FOOTBALL AND CLIMATE CHANGE

A PREVIEW OF THE 2026 FIFA WORLD CUP

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Executive Summary

On the eve of the 2026 World Cup, it is becoming increasingly clear that the world of football needs to pay greater attention to its relationship with climate change and ecological sustainability.

Several recent reports have emphasised the impact of climate change on our ability to safely play football in 2026 World Cup stadiums, as well as other pitches in the world, from grassroots to elite level. It has also been widely reported that the upcoming World Cup will be the most polluting ever because of the vast distances that a greater number of teams and their fans will travel, and the main sponsor, Aramco, being the biggest polluter in the world. These impacts are not merely coincidental features of football but, as this report outlines, politically produced.

In this report, we show that the extreme carbon-intensity of modern football is neither accidental, nor inevitable. The report makes three main claims of how we got here:

1. **The spread and growth of football has always been connected to spreading and embedding of carbon-intensive industries**
2. **The globalisation of football that started in the 1990s and has speeded up the growth imperative, which makes any sustainability initiatives inherently limited**
3. **Football is now central to the petrostate strategy of Sportswashing, embedding fossil fuels culturally in the biggest culture in the world**

Contrary to the much of the focus on football's climate impact focusing on the influx of capital from the Middle East and accusations of 'greenwashing', football's carbon-intensity and cultural role in football is nothing new. European industrialism, militarism and colonialism exported football across the globe and helped lay the foundations for the contemporary commercial exploitation of the game. Industrialisation across Europe thus helped create the conditions for football competitions, with its need for order, discipline and structure of the sport we see today.

As fans ready themselves for the World Cup, it is important to emphasise that football's climate impact is being facilitated by its governing bodies. Amidst the last World Cup in 2022, FIFA's published its inaugural sustainability strategy alongside Qatar's own National Development Strategy. Adorned in the imagery of the World Cup, FIFA used a rhetorical register closely aligned to Qatar's Development strategy to produce a very particular view of sustainability. FIFA's approach to sustainability has only become more noticeable as it develops partnership with Aramco, Qatar Airways for the forthcoming World Cup and its awarding of the 2034 World Cup to Saudi Arabi. These decisions have been whilst FIFA president Gianni Infantino develops a curious relationship with US President Donald Trump who has recently pulled the United States out of the Paris Agreement for the second time.

The report makes a series of policy recommendations about how to break football's destructive relationship to climate change. These proposals are based on the forthcoming book Football and *Climate Change: The unsustainability of the beautiful game* to be published by Manchester University Press in early 2027.

Introduction

There is now an increasing focus on the climate and environmental impact of football.

Recent reports to this thereby provide several important ways to methodologically capture these impacts, not least the forthcoming World Cup. We, like many others, welcome this growing focus on football's climate impact. The aim of this report is to compliment these reports by outlining how these impacts are not merely coincidental features of football but, as this report outlines, politically produced. We propose that the environmental politics of football has been distilled into three features.

1 The spread and growth of football has always been connected to spreading and embedding carbon-intensive industries.

Whilst football is now a significant industry in its own right, the sport primarily plays a cultural role in spreading, embedding and promoting carbon-intensive industries. The World Trade Organisation (WTO) (2022) estimated in 2022 that football as an industry contributed $200 billion to global Gross Domestic Product (GDP). That is 0.2% of the World Bank's (2025) estimated global GDP of $101.77 trillion that year. Whilst that is nominally a lot of money, the economic size of football is dwarfed by its cultural role in global society. No other sport can compete with football's global reach. Instinctively, we may think that religion plays the largest cultural role in the world. Even if we do not take FIFA's estimation of there being 5 billion football fans around the world at face value, there are undoubtedly more football fans than followers of any one religion. Only music and film can be compared to football's cultural influence, and doing so can be useful. The direct carbon footprint of music and football is, to a significant extent, driven by fans travelling to stadiums. Compared to those two other large cultural industries, football generates less money but is much more politically and economically centralised and hierarchical. It is in that sense easier to talk about and analyse football as a distinct cultural entity than the other two. In short, football's cultural reach far exceeds its industrial strength.

