

Managing Heat

From Worker Welfare to Business Resilience

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Across emerging markets, rising heat is reshaping lives and livelihoods. There is growing recognition of the health risks it poses. But heat is also imposing high and measurable economic costs. The [Lancet Countdown 2024](#) estimates that in 2023 alone, heat-related productivity losses erased USD 141 billion from India's economy. [Four Asian countries risk losing USD 65 billion in export earnings by 2030](#) from textiles and apparel as high heat reduces productivity and working hours. For global buyers (i.e., global businesses that source from emerging markets), unmanaged heat translates into significant supply chain disruptions and compliance and business risks.

Addressing the impacts of heat on workers, workplaces, and supply chains can deliver significant benefits for manufacturers and the global buyers that depend on them in a rapidly warming world.

BENEFITS OF EFFECTIVE HEAT ADAPTATION TO MANUFACTURERS AND GLOBAL BUYERS

Manufacturers, particularly in emerging markets, often operate on thin margins, and operational disruptions can quickly erode profitability. Effective heat adaptation measures can deliver measurable benefits for manufacturers:

- **Greater productivity:** Studies show that ~30% of workers are less productive in hot conditions, with [productivity falling by ~2.6% for each degree above 24°C WBGT](#)¹. By reducing heat stress, adaptation measures help improve worker performance in high heat conditions.
- **Improved quality:** Heat stress has been shown to result in lapses in worker concentration. Cooler and better-managed working conditions improve [worker concentration](#) in high-heat conditions, reducing quality defects. It can also extend the shelf life of material in hot weather, reducing wastage, particularly in industries such as agriculture, agro-processing, and pharmaceuticals.
- **Lower operational costs:** Heat adaptation can improve machine efficiency, reduce energy and water use for cooling, delivering operational cost savings over time.
- **Safer workplaces:** Heat adaptation can reduce heat-related illness and accidents, limiting healthcare costs and regulatory exposure for businesses.

The benefits of heat adaptation extend beyond the factory floor. For global buyers sourcing from emerging markets, effective heat adaptation delivers several advantages:

- **Resilient supply chains:** By limiting heat-related slowdowns and disruptions, heat adaptation reduces the risk of delayed shipments, missed delivery windows, and inconsistent output. This can be critical for businesses with time-sensitive or seasonal value chains.
- **Lower compliance and reputational risks:** Investors, consumers, and ecosystem stakeholders are increasingly demanding that companies ensure safe and dignified working conditions not just for their own workers, but also those employed with their suppliers. [Buyers are being called out](#) for dangerous heat exposure across their supply chains, and legal frameworks are shifting in response. For example, the

1. Wet Bulb Globe Temperature (WBGT) is a composite measure that accounts for air temperature, humidity, radiant heat (such as from direct sunlight or hot machinery), and air movement. For instance, in high-humidity conditions, the body is unable to cool itself down by sweating, further increasing heat stress. Therefore, WBGT provides a more accurate assessment of heat stress than standard temperature measurements alone.

International Accord—a legally binding agreement covering 282 global fashion brands [added heat stress to its mandate](#) for the first time in December 2025

These developments signal a clear shift: in a world that is increasingly warming, heat adaptation is a critical lever for strengthening factory performance, building resilient supply chains and safeguarding brand reputation.

LOW-COST ACTIONS MANUFACTURERS CAN TAKE TODAY

There is a common perception that adapting to heat requires significant capital investment. While engineering solutions can be costly, various low-cost operational measures can meaningfully reduce heat stress and help businesses start on their heat adaptation journey.

- **Breaks for rest and hydration:** [Proper hydration is linked to a 14% improvement in workplace performance](#); cold water and oral rehydration salts are even more effective. Rest breaks in cooler areas further reduce heat-related impacts. But workers often forget, or don't want to take breaks—they feel slowing down will reduce their output, and in turn, earnings. So, in addition to providing water and space to rest, it is important for manufacturers to build worker buy-in, for instance, through mandatory breaks and by telling workers how taking breaks can ultimately increase their earnings.
- **Restructuring of shifts:** Tasks that are safe at 7 a.m. can become risky by early afternoon, when the heat is at its peak. Shifting physically intensive work—lifting heavy weights, welding, casting, harvesting—to cooler hours and rotating workers between hot and cooler zones during peak heat can reduce risks without significantly increasing costs.
- **Passive cooling systems:** Passive cooling systems, such as reflective or “[cool roofs](#)”, can lower indoor temperatures by 2–5°C and cost as little as USD 2–4 per square metre. Improving airflow, for instance, by rearranging floor layouts, removing obstructions, or adding a few well-placed fans, can also measurably reduce heat stress.
- **Peer checks for early detection:** Buddy systems, where workers look out for symptoms like confusion, dizziness, or nausea in other workers, can help identify heat stress early. By reducing stigma around reporting discomfort, they can enable intervention before serious health or safety incidents occur.

