372-informal-and-nonstandard-employment-in-the-united-states.pdf>.
- 24 See, e.g., Michael Méndez, Genevieve Flores-Haro, and Lucas Zucker, “The (In)Visible Victims of Disaster: Understanding the Vulnerability of Undocumented Latino/a and Indigenous Immigrants,” *Geoforum* 116 (November 2020): 50–62, <https://doi.org/10.1016/j.geoforum.2020.07.007>; Maria Salinas, “Protecting California’s Farmworkers During the Wildlife Crisis: The State’s Response and the Need for Reform,” *Hastings Race & Poverty Law Journal* 19, no. 1 (2021): 37–62, https://repository.uchastings.edu/hastings_race_poverty_journal/vol19/iss1/4; Philip Decicco et al., “Migrant Workers’ Access to Medical Service Providers in Pennsylvania,” *Journal of Migration & Health* 11 (2025): 100335, <https://doi.org/10.1016/j.jmh.2025.100335>; McClure et al., “Forty Years of Struggle in North Carolina”; Leah H. Schinasi et al., “Social and Labor Policies or Programs as Structural Determinants of Occupational Heat Vulnerability,” *American Journal of Industrial Medicine* 68 (2025): 653–65, <https://doi.org/10.1002/ajim.23739>.

- 25 See, e.g., Sky Chadde, “Missouri’s Housing Inspections for H-2A Workers Missed Deficiencies for Years,” *Investigate Midwest*, August 22, 2019, <https://investigatemitwest.org/2019/08/22/missouri-housing-inspections-for-h-2a-workers-missed-deficiencies-for-years/>; Daniel Costa, “Temporary Work Visa Programs and the Need for Reform,” Economic Policy Institute, February 3, 2021, <https://www.epi.org/publication/temporary-work-visa-reform/>; Emma Ockerman, “Workers Held at Gunpoint in Modern-Day Slavery Operation in Georgia, Feds Allege,” *Vice*, November 24, 2021, <https://www.vice.com/en/article/dypvn7/georgia-modern-day-slavery-federal-investigation>.
- 26 Flouris et al., *Heat at Work*.
- 27 Alahmad et al., “A Nationwide Analysis of Heat and Workplace Injuries.”
- 28 Workers in the bottom 20 percent of income are five times more likely to experience heat injury than those in the top 20 percent of income, and, as explored earlier in this paper, people of color are more likely to be employed in sectors more exposed to heat risks. R. Jisung Park, Nora Pankratz, and A. Patrick Behrer, “Temperature, Workplace Safety, and Labor Market Inequality,” IZA Institute of Labor Economics, Discussion Paper no. 14560, July 2021, <https://docs.iza.org/dp14560.pdf>.
- 29 “As a result of this cost-shifting, workers’ compensation payments cover only a small fraction (about 21 percent) of lost wages and medical costs of work injuries and illnesses; workers, their families and their private health insurance pay for nearly 63 percent of these costs, with taxpayers shouldering the remaining 16 percent.” OSHA, *Adding Inequality to Injury: The Costs of Failing to Protect Workers on the Job*, June 2015, <https://teamster.org/wp-content/uploads/2021/04/OSHAAddingInequalitytoInjuryTheCostsofFailingtoProtectWorkersontheJob.pdf>.
- 30 OSHA, *Adding Inequality to Injury*.
- 31 Marina Romanello et al., “The 2025 Report of the *Lancet* Countdown on Health and Climate Change: Climate Change Action Offers a Lifeline,” *Lancet* 406, no. 10521 (2025): 2805, [https://doi.org/10.1016/S0140-6736\(25\)01919-1](https://doi.org/10.1016/S0140-6736(25)01919-1).
- 32 ILO, *Working on a Warmer Planet*.
- 33 Ibid.
- 34 To arrive at the estimate of nearly \$80,000, use the OSHA “Safety Pays—Individual Injury Estimator,” accessed February 9, 2026, <https://www.osha.gov/safetypays/estimator>. Select the injury type “Heat Prostration” and click on the Add/Calculate button. The direct cost of a heat prostration event is \$37,658, the indirect cost is \$41,423, and the total cost is \$79,081. This tool is based on data reported from 2015 to 2017 and thus is likely to produce conservative estimates.
- 35 Note that methodological data are missing from this survey, making the findings difficult to evaluate. Perry Weather, “Under Pressure: Heat Stress Survey,” August 2025, <https://perryweather.com/wp-content/uploads/2025/08/Under-Pressure-Heat-Stress-Survey-Final.pdf>.
- 36 Note that methodological data are missing from this survey, making the findings difficult to evaluate. Workstep, “Extreme Heat Reaches a Boiling Point for Workers,” September 5, 2023, <https://www.workstep.com/resources/extreme-heat-reaches-a-boiling-point-for-workers/>.
- 37 Calculation of the average was based on a variety of worker types and compensation levels. Heather Boushey et al., “Understanding the Costs of Worker Turnover,” Washington Center for Equitable Growth, 2020, <https://equitablegrowth.org/wp-content/uploads/2020/12/122120-turnover-costs-ib.pdf>.
