

Open Letter to FIFA on Heat Stress, Player Welfare & Fossil Fuel Conflicts of Interest

13 May 2026

Dear President, FIFA Council, FIFA Medical team, representatives of national football federations participating in the 2026 FIFA World Cup,

We write in our professional capacity as medical, public health, performance and climate science practitioners and researchers, concerned about and in some cases responsible for the health, safety, and wellbeing of elite footballers competing at the highest level of the men's game, due to the worrying levels of heat stress they could be exposed to at the 2026 men's World Cup¹.

FIFA's database of health-related guidelines indicates that it has only conducted, or made public, minimal research studies into the impact of heat stress on players. Yet, FIFA's medical strategy from July 2025 states that, "FIFA will ...proactively identify, assess and respond to emerging health issues that could impact football or be mitigated through the game, including how pandemics, climate change, air pollution and new injury and illness patterns or behaviours might affect player welfare." It commits the organisation to "developing and enforcing medical standards and policies that provide clear, evidence-based medical guidelines for all football stakeholders, encompassing injury prevention, emergency care, recovery protocols and mental health support", and states furthermore that FIFA "prioritises player welfare across all of its tournaments through evidence-based medical protocols."

It is hard to square these laudable commitments with the apparent failure to conduct, assess or apply recent research into the increasing risks of climate change and extreme heat to players across the world, and the failure apparently to update formal guidelines issued in 2015. We are concerned that FIFA's current guidelines on heat stress mitigation are inadequate and will place players at risk of heat injury at the 2026 men's World Cup.

Wet bulb globe temperature (WBGT) estimates the combined effects of air temperature, humidity, wind and sunlight on the human body. WBGT was originally derived for the needs of the US Navy and Marine corps, in order to protect soldiers from heat illness and death during their training exercises². In this context, WBGT safety thresholds were derived based on the actual negative health outcomes endured during the training exercises and were not set arbitrarily. Owing to this, WBGT has become an occupational health standard recognized by the International Standards Organization (ISO7243)³. Adjusting for the absence of military equipment and clothes, acclimatized WBGT safety thresholds under ISO7243 have been

¹ [Extreme heat risk and the potential implications for the scheduling of football matches at the 2026 FIFA World Cup | International Journal of Biometeorology | Springer Nature Link](#); [The 2026 Men's FIFA Football World Cup: Evidence-Based Guidelines to Protect Player Health and Performance from Environmental Challenges | Sports Medicine](#)

² Yaglou CP, Minard D. Control of Heat Casualties at Military Training Centers. Arch Ind Health 1957; 16: 302–05.

³ [ISO 7243:2017 - Ergonomics of the thermal environment — Assessment of heat stress using the WBGT \(wet bulb globe temperature\) index](#)

defined as follows: 25°C for very high exertion (metabolic rate 520 W), 26°C for high exertion (metabolic rate 415 W), 28°C for moderate exertion (300 W), 30°C for light work (180 W) and 33°C at rest (115 W).

Although special measures have been introduced for cooling breaks regardless of temperature at the World Cup, at present FIFA's general guidelines state that if there is a WBGT of more than 32°C (89.6°F) cooling breaks are mandatory in both halves of a match, around the 30th minute and 75th minute. The decision on whether to suspend or cancel the match is at the discretion of competition organisers^{4,5}. While we can expect from professional athletes higher resilience compared to the baseline population, the safety level of 32°C WBGT for activities involving running is impossible to justify.

To give an indication of how extremely hot a WBGT of 32 degrees centigrade is: an air temperature of 45°C and relative humidity of 20% would yield a WBGT of 31.9°C (approximations: no direct sunlight, wind speed of 1m/s). According to FIFA's general current guidelines, this would not normally require any mandatory cooling breaks and the decision to postpone or suspend the match would be at the discretion of the match management team.

