Atlético Santa Rosa

September 4, 2024

Dear City of Santa Rosa Officials and City Council,

My name is Adolfo Mendoza, President of Atletico Santa Rosa, and I represent over 500 soccer (mostly low-income) Hispanic families here in Santa Rosa.

We understand that one of your committees is studying a possible ban on synthetic turf. There have been anecdotal reports about environmental and health concerns including injuries and heat related issues related to artificial turf and much misinformation has been spread by outside groups with their own personal agenda on several issues related to synthetic turf.

Our teams have collectively played and/or practiced thousands of hours on synthetic turf over the past decade. As far as injuries go, our experience is that players and coaches have been injured on the unmaintained natural grass fields in our city and region many, many times more than on synthetic turf fields, which provide an even and consistent playing surface.

Regarding heat, our experience in this region is that our coaches, teams, and players manage heat very well. We rarely need to cancel or cut short games or practices due to heat on the turf (maybe the same amount as poor air quality days due to smoke) and have never experienced heat related injuries. There are also mitigations for heat, (like poor air quality days) but these are rarely ever needed. I ask, why pick on heat regarding synthetic turf when asphalt and rubber playgrounds, tennis courts, pickleball courts, outdoor basketball courts all have similar surface temperatures as synthetic turf but somehow that is never brought up or been an issue? Are we also now going to ban and start tearing out school and city asphalt playgrounds, basketball and pickleball courts? What about driveways and backyard concrete decks? Those get just as hot as the sand at the beach. Let's ban that too while we are at it.

Our club has also studied the safety of synthetic turf and have found numerous peer reviewed health and safety studies from the U.S. EPA, the State of California and other studies from leading Universities and governments from around the world that all show synthetic turf to be safe.

By contrast, most grass fields are in horrible and unsafe playing conditions due to overuse and lack of proper maintenance and experience long periods of disuse due to storms, rain, and disrepair. Many kids have grass allergies and when kids fall on natural grass fields, they are encountering chemicals like herbicides and pesticides as well as other chemicals like pfas from the environment that accumulate in our soil. Did you know there is more Pfas in the soil of natural grass fields than in any synthetic turf field? Did you do a test for this as part of your study? Did you know there are more pfas chemicals in shampoo, dental floss, and women's makeup than in a synthetic turf field? Are you going to ban those products as well?

The simple fact is that our city has a major field supply and demand issue. Currently, many teams in our club have no fields to play on and it's only the beginning of the Fall season. We have so many sports and players competing for such a small number of fields, especially in the winter months. Almost all outdoor sports now go year-round. You simply can't solve a demand issue by banning the one product that helps to solve this demand problem. Are you going to apologize to the 14-year-old girl that has a dream of getting a college soccer scholarship but fails because she was not able to train year-round when other girls who she is competing against

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in other communities are able to play on safe turf fields year-round? Have you considered that by not having enough playing fields that our Santa Rosa sports families must travel far distances in a car to be able to play on fields year-round? What does all that extra car travel do for the environment, not to mention all the wasted time and money families have to spend by traveling much more than they should. Child athletes get back home late from training when they travel farther than they need to, and this affects their schoolwork, sleep and mental and physical health.

Also, synthetic turf technology is constantly evolving for the better and working to meet the needs of our communities. There are now much more environmentally friendly turf products on the market and great natural organic infill options available instead of crumb rubber infill. These natural fills also reduce surface temperatures by 30-40 degrees. Are you aware that turf fields can now be 100% recycled and turned into new consumer products? Are you aware that there is a synthetic turf recycling plant in Sacramento that has already recycled old turf fields from the city of San Franscico as well as Cal Berkeley Memorial Stadium? None of this is mentioned in the study that was just released.

When you as a city are studying the health effects of synthetic turf, you also need to study the mental and physical health effects on our children from sitting around and increasing screen time between November and April because the fields are shut down. Why would you take away thousands of hours of physical and mental health activities from youths and adults in our community who need to be physically active year-round? Why would you ban any product when all the legitimate environmental and health studies show it to be perfectly safe? Why wouldn't you listen to the people who use both natural grass and synthetic turf and ask them what they prefer and what their experiences on both surfaces have been? Why would you put politics over the real needs and health of our community?