Contrary to the much of the focus on football's climate impact focusing on the influx of capital from the Middle East and accusations of 'greenwashing' football's carbon-intensity and cultural role in football is nothing new. Instead, we can see the history of football as consisting of three periods in terms of its relationship to capitalism. We first have a period of football growing in England as a tool for capital to order and discipline workers and society and then becoming a global sport as a cultural export of British empire and capitalism. After the Factory Act was passed in 1850, workers won the right to have Saturday afternoons free from work from 2 pm. It is for this reason that football traditionally kicks off at 3 pm on Saturday afternoons in the UK. 'The industrialisation of transport technologies and infrastructure', as Goldblatt argues, 'underwrote the increasing size of crowds and the enlarged geographical scope of leagues and cup competitions'.

European industrialism, militarism and colonialism exported football across the globe and helped lay the foundations for the contemporary commercial exploitation of the game. Industrialisation in Britain also helped create the conditions for football competitions, with its need for order, discipline and structure. As football grew with industrialisation,

there was a piecemeal development across Europe and Latin America in particular. Football spread from England and Scotland to the industrial areas of North-East France, North-West Germany, and around the ports of France, Italy, Portugal, Spain, Argentina, Uruguay and Brazil. Whilst the game found fertile ground to grow in these locales, it also reflected the industrial dominance of society. Many of the early football clubs in these countries had strong links to specific industries and were founded by British industrialists or workers.

This period of early geographical growth, towards the end of which the first World Cups were played, was followed by a Postwar period where football was professionalised and increasingly dominated by clubs in the industrial cities. These clubs were often closely linked to the car industry, with the most evident examples being Juventus' links with Fiat and Wolfsburg's with Volskwagen. Nevertheless, the economic regulations that governed football made it a lot more dispersed than it is today. At the European level, after the early dominance of Real Madrid, Milan, Inter and Benfica, there was a period of 'Eurosclerosis' where there was a decline in playing standards which saw the finals of the European Cup being contested between teams like Borussia Mönchengladbach, Leeds United, Saint-Étienne, Nottingham Forest, Club Brugge, Malmö, and Hamburger. This relative equality was challenging to the hegemonic clubs, and they started to push for changes to the European Cup competition, but also for more power within their respective leagues, especially in England, Italy and Spain.

From the early 1990s, the period of globalisation with the establishment of the Champions League and the Premier League, further strengthened the brands of the big clubs and opened the sport up to new forms of fossil capital investments. As the capital flowed throughout the global economy, the financial, creative and service sectors were sucked into big cities. This meant that these cities became more globally connected, whilst loosening their connections to towns and cities within the nation. Whilst the 1990s saw nine different European club champions, from as many cities, the 22-year period since Porto's sensational 2004 win has seen champions from only eight cities: Madrid, Barcelona, London, Manchester, Milano, Liverpool, Munich and Paris. Meanwhile, for those who fail to compete, bankruptcy has become much more common. There is now only really one way for a club to enter the elite level of men's football in Europe, and that is petrostate investment, further locking in the carbon intensity of the sport.

2 The globalisation of football that started in the 1990s has speeded up the growth imperative, which makes any sustainability initiatives inherently limited.

There is a tension between football's sustainability efforts and the growth that FIFA and other footballing bodies pursue. Environmental sciences and scholarship have long highlighted the problem of continued growth of economic activity. Enriched within the Club of Rome's *Limits to Growth* in 1972, it outlined how exponential growth of the economy (and the population in the initial publication) can only continue for so long before it reaches its ecological limits. In what have since come to be referred to as planetary boundaries, further scientific clarification has been added to what precisely these ecological limits are, and the repercussions of exceeding them. Despite the view that this fear had been misplaced but could instead be resolved by 'decoupling' growth from associated emissions the scepticism towards the feasibility of green growth remains strong

As the debate ensues as to whether growth can be decoupled from emissions, with limited evidence it can, football continues to undergo an almost ceaseless expansion of its own. The Champions League has been expanded from 32 participating teams to 36. As a result, each club plays an additional two games compared to the previous format. Additional games inevitably incur additional travel, usually undertaken by plane, and the consumption of more resources. Moreover, we can cynically conclude that this growth makes little difference to the club that ultimately wins the competition. Perhaps an inevitable rebuttal to the negative implications of this decision is that it merely incorporates teams that were previously playing in the Europa League. However, the subsequent competitions, including the European Conference League, have too been expanded, with more clubs than ever now participating in European competitions.

