

Cycling's Role in Combating Climate Change

(Joe Harris and Steve Maxwell Take a Detailed Look at How Pro Cycling Should Address Climate Change and Other Environmental Challenges)

Environmental challenges and climate change represent some of the most important and contentious topics of our era – igniting controversy, debate and innovation in every facet of our scientific, economic, cultural, and political institutions. The urgent need to reduce on-going carbon emissions into the earth's atmosphere is perhaps the most critical and overarching global geopolitical objective of our times. Yet, real progress is slow, and treaty-based carbon reduction targets remain unrealistic and unenforced.

Almost all industries are now taking steps – most very haltingly – to address their carbon footprint and commit to more environmentally sustainable practices. This is increasingly perceived to be good for business, because it will presumably influence that growing swath of consumers who favor “green” brands – and because it’s “the right thing to do.” [Sport](#) is no exception. Globally, sports are becoming more broadly utilized as a platform for the discussion of sustainability and climate change *awareness*. [The United Nations](#) has identified sport as a key means of promoting better understanding and mindfulness of the challenges. A torrent of PR announcements over the last few years by sports-related companies – spanning event production, stadium management, hard goods manufacturing and league franchises – has attempted to build goodwill and visibility and reduce anxiety about how much sports themselves impact the environment.

Many major sporting events and teams have jumped on this bandwagon, claiming to adhere to various climate proposals or objectives. Cycling, as an overall sport, has also made a number of [broad proclamations](#) about its commitment to environmental goals. However, much of that PR turns out to be [hot air](#); the recently concluded Qatar 2022 World Cup illustrates this point. While the events were exciting to watch, the Qatari [organizing committee's claims](#) that its venues and practices would achieve net-zero carbon emissions were blown like sand across the desert; more detailed [analytics indicated the opposite](#). In hindsight, this was predictable, given that Qatar already [had the highest per capita carbon impact](#) of any nation on Earth – primarily due to energy consumption to support air cooling and water desalination.

But – despite all of the current attention – the fact of the matter is that global sport is only a tiny contributor to the global climate problem. As our colleague [Roger Pielke Jr.](#) recently pointed out, scientists have estimated that ***all sports combined* are directly responsible for only [about 0.3% of annual global emissions](#).** And bike racing clearly represents only a very tiny sliver of that 0.3%. For cycling, this represents something of a paradox. It is often lauded as a “green” activity and a potential driver for broad-based transportation and infrastructural changes that could significantly reduce carbon emissions, yet from the [bigger perspective](#), its own carbon footprint is tiny. This begs the question: how can pro cycling make a meaningful and measurable contribution to the battle against climate change?

There are ways for cycling to play a key role, beyond reducing its own carbon footprint, and developing more sustainable business practices – and we suggest a parallel two-part approach in addressing the challenge. First – in the spirit that every little bit helps, and reflecting the old adage that “if you’re not part of the solution, you’re part of the problem” – the sport should set a conspicuous example, consistent with its image, by uniformly implementing economical and scalable practices that reduce [its impact on the environment](#). But, more critically, the sport also needs to acknowledge the reality: political correctness on the climate issue and focusing exclusively on the sport’s carbon footprint are relatively insignificant in the bigger picture. **Instead, the biggest impact that pro cycling can have is to**

more aggressively utilize its public platform and “environmentally friendly” visibility to help raise broad public awareness of the issues, and to influence future policy options and directions. Below, we review both initiatives, highlighting (1) the current status and potential steps that the sport could take to reduce its own small environmental footprint, and (2) proposals for cycling-led or broader participatory initiatives that could significantly impact public awareness, perception and policy.

Cycling has made serious attempts to quantify its carbon footprint and take initial steps to mitigate its own environmental impact. Ironically, many of the inherent attributes of cycling that have historically [caused economic challenges](#) vis-à-vis other sports may, on the flip side, result in creating environmental benefits. For example, cycling is played out on the road, largely on existing infrastructure – not in huge artificially heated or cooled stadiums. Competition is powered by human energy, not fossil fuels. And although cycling would like to be more international, it tends to be concentrated in western Europe in a relatively compact area – cutting down on carbon-intensive travel. Contrast that to teams in America’s Big Four sports, which criss-cross the skies thousands of times every year to play against each other. Ditto for European football leagues and most of the world’s other major sporting leagues. Some, like NASCAR and Formula 1, mobilize massive freight transfers – moving [more than a thousand tons](#) of equipment to each far-flung event in a fleet of Boeing 747s.