As clinicians, public health and performance practitioners, we recognise that a WBGT of 26°C and above represents a high-risk environment for competitive football. At these levels, even well-prepared and heat-acclimatised athletes are frequently unable to maintain thermal balance during high-intensity intermittent exercise. Core body temperature rises progressively, short mitigation measures do not prevent heat storage, and the risk of exertional heat illness increases sharply. We note that a key underlying driver of extreme heat conditions is the burning of fossil fuels. This health risk is well-documented, measurable, and foreseeable. Importantly, it cannot be reliably mitigated through cooling breaks alone once environmental heat stress exceeds this threshold.

The preventive heat-stress framework proposed by FIFPRO recognises the WBGT of 26°C as a decision threshold requiring a cooling break in each half, and if exceeding 28°C it proposes the delay or postponement of fixtures, rather than reactive mitigation once dangerous strain has already developed.⁶ When it comes to cooling breaks, it is clear that the 3 minute breaks that FIFA has adopted for all matches are too short to have a meaningful impact on rehydration and body cooling. Additionally, match officials are especially placed at risk, particularly the on pitch referee, as they will often be conditioned to a lower level than elite players, yet still required to cope with the same conditions.

We note that the International Cycling Union (UCI) considers the WBGT in their current high temperature protocol for athletes, categorizing WBGT values between 23°C and 27.9°C as

⁴ <https://digitalhub.fifa.com/m/1fc77540eab37831/original/FIFA-Emergency-Care-Manual-EN.pdf>

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<https://www.fifpro.org/en/articles/2023/08/eleven-tips-for-dealing-with-hot-conditions-in-professional-football>

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<https://www.fifpro.org/en/articles/2025/08/fifpro-sjpf-and-pff-conduct-scientific-study-to-better-understand-how-extreme-heat-affects-players>; https://media.fifpro.org/media/ltio1czh/heat-guidelines_en-1.pdf

moderate high-risk and above 28°C as high-risk.⁷ Also, the US National Institute for Occupational Safety and Health (NIOSH) finds that risks of heat-related injury begin for people doing only 'moderately strenuous work' when the WBGT reaches 28°C, when acclimatised. Playing international football of course is far more than moderately stressful, and the NIOSH recommends that for those who are non-acclimatised, the threshold is even lower.⁸ The Occupational Safety and Health Administration of the US Department of Labour says that above only 25°C there is a 'high risk of heat-related illness with strenuous work' for unacclimatised workers, and that even for those acclimatised it is still potentially 'unsafe'.⁹

We respectfully urge FIFA to adopt heat-management protocols that prioritise prevention over response, and that align with contemporary exercise physiology, occupational health principles, and duty-of-care standards expected in elite sport. As a first step, this means adopting the standards developed by FIFPRO. For cooling breaks, they should be at least 6 minutes so that sufficient time is provided to meaningfully impact the rehydration and core temperature responses. Finally, locker rooms at FIFA events should have the right equipment for aggressive pre-game and half-time cooling. All these policies should be regularly evaluated and updated on the basis of the best available science.

Furthermore, a key structural element of mitigation and prevention is also the rapid reduction in the burning of fossil fuels, the active promotion of which presents a conflict of interest with the protection of player welfare. We urge FIFA to address this issue as well.

Player health and safety must remain the non-negotiable foundation of football governance and the heat risks for the upcoming World Cup make this question more urgent than ever. We ask if FIFA will commit to evaluating and updating its guidelines in accordance with the best practice and science, and in line with its stated prioritising of player safety?

Signed:

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- Prof Mike Tipton, Extreme Environments Lab, University of Portsmouth & President, The Physiological Society.
- Professor Douglas Casa, CEO of the Korey Stringer Institute and a Board of Trustees Distinguished Professor of Kinesiology at the University of Connecticut.
- Professor Julien Périard, Director of the University of Canberra Research Institute for Sport and Exercise (UCRISE).

⁷ Cvijanovic, I., Begg, J.D., Mistry, M.N. et al. The future of European outdoor summer sports through the lens of 50 years of the Tour de France. *Sci Rep* 16, 2644 (2026).

<https://doi.org/10.1038/s41598-025-30129-8>;

⁸ https://vitalsignsproject.org/wp-content/uploads/2023/06/Vital_signs_3_online.pdf

⁹ US Department of Labour, Occupational Safety and Health Administration; <https://www.osha.gov/heat-exposure/hazards>

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