Our families and I would say most other sports teams, parents, and families prefer synthetic so that the children can keep playing and stay healthy year-round. The city has a RESPONSBILITY to provide enough safe playing fields for our community. So far, you have completely failed! There are not enough fields at all for the current youth and adult sports demand in our city and county, so if you want to ban turf, then your responsibility as a city should be to build at least 20-30 new natural grass fields and to properly maintain those so our community can play year-round on safe fields but the reality is that will never happen with the city budget. We need more natural grass and synthetic turf fields.

I will predict this, if this crazy ban idea ever gets to a vote at city council, you will see our community sports families out in force to oppose this and anyone who votes to take away playing fields from our kids instead of building new fields then our sports families will quickly rally and vote those out of office. Furthermore I strongly suggest translating your report in Spanish to involve the Spanish speakers in our community.

Respectfully,

Adolfo Mendoza

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Atlético Santa Rosa

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From: Dan Hackett
To: Montoya, Michelle
Subject: [EXTERNAL] Public Comment, 9/4/24 CAS meeting, Item 6.1
Date: Wednesday, September 4, 2024 2:49:00 PM

Santa Rosa Empire Soccer Club submits this letter to the City's Climate Action Subcommittee in conjunction with the 9/4/24' s Agenda Item 6.1, "Update on Artificial Turf Restrictions Investigations."

Empire Soccer Club serves over 1700 kids in our community, with thousands of tax-paying parents and relatives who support those same kids.

These 1600 kids need places to play soccer, be active, and be part of a team. However, getting and maintaining safe, quality, year-round field spaces in Santa Rosa has been and remains a major obstacle to our kids. As noted in your measure M Outreach survey, MORE athletic fields are needed and all-weather turf is critical to meet year-round demand.

There are many communities that spend the money and resources to allow for year round, safe grass playing surfaces (see Davis Soccer Complex and Sacramento's Cherry Island Complex, as just two examples). In truth, there are great advantages and reasons to prefer grass fields.

But developing and maintaining grass fields in our community is not without its challenges. The grass fields we have in Santa Rosa are consistently improperly watered, compacted, ridden with cracks, holes, and gopher mounds, and eventually become unsafe after a certain point in late summer every year. In short, the fields we have are not playable even when open, and then they are closed November to April each year. Until the City of Santa Rosa can overcome these challenges and meet the need with natural grass fields, ALL options for playing fields need to remain on the table as the only way to meet the needs of our soccer players and their families.

The science and conclusions around whether turf fields are "safe" or "unsafe" remain unsettled. What we do know is, those fields are much safer for sport than improperly maintained grass, and they are healthier than kids sitting around, being on screens, or engaging in unproductive behaviors (or worse). Until more is actually known and supported by reliable scientific evidence, the value of kids (and especially this generation, still coming out of the impacts of Covid isolation) being active year-round and part of a positive team is clear and infinitely immeasurable. Those benefits cannot and should not be cast aside based on the current state of the science and the pros and cons--ALL of EACH of them--are known and weighed given our community's needs..

Whether the Committee recommends that the City Council ban turf in other settings is beyond this soccer club. But as to any action as to sports fields, NO BAN is the only way to ensure our kids--i.e., the kids of this City--have the fields they need to play their sport, grow in their game, remain active and healthy, and have options for positive living year-round. **Empire is pleased to see and fully supports City staff's recommendation to EXEMPT sports fields from any turf ban the City may consider.**

Respectfully submitted,

-Dan Hackett, President, Santa Rosa Empire Soccer Club

From:	CMOffice
To:	Montoya, Michelle
Subject:	FW: [EXTERNAL] Artificial Turf study
Date:	Wednesday, September 4, 2024 4:20:04 PM
Attachments:	Handout - Manufacturing Water Consumption - FieldTurf - MAY2024.pdf Carbon Footprint.pdf 2021_Itten-etal_LCA-turf-sports-fields_Executive-Summary.pdf Brochure - Sustainability, Sustain The Game - FieldTurf - JUN2023.pdf Handout - Goal Zero Road - FieldTurf - NOV2022 (2).pdf Artificial Turf & Heat One Pager.pdf