- 38 In one study that modeled a sample fund of companies that prioritized the health, safety, and well-being of their workforce against the S&P 500 benchmark, the sample fund outperformed the market by 2 percent per year, with a weighted return on equity of 264 percent compared with the S&P 500’s return of 243 percent over 10 years. Raymond Fabius and Sharon Phares, “Companies that Promote a Culture of Health, Safety, and Wellbeing Outperform in the Marketplace,” *Journal of Occupational and Environmental Medicine* 63, no. 6 (2021): 456–61, <https://doi.org/10.1097/jom.0000000000002153>; Ashley Lester and Hettie McCarthy, “Q&A: Why Might Worker Safety Be a Driver of Positive Returns?,” Schroders Wealth Management, November 24, 2021, <https://www.schroders.com/en-us/us/wealth-management/insights/qa-why-might-worker-safety-be-a-driver-of-positive-returns/>; Irene Bautista-Bernal, Cristina Quintana-García, and Macarena Marchante-Lara, “Safety Culture, Safety Performance and Financial Performance. A Longitudinal Study,” *Safety Science* 172 (2024): 106409, <https://doi.org/10.1016/j.ssci.2023.106409>.
- 39 Brynne Robbins and Elias Kemp, “Amid Record-Breaking Summer Temperatures, Extreme Heat Protections Are Popular with Voters,” Data for Progress, July 10, 2025, <https://www.dataforprogress.org/blog/2025/7/10/amid-record-breaking-summer-temperatures-extreme-heat-protections-are-popular-with-voters>.
- 40 Kate Aronoff, “UPS Drivers Are Battling Deadly Heat—Without A.C. in Their Trucks,” *New Republic*, June 25, 2025, <https://newrepublic.com/article/197228/ups-drivers-heat-wave-air-conditioning-trucks-union-contract>; Oliver Milman, “UPS Delivery Workers Still Face Extreme Heat Despite Air-Conditioning Pledges,” *Guardian*, August 23, 2024, <https://www.theguardian.com/environment/article/2024/aug/23/ups-delivery-workers-air-conditioning>.
- 41 Shera Avi-Yonah, “As UPS Union Plans Vote on Strike, Drivers Broil in Trucks Lacking AC,” *Washington Post*, June 8, 2023, <https://www.washingtonpost.com/business/2023/06/08/ups-strike-trucks-air-conditioning/>; Andrea Lucia, “Widow of UPS Driver Who Collapsed on the Job Calls for Better Worker Protections in Extreme Heat,” *CBS News*, August 21, 2024, <https://www.cbsnews.com/texas/news/widow-of-ups-driver-who-collapsed-on-the-job-calls-for-better-worker-protections-in-extreme-heat/>.
- 42 International Brotherhood of Teamsters, “Teamsters Request UPS Data on Heat Protections, Overtime Violations, and Staffing,” June 2025, <https://teamster.org/2025/06/teamsters-request-ups-data-on-heat-protections-overtime-violations-staffing/>; Aronoff, “UPS Drivers Are Battling Deadly Heat”; Daniella Genovese, “Some UPS Drivers Still Waiting for Air-Conditioning as Temperatures Soar Nationwide,” Fox Business, June 25, 2024, <https://www.foxbusiness.com/lifestyle/some-ups-drivers-still-waiting-air-conditioning-trucks-temperatures-soar-nationwide>.
- 43 Chris Isidore, “UPS Promised New Delivery Vans with AC. It Hasn’t Bought Any,” CNN, June 22, 2024, <https://www.cnn.com/2024/06/22/business/ups-delivery-vans-air-conditioning>.
- 44 Kara Deniz, “Under New Letter of Agreement, Teamsters to Receive Retrofitted Package Cars,” International Brotherhood of Teamsters, October 20, 2025, <https://teamster.org/2025/10/ups-to-expedite-a-c-vehicles-to-hottest-states/>.
- 45 Katie DeBenedetti, “Taco Bell, KFC Workers in San José Walk Out over Hot, Dangerous Conditions,” KQED, June 12, 2024, <https://www.kqed.org/news/11989975/taco-bell-kfc-workers-in-san-jose-walk-out-over-hot-dangerous-conditions>; Frida Garza, “Workers Are Facing Dangerous Heat—Even Inside Fast-Food Restaurants,” *Grist*, August 29, 2025, <https://grist.org/labor/fast-food-workers-dangerous-heat-inside-restaurants/>.
- 46 Dominick Reuter, “Workers at a Burger King Near Atlanta Say They’re Getting Sick Working with No AC in 95-Degree Heat,” *Business Insider*, July 28, 2023, <https://www.businessinsider.com/burger-king-workers-broken-ac-95-degree-heat-2023-7>.
- 47 Megan Fan Munce, “Houston McDonald’s Workers Walk Off After Working Without AC,” *Houston Chronicle*, June 22, 2023, <https://www.houstonchronicle.com/business/article/mcdonalds-workers-strike-extreme-heat-labor-18163881.php>; Kevin Smith, “McDonald’s Employees Stage Noon Walkout, Protesting Extreme Heat at Work,” *Los Angeles Daily News*, October 24, 2023, <https://www.dailynews.com/2023/10/24/mcdonalds-employees-stage-noon-walkout-protesting-extreme-heat-at-work/>.