A similar expansion is happening at international level from 2026 with the World Cup, the first such change since 1998. In the new format, the number of participating countries is expanded from 32 to 48 incurring a 47% increase in games from 80 to 104. That is to say little of the fact that whereas the 2022 World Cup was hosted in Qatar, the 2026 version is hosted across a joint venture between Canada, Mexico and the United States. As the competition therefore expands from what is essentially a city sized country to an entire continent, it simultaneously incurs a tremendous administrative and **climate impact**. Like the expansion of European competition, there are two views of the rationale for expanding football in this way. The first is to enhance competitiveness and an inclusion endeavour, to incorporate more countries into a global competition. Such a perspective is proposed by FIFA themselves, who claim that the financial benefits will be used to invest back into further development of football internationally to create yet further competitive competitions in the future.

The second, more critical, view of the expansion is that it is simply driven by the desire accumulate capital which will lead to further fossil capital. If nothing else, the argument that this is driven by a desire to see greater competition is undermined by simply including countries that have not previously participated. The adjusted format is almost inevitably not going to have any meaningful impact on the outcome. In other words, by including countries like Haiti and Cape Verde in the World Cup, it is unlikely to affect the ultimate winner being one of the usual runners, such as Argentina, Brazil, France, Germany or Spain.

The goal of accumulating capital, and within that fossil capital, is evident by looking at FIFA's partners and sponsors. We need look no further than the sponsors of the forthcoming 2026 World Cup to reveal the underlying incentive for expansion with Aramco, Hyundai-Kia, McDonald's, Mengniu Dairy, Qatar Airways and Visa to consider they might benefit. This issue is not simply confined to the expansion of competitions but of the infrastructure needed to realise the match at a given time. In recent years, several prominent European teams have built new stadiums, including Tottenham Hotspur's self-named stadium and Atletico Madrid's Metropolitano Stadium. In the future, there are a series of planned stadiums, including Saudi Arabia's plan to build 11 stadiums in preparation for the 2034 World Cup. To a lesser extent, other clubs have undertaken renovations of their stadiums, including Real Marid' Santiago Bernabéu and Barcelona's Nou Camp. All such projects serve as prominent examples of the impact of construction, which not only continues apace, but strives to at a greater scale than ever before.

For all the ongoing and planned expansion set out here, the growth imperative, might still appear as common sense or the natural order of things. This, again, speaks to the need to look beyond simply the output of emissions, but the wider metabolism of football within which it draws a series of resources, requires ever greater quantities of energy and traverses the planet many times over. Contrary to the orthodox view of football, we need to embrace the more heterodox approaches of the ecological economists who emphasise that the economy, of which football is one small part, is a sub-set of nature, not the other way around. The clash between ecological sustainability and growth were apparent in our interviews with sustainability managers and others tasked with making football more ecologically sustainable.

One of the main issues for sustainability we found was that it had to be 'balanced' with the commercial realities of football operations. From our interviews emerged a focus on football as a 'product' made up of a certain number of match day fixtures across a certain period of the year. As a result, it was within this context that sustainability managers framed the impact of climate change insofar as sustainability can only proceed 'without jeopardising the core product, so to speak'. The implication was that sustainability initiatives could not disrupt business as usual of the club, but more be seamlessly incorporated within them.

By 'the product', interviewees were referring to the televising of games for both domestic and international broadcasters. If flooding and droughts cause games to be cancelled, incurring greater fixture congestion or players getting injured as a result, would ultimately mean the product would be impacted in the eyes of broadcasters. Whether it be a more condensed fixture list or, conversely, a lack of reliability that the fixtures would be observed, this was often seen as the primary cost of climate change. This was aptly surmised in the view that 'if climate change impacts the viability and reliability of the ultimate product, then this is going to impact how much broadcasters are willing to pay', thus affecting football as a whole.