Several companies involved in pro cycling have attempted to formally assess their individual climate impact, either as standalone analyses or as subcomponents of broader business sustainability studies. This includes both companies which produce goods and services to support the sport, and the sporting competitions themselves. A 2018 book and activist project ([Circular Cycling](#) by Erik Bronsvort, and its related Shift Cycling Culture advocacy platform) broke the ice by applying hard science and best practices to estimate cycling’s environmental impacts, and provided real-world insights on how the bicycle can be a literal vehicle for change in mitigating climate change and improving business sustainability. Trek was the first major brand to follow that lead by [publicly detailing](#) its environmental impacts in a 2021 sustainability report. Other major brands soon followed. From a manufacturing and distribution perspective, these studies brought to light the carbon impacts of sourcing, production, delivery and ongoing business operations in the cycling hard goods and soft goods verticals.

Pivoting on these findings, and perhaps also responding to fan sentiment as [climate-related disasters](#) began to impact cycling’s WorldTour, multiple major brands also co-signed a letter of commitment to meet the UN’s [Paris Agreement](#) climate treaty standards to reduce carbon emissions. **Cycling’s major brands – several of which are publicly traded companies – tried to take the high road, showing consumers how they could adapt their businesses and reduce their collective carbon footprint.** However, many of those changes (such as “Agile” and “Lean” methodologies) were already deeply ingrained in modern business management – strategies which strive to produce higher quality products with lower material, energy and labor inputs. Skeptics questioned whether the businesses were really changing course, or just modifying adoption of already widely accepted manufacturing best practices for the sake of appearances.

Various cycling events are also striving to do better. For example, [the Tour of Luxembourg recently published](#) a study with some results that surprised many observers. It admitted to a relatively high carbon footprint– mostly associated with transportation of fans, teams, and entourage – which stood in stark contrast to the UCI’s [sustainability study for the Flanders](#) 2021 World Championships. (The UCI study used a methodology that underestimates and, in some cases sets aside some of those transportation impacts in the overall carbon calculations; see pp. 45-46.) If we utilize Luxembourg’s more realistic assessment, however, and conservatively reference it to men’s and women’s WorldTour, ProTour, and Continental calendars – even without accounting for MTB, gravel, and other cycling disciplines – we can get a better sense of cycling’s actual carbon footprint.

There have also been multiple proposals to rearrange the calendar to reduce the length of

transfers between and within individual events, particularly for international and long-distance travel. Openness to this kind of change could also yield other competitive advantages, like a more consistent broadcast package and improved safety. The flexibility to stage so-called Monument races at different points in the year could help to transition cycling's WorldTour roadshow to one with fewer transportation impacts. While some will argue that this flies in the face of cycling's time-honored traditions, pandemic-related successes like the switch of [Paris-Roubaix \(spring to fall\) in 2021](#) indicate that there are potential benefits of adopting greater calendar flexibility – independent of the carbon reduction benefit. Rethinking the calendar is analogous to proposals in other sports for consolidating events into single-location venues. The most visible of these proposals is one which would stage future Olympic games at just a handful of preexisting venues – reducing facility production costs, public transportation infrastructure, and at least some travel-related emissions.

The UCI, as the sport's erstwhile guardian, has indicated a commitment to combat climate change, and recently [gathered signatories](#) to a "Climate Action Charter." But some of these targets will be hard to achieve or document – due to vague sustainability definitions, inaccurate scientific methodologies, questionable metrics of progress, a lack of specific milestones (other than meetings), and a generally confusing scope. (To be fair to all parties, [even the UN has recognized](#) that many of the Paris Agreement targets will be almost impossible to achieve.)

One fundamental reality which cycling must confront is that tourism – one of the sport's perennial partners and economic cornerstones – constitutes perhaps the sport's biggest potential environmental concern. Many events and teams are closely tied to the promotion of travel to a sponsor's region or with a sponsor's company. The Luxembourg study clearly demonstrated that transit is one of the biggest contributors to an event's carbon footprint – and [confirmed the results](#) of earlier scientific surveys of our sport. Any uptick in tourism has a corresponding carbon impact. The increase of inbound and outbound travel for new visitors, and their related energy consumption, resource impacts (water usage, sewage and garbage outputs, etc.), and the potential infrastructure and construction investments to support hosting capabilities can quickly erase other carbon mitigation or sustainability gains. Of course, cycling is hardly alone in this regard; other major sports have their own unique and often more serious "signature" impacts, like car gridlock traffic exhaust, or [tailgating parties](#).