Identifying the right measures is only part of the solution; how they are designed and implemented matters just as much. Heat does not affect all workers equally. For example, because of inadequate or unsafe sanitation facilities, women workers often avoid drinking water and hence experience more severe heat-related outcomes. **Designing solutions with workers, rather than for them**, can help account for these differences and build buy-in for implementation.

If practical low-cost heat adaptation solutions exist, why are they not widely adopted? This gap is driven by a set of structural barriers, which are particularly acute for SMEs. Many manufacturers are unfamiliar with the business case for heat adaptation and the range of measures available. With lean teams and limited technical resources, SMEs often find it difficult to identify and assess options, design interventions, and manage implementation alongside day-to-day operations. Further, manufacturers operating on thin margins are often hesitant to change existing practices and risk disruptions if the short- and medium-term benefits are unclear. **These barriers cannot be overcome by manufacturers alone. Support from buyers and funders is critical for wider adoption.**

WHAT CAN BUYERS DO BEYOND COMPLIANCE

Buyers are advancing climate change mitigation efforts across their value chains, but heat adaptation has received far less attention. Buyers typically address working conditions through health and safety compliance, but heat management—absent from most labour codes—is typically overlooked. **Simply adding heat-related requirements to supplier codes of conduct is not adequate.** Suppliers, particularly SMEs, need practical support. This can include:

- **Clearly communicating** how heat adaptation will benefit suppliers.
- **Providing capacity building support**, such as facilitating **access to technical experts**, and **supporting pilots within supplier facilities**. When supporting pilots, it is important to [intentionally include suppliers at different levels of scale and readiness](#) to ensure that solutions are relevant to a majority of the supplier base.
- **Providing commercial incentives** to reduce risk for manufacturers. This does not always mean higher prices or direct capital investments. **Longer-term contracts or volume assurances** can often provide manufacturers with the confidence that investments in heat adaptation will deliver returns in the short-to-medium term.

HOW CAN FUNDERS SCALE HEAT ADAPTATION

Heat adaptation remains severely underfunded: [adaptation finance in developing countries needs to be 12–14 times higher than current flows](#), and heat receives even lower focus. Strategic funder action can help narrow this funding gap by unlocking private-sector resources.

At the firm level, funders can strengthen the business case and build capacity. A key starting point is evidence. Funders can support the **development of robust business cases for investing in heat adaptation** and actively share these with manufacturers, buyers, and industry platforms. Funders can also **strengthen practical know-how**, for example, by funding easy-to-access guides on what heat adaptation measures work in different contexts and technical assistance facilities that provide tailored, hands-on support to manufacturers.

At the ecosystem level, funders can play a convening and agenda-setting role by elevating heat as a material economic and worker welfare issue in industry forums, investor dialogues, and policy discussions. Funders can also advocate for the inclusion of heat adaptation within key standards, guidelines, and frameworks, helping embed it into basic expectations for responsible and resilient production.

A SHARED AGENDA FOR HEAT RESILIENCE

Heat management is not just a health and humanitarian priority; it is also a business imperative. The good news is that effective, practical, and affordable solutions exist, and these can be scaled through coordinated action by manufacturers, buyers, and funders. The time to act is now: small, deliberate investments today can deliver immediate gains while laying the groundwork for long-term resilience.

ADDITIONAL RESOURCES:

- **Cornell ILR Global Labor Institute and Schroders:** [Higher Ground? Fashion's Climate Breakdown](#)
- **International Labour Organization:** [Working on a warmer planet](#)
- **World Health Organization:** [Climate change and workplace heat stress](#)



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