Our data suggested that when thinking about 'the product', the costs of climate change might present a blind spot for clubs. This is due to football clubs orienting their economic affairs from increasing revenues as opposed to minimising costs. In other words, they focus on increasing revenues, to the 'bottom line', as opposed to how costs can be minimised. Sustainability managers' roles then appeared to need to make sustainability initiatives appear as revenue-generating, but importantly, not a cost. That is not to say that an initiative would not necessarily happen, but that 'it will come under a heavier level of scrutiny if we have to spend money to be greener'. This was supported by the view that despite the various economic impacts climate change presents to the clubs, the 'link' between the economic impacts of climate change had not been made in football. Although there was an acknowledgement that this was changing, with ESG becoming a growing concern, it remains ostensibly economically unviable to go green.

3 Football is now central to the petrostate strategy of Sportswashing, embedding fossil fuels culturally in the biggest culture in the world.

The most important aspect of the relationship between football and climate change is not down to football as an industry that produces emissions in its own right, but to football as culture. Football is one of the most popular, and therefore important, cultures in the world. In a global political economy dominated by fossil fuels, we should expect the fossil fuel industry to care about the culture of football as a sphere in which it seeks to maintain and reproduce its hegemonic position. To properly understand the role that sportswashing of fossil capital plays in football, it is worth to take a step back and look at the broader politics of climate change, fossil fuels, and culture.

The role of fossil fuels is in a seemingly peculiar position currently. The hegemonic position of fossil capital remains strong, despite the fact that common sense understandings about climate change and fossil fuels have shifted. Thanks to the excellent work of researchers and investigative journalists, we know that the fossil fuel industry dedicated much time and money to spread climate change denialism and to attack those that raised the alarm about climate change. The purpose of this was to spread sufficient doubt amongst the public and policymakers to allow a politics of expanding the burning of fossil fuels, despite this politics being profoundly anti-scientific. However, this strategy became increasingly untenable as the effects of climate change became a reality for more people around the world.

Since the common sense view of the relationship between fossil fuels and climate change has shifted closer to scientific facts, fossil capital has needed different strategies to maintain its hegemonic position. In order to justify this predatory delay to transitioning away from fossil fuels, fossil capital make use of a range of discursive tactics. Going across these is an effort to establish an understanding of fossil fuels as a necessary evil. That is, it is acknowledged that the burning of fossil fuels is causing climate change, but fossil fuels are so embedded in our lives that we cannot imagine life without them. Here, we argue, is where sportswashing comes into the picture and where football (and FIFA) is playing a very important role in the current stage of fossil capital hegemony.

As one of the most important cultures in the world, football is an important stage for fossil capital to culturally embed its role as a necessary evil. Sportswashing has come to be a prominent analytical concept in the commentary that surrounds football. At the basic instructive level, it is often thought as a process of non-democratic regimes using investment in sport to detract from illiberal practices at home, using sporting success to 'wash' their reputation. The term has tended to be applied to the efforts of autocratic states in making themselves more palatable by arranging sporting mega-events, such as the 2008 Beijing Olympics or 2022 Qatar World Cup, or buying sports clubs, such as Paris Saint Germain or Newcastle United. Described it as 'a phenomenon whereby political leaders use sports to appear important or legitimate on the world stage while stoking nationalism and deflecting attention from chronic social problems and human-rights woes on the home front', some trace the phenomenon back to ancient Greece, whilst Mussolini's 1934 World Cup and Hitler's 1936 Olympics are frequently used examples. As an alternative to

simply a concerted effort to wash their reputation, some correctly point out that sports and football also represent a good investment opportunity and a diversified portfolio. It is not then the case that sportswashing alone is the aim of the individual petrostate or fossil fuel corporation investing in football. Still, the effect overall is one of reinforcing the role of fossil capital.