- 48 Worksafe and California Fast Food Workers Union, SEIU, *Cool It! Hazardous Heat, Fast Food & the Path to a Safer Workplace*, August 2025, <https://californiafastfoodworkersunion.org/heatinfastfood/>.

- 49 Yi Sun et al., “Global Supply Chains Amplify Economic Costs of Future Extreme Heat Risk,” *Nature* 627 (2024): 797–804, <https://doi.org/10.1038/s41586-024-07147-z>.
- 50 The authors ran a comprehensive general equilibrium model of the economic effects of temperature shocks (monthly average temperature $\geq 30^{\circ}\text{C}$ in exporting countries) using panel data observations to capture pairwise trade relationships across countries. They found that the indirect effect of temperature shocks on trading partners is at least as large as the direct effects on the country experiencing the temperature shock. The results may be considered conservative since the study period of 1980–1999 experienced cooler temperatures than those recorded in the 21st century. Additionally, economic growth was slower during that period. Oliver Schenker and Daniel Osberghaus, “International Trade and the Transmission of Temperature Shocks,” *Environmental and Resource Economics* 88 (2025): 965–1007, <https://link.springer.com/content/pdf/10.1007/s10640-025-00957-3.pdf>.
- 51 BGA and NRDC, “Economic Benefits of Workplace Heat Safeguards.”
- 52 OSHA, “Proposed Rule: Heat Injury and Illness Prevention,” 70824 and 70970.
- 53 Erik Hansson et al., “Rest, Shade, Hydration and Hygiene for the Prevention of Kidney Injuries and Inflammation in a Nicaraguan Sugarcane Worker Cohort,” *Occupational and Environmental Medicine* 82, no. 6 (2025): 270–277, <https://doi.org/10.1136/oemed-2025-110128>.
- 54 Erik Hansson et al., “Impact of Heat and a Rest-Shade-Hydration Intervention Program on Productivity of Piece-Paid Industrial Agricultural Workers at Risk of Chronic Kidney Disease of Nontraditional Origin,” *Annals of Work Exposures and Health* 68, no. 4 (2024): 366–75, <https://doi.org/10.1093/annweh/wxae007>.
- 55 Heath Prince, *A Measure of the Return on Ingenio San Antonio’s Investment in the Adelante Initiative: An Initial Estimate of Costs and Benefits of a Water, Rest and Shade Intervention*, La Isla Network, 2020, <https://heathealth.info/wp-content/uploads/Report-ROI-on-WRS-Intervention.pdf>.
- 56 ILO, *A Safe and Healthy Working Environment Is a Fundamental Principle and Right at Work*, July 8, 2022, <https://www.ilo.org/publications/safe-and-healthy-working-environment-fundamental-principle-and-right-work>; ILO, *Global Database on Occupational Safety and Health Legislation (LEGOSH)*, accessed February 11, 2026, https://www.ilo.org/dyn/legosh_en/f?p=14100:2000:0::NO::.
- 57 United Nations, *Guiding Principles on Business and Human Rights: Implementing the United Nations “Protect, Respect, and Remedy” Framework*, 2011, https://www.ohchr.org/documents/publications/guidingprinciplesbusinessshr_en.pdf.
- 58 Organisation for Economic Co-operation and Development, *OECD Guidelines for Multinational Enterprises on Responsible Business Conduct*, 2023, <https://doi.org/10.1787/81f92357-en>.
- 59 Juanita Constible, “States Can Act Now to Create Workplace Heat Standards,” NRDC, May 19, 2026, <https://www.nrdc.org/media/states-can-act-now-create-workplace-heat-standards>; BGA, “State Heat Standards and Regulations,” accessed May 22, 2026, <https://www.bluegreenalliance.org/site/heat-stress/state-heat-standards-and-regulations/>.
- 60 Flouris et al., *Heat at Work*.
- 61 Juanita Constible, “Occupational Heat Safety Standards in the United States,” NRDC, last updated May 27, 2026, <https://www.nrdc.org/resources/occupational-heat-safety-standards-united-states>.
- 62 Katie Myers and Siri Chilukuri, “How Florida Farmworkers Are Protecting Themselves from Extreme Heat,” *Grist*, October 27, 2023, <https://grist.org/agriculture/how-florida-farm-workers-are-protecting-themselves-from-extreme-heat/>; Grey Moran, “Florida Banned Farmworker Heat Protections. A Groundbreaking Partnership Offers a Solution,” *Civil Eats*, March 20, 2024, <https://civileats.com/2024/03/20/florida-banned-farmworker-heat-protections-a-groundbreaking-partnership-offers-a-solution/>.
- 63 BGA, “State Heat Standards and Regulations.”
- 64 WHO and WMO, *Climate Change and Workplace Heat Stress*; BGA, “State Heat Standards and Regulations.”