Travel and transportation are environmental challenges for cycling, but they could also represent a potential impetus for its future economic reinvention. While there is [an inevitable codependency](#) in sport between travel and commercial objectives, cycling's sponsorship and economic model could – relatively easily – be more supportive of newer and "greener" initiatives like mass transit infrastructure development that prioritizes bicycle lanes, greenspace development, water conservation, and renewable energy sources to power it all – as opposed to just promoting Instagram-worthy vistas, cuisine, and regionally sourced products.

It is clear that pro cycling can unendingly chase various and localized initiatives to cut back on its carbon footprint. There has been a tendency in our sport to endlessly examine the actions of [individuals](#) and [organizations](#) with regards to reducing environmental impacts, but this proposition likely inspires only a small number of cycling's fans to follow by example. **What cycling needs to do is figure out how can it best help bring greater *global* visibility, recognition and discussion to the key issues that need to be addressed in the long-term climate debate.** According to Pielke – along with others who [presented at Play The Game](#) in mid-2022 – there are powerful answers to this question. While sports don't really have the option of making a serious contribution to carbon reductions, **sports do have an outsized visibility and influence on social perceptions and voting behaviors – which can gradually shift political policies and global courses of action.**

Cycling's untapped potential starts with encouraging its primary stakeholders to take a more unified stance to convey the gravity of climate inaction. Such a stance must supersede the largely

ineffective platitudes in the UCI's recent climate charter, instead seeking stronger alignment with environmentally focused sponsors which underwrite the sport, or which the sport seeks to attract. This must include forward-thinking brands like outdoor gear icon [Patagonia](#), which recently backed up its social and environmental commitments with an entire corporate cultural mission shift. On an individual level, the sport can also promote the examples set by individual athletes like Michael Woods and others in the current peloton who are creating an approach their fans can understand and follow.

But there is also a trap here. Analogous to the controversial charges of [sportswashing](#), cycling must stay vigilant to avoid further charges of “greenwashing” – organizations exploiting the promotion of sport to deflect attention away from poor environmental performance. The sport has [already experienced](#) these controversies, [more than once](#). Care must be taken to ensure that the potential greenwashing controversies do not dilute or distract from the honest environmental message that the sport is trying to convey.

Cycling's true power, like many sports, is to transcend the tribal politics, economic status, and education, gender and ethnicity differences, to help bring human beings together within a cocoon of thrilling competition. Sport has an unparalleled potential to unite us, even in times of extreme division and social unrest, behind our favorite teams and sports heroes. On a global scale, the power of sports to inspire social change and influence fan behaviors can bring greater recognition to the urgency of climate change and increase the demand for [low carbon-intensity energy sources](#), and the policies which enable innovation and transformation in energy economies.

Cycling can meaningfully assist by rallying fans to this unified cause, either as a standalone niche sport or, better yet, [in concert with other sports](#) that have perhaps broader worldwide appeal. Thus far, few athletes, teams, events or agencies have taken an aggressive approach in this regard, and what may be needed is a complete reinvention of the mindset that “cycling can only influence its own fans.” The sport should consider lowering its traditionally defensive public image and marketing stance to forge partnerships with like-minded sports and leagues to collaboratively engage with fans across multiple platforms.

For example, why wouldn't cycling partner with Formula E racing? The battery-powered motorsport is singularly focused on the innovation and popularization of electric vehicles, which falls right into the sweet-spot of cycling's carbon emissions reduction message. Or perhaps cycling events could partner with one of the major arena leagues to hold a co-located event series which could piggyback on each other's fans and hammer home a unified environmental message. However, there may currently be [more ways to measure](#) cycling's environmental impacts than there are cooperative efforts to reduce them; sporting stakeholders should take immediate steps to close this gap.

In the long view, changing how bicycle transportation and cyclists are perceived, how public infrastructure is implemented to support cycling and other forms of green transportation, or the affordability of reliable and sustainable everyday bicycles will only be small contributions to the effort to combat climate change. **Bike racing can have its greatest impact by actively engaging with a global audience in a coordinated, centrally driven and unifying narrative to clearly communicate the issues and urgency of climate change. It must continue to lead by example – to inspire fans to take action and demand the overarching energy and economic policy changes which will shape a cleaner, cycling-friendly and more sustainable future.**

By Joe Harris and Steve Maxwell, February 8th, 2023