For every petrostate or oil magnate that buys a football club, for every event or club sponsored by a fossil fuel company, and for every airline logo on the stomach of our favourite players, the hegemony of fossil capital becomes that little bit more embedded. This is both in the material realities of football, and in the culture of those of us who live and breathe the sport. In other words, whilst the individual actor who invests in football is driven by a range of motivations, the aggregate effect is that it reinforces the hegemony of fossil capital as a totality. This sportswashing is rather different from the greenwashing that some have **pointed out**. Whilst greenwashing is aimed at making an actor look less environmentally damaging than it is, sportswashing is aimed at embedding fossil capital within football so that we almost overlook its presence despite its evident environmental damage. This does not require us to accept things as they are as good or legitimate, only as fixed, unchangeable and '**futile to oppose**'. The way that fossil capital has entered more and more aspects of football makes it harder to imagine football, and the world, without it. So, as we love our beautiful game, we come to accept the necessary evil of fossil capital.

FIFA led the way in selling football to the sportswashing of fossil capital, not least with its inaugural sustainability strategy that was enmeshed with Qatar's own National Development Strategy. Specifically, the strategy was adorned in the imagery of the 2022 World Cup and uses a rhetorical register that appears closely aligned to Qatar's Development strategy, insofar as it seemingly parrots much of the same objectives with little reflexivity. By apparently echoing the Qatari government's words, FIFA arguably loses greater credibility in these documents. Not least because its first sustainability strategy ultimately became something akin to a government's own strategic objectives. This issue raises serious questions about FIFA as an independent governing institution, as it appears content to simply reflect the host nation at any given time. Considering that the upcoming World Cup is taking place in the United States in 2026, where Donald Trump has withdrawn from the Paris Agreement for a second time, and the World Cup in 2034 is being held in Saudi Arabia, another petrostate, this suggests that a more progressive approach from FIFA is unlikely.

Policy Recommendations

It follows from our argument about the longstanding and intensifying carbon-intensity of men's elite football that what is really needed is to degrow and democratise the sport.

More specifically, we propose the following policy recommendations:

FIFA should stop hosting events in petrostates

FIFA remain committed to fostering greater ties with many of the most emitting countries and companies in the world. It is of little doubt that FIFA would claim their 'mega-events' contribute to the economic, social and cultural development of many of these countries. However, we find little to no evidence of the World Cup contributing to the development of these countries, but rather football being used as a means to legitimise these states simply because they have deep pockets of (fossil) capital to offer FIFA in exchange. We by no means suggest that World Cups should be the preserve of traditionally wealthier countries at the expense of excluding developing countries from the opportunity to host these events. We do, nonetheless, suggest that if development is truly the aim, there are countries in far greater need of FIFA's events than those with the strong presence of fossil fuel industries.

UEFA should restrict fossil fuel ownership

We have attempted to demonstrate that the fundamental issues of football's unsustainability does not lie in the fans travelling to the game, but in the influx of fossil capital. This issue is endemic within football, but particularly acute in the number of clubs coming under the ownership of petrostates. The influence these clubs have over football, therefore presents issues in clubs acting upon sustainability. Multi-club ownership models lead to undue influence over football as clubs essentially act together through their owners. Indeed, many multi-club models are overseen by petrostates. We therefore recommend that actors with an active interest in football not becoming more sustainable, should be hindered from owning clubs. This issue should be of particular interest to UEFA, given their interest in sustainability.

Focus on costs as well as revenue

As was described to us by many sustainability managers working across European football, a challenge they face is that their work should not be considered a 'cost' to the club. Rather, they seek to minimise costs through sustainability initiatives, where that is possible. We argue that this understanding of sustainability adopted by clubs is flawed, as it overlooks the costs of climate change. In other words, if clubs consider installing LED lights to be an excessive cost to them now, the cost of flooding, heat stress or fixture rescheduling will be far greater in the future. Football might therefore be considered to be a typical case of what Stern (2006) has long warned against, of seeing climate action as a cost when, in fact, the cost of inaction is far greater. We would therefore recommend that clubs review how they understand and quantify the costs of climate actions they allow their sustainability managers to pursue.

Ban fossil fuel advertisements

In a similar vein to restricting the ownership of clubs by states and organisations that derive their wealth from fossil fuels, we would also suggest that such actors should be prohibited from sponsoring shirts and stadiums. Due to the adverse impacts of climate change, it appears somewhat problematic that stadiums and players essentially act as adverts for their activities through sponsorships. If smoking is considered so harmful as to not be advertised in public, then so should fossil fuels. A practical solution to this issue would also include lowering the threshold for sustainability sponsorships with organisations that can make a positive environmental impact.

Fans represented on boards

Given the groundswell of fan engagement on the issue of sustainability, we recommend that fans be represented on the club's board. Not least because fans may offer a unique perspective and possible solutions to the issue, but because fans will bear many of the impacts of climate change. We found numerous examples of fans forming groups around the issue of sustainability, such as the Green Gooners associated with Arsenal or the SustainaBees with Brentford. From the available data, there is limited evidence that these groups can currently effect meaningful change within the club. To rectify this issue, we suggest that representatives should not simply be consulted on sustainability initiatives but be in the room when these decisions are made. It is imperative that this provision of a voice for fans should not come through Fan Tokens where individuals purchase this voice, but should be done through democratically elected fan organisations.

Fund adaptation for grassroots

For all the issues raised in this book, it is important to remain conscious of the fact that elite men's European football will not bear the brunt of climate change, whilst, at the same time, being the largest contributor to it. This is an issue analogous to the injustices of climate change in general, long emphasised by environmental scholars (Mann and Wainwright, 2020; Newell and Bhatia, 2024). This raises profound issues of responsibility in football that inevitably require redistribution. Research by the Department for Culture, Media and Sport projected that the annual financial impact on grassroots sport in the UK would be £320 million (DCMS, 2025). As a first step towards addressing this issue, we accordingly suggest a fund be created and/or capitalised to support adaptation efforts at the grassroots of football, where the effects of climate change are already being felt. Following the example of UEFA's Climate Fund, we argue that these redistributive finance vehicles are vital for both football's adaptation efforts and for generations of footballers.

Embed sustainability managers

As sustainability managers have become more commonplace in football, their location within the organisational structure of the club does vary significantly. Beyond the mandated responsibilities from UEFA for clubs to have a sustainability manager in place, this often amounts to little more than a registration requirement. Similarly, it is the case that most sustainability managers are not included, or consulted upon, in many of the most important issues at the club, particularly around sponsorship. Our research has shown that embedding sustainability managers in the totality of club operations appears to produce the best results. This would entail sustainability managers being incorporated into all decisions made by the club as opposed to being independent of them, as is too often currently the case.

Players to organise and mobilise

It emerged from our data that players are discouraged from speaking about sustainability issues due to it being seen as 'political' (Interviewee: FJ1). We argue that it is not by coincidence that, given so few elite men's European footballer have spoken out about environmental issues to any significant extent, it is reasonable to assume it might be their contracts or the attachment of their image rights. That so few of them are deeply concerned about the issue is, we contend, difficult to believe. Rather than players being actively discouraged from speaking about the issue, we argue that they should be emboldened to do so. What is more, we argue that it is imperative they begin to do so. Players need not necessarily act alone, but could organise and mobilise through the existing apparatus of football, including Fédération Internationale des Associations de Footballeurs Professionnels (FIFPRO) and/or national players' unions in each country. As players seem happy to accept their cultural influence when selling sponsorships, they should recognise their capacity to influence sustainability initiatives. Indeed, this is an area where male footballers could learn something from the women's game.

Stop expanding more games and schedule them at optimum times

Finally, the most immediate issue football needs to address is to ***stop*** expanding. By that, we mean football's governing bodies need to stop (re) designing competitions that require more games to be played, more teams to participate, more journeys to be made, and more resources to be used in the single transparent pursuit of more capital. There is no better illustration of this issue than the FIFA Club World Cup. The competition showed that in order to satisfy a global audience, matches were played at times that were the least optimal for players' welfare. We know from the players themselves, and fans too, that there is little appetite for further growth of football. As a result, the continued growth of football is a process being forced onto us by governing institutions. Instead, we need to ***at the very least*** cease the expansion of games but preferably undertake a planned reduction in the amount of football currently taking place. This, combined with a better scheduling of games, has the added benefit of making existing games arguably more competitive, due to the adverse physiological impacts of the footballing calendar. Therefore, there needs to be recognition amongst all who love the beautiful game that less is almost certainly more.

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