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City Manager's Office |100 Santa Rosa Ave, Rm 10 | Santa Rosa, CA 95405
Tel. (707) 543-4647 | Fax (707) 543-3030| cguasco@srcity.org

From: Andrew Rowley <andrew@fieldturfnorcal.com>
Sent: Wednesday, September 4, 2024 3:04 PM
To: Rogers, Chris <CRogers@srcity.org>; Rogers, Natalie <NRogers@srcity.org>; Fleming, Victoria <VFleming@srcity.org>; Nutt, Jason <jnutt@srcity.org>; CMOffice <CMOffice@srcity.org>; Osburn, Gabe <GOsburn@srcity.org>; Ander, Emily <EAnder@srcity.org>; Okrepkie, Jeff <JOkrepkie@srcity.org>; Stapp, Mark <MStapp@srcity.org>; MacDonald, Dianna <dmacdonald@srcity.org>; Alvarez, Eddie <EAlvarez@srcity.org>; Dunston, Daryel <ddunston@srcity.org>
Subject: [EXTERNAL] Artificial Turf study

To Santa Rosa City council and staff,

I am a resident of Santa Rosa and also involved in the synthetic turf industry as well a soccer coach of a u12 team in Santa Rosa. I have read the just released study on artificial turf and wanted to just point out a few items to address some of the comments contained in the report.

- **DTSC –** We are aware of the work plan and inclusion of artificial turf. We support any work plans around ensuring the safety of Californians and believe in the safety of these products. Our company and the industry has never shied away from collaborating with agencies, including the US EPA as well as many local municipalities that have scrutinized artificial turf and continue to believe in its safety.

- **Water Usage** – The city's report states that the manufacturing process requires large amounts of water to produce a field. This is not accurate and in fact, the report fails to

mention that using artificial turf over natural grass saves over a million gallons of water annually per field. See attached (Manufacturing Water Consumption)

- **Carbon Footprint** – See attached (Carbon Footprint, Goal Zero & LCA Study)

- **Recycling –** See attached (Sustain the Game & Goal Zero). The report states there are no local options available for recycling. This is not accurate as our company has been fully recycling fields in Northen California for the past 18 months.

- **Heat-** See attached heat report. Temperatures at 2 feet and 5 feet above the surface of the field are the same for natural grass as artificial turf

I am happy to be a local resource for anyone at the city who would like any studies, additional information about anything related to artificial turf.

Best Regards,

Andrew Rowley
Fieldturf/Tarkett

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A Tarkett Sports Company

SUSTAIN THE GAME

ONE OF THE MOST BENEFICIAL ASPECTS OF ARTIFICIAL TURF IS THAT IT HELPS PRESERVE WATER, MAKING IT AN ENVIRONMENTALLY CONSCIOUS CHOICE FOR COMMUNITIES AND ORGANIZATIONS SEEKING TO REDUCE WATER USAGE.

The Salt Lake County Council in Murray City, Utah, estimated that converting a natural grass field to synthetic turf can save 2 million gallons of water per year per surface, which equates to over 16 million gallons of water over the field's expected lifetime.

As part of our commitment to Protect People & Planet, we're working year over year to minimize the environmental impact of our manufacturing process and operations, so you can be proud knowing your field is contributing to your sustainability goals.

LET'S TAKE A CLOSER LOOK AT THE NET RESULTS OF A FIELDTURF FIELD ON FRESHWATER:

- A FieldTurf field has a **positive water footprint.**
- A FieldTurf field can **save 2 million gallons** of water per year.
- FieldTurf is committed to **minimizing the impact** of our manufacturing process & operations.

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WHAT HAS A HIGHER CARBON FOOTPRINT, ARTIFICIAL TURF OR NATURAL GRASS?

When it comes to comparing greenhouse gas emissions, it's important to consider the total lifetime of artificial turf vs natural grass.

On the overall balance of things, artificial turf is assumed to produce a higher carbon footprint than natural grass due to manufacturing and disposal over the total course of its lifetime, even though there are much more emissions from the maintenance of natural grass.

Because the manufacturing and disposal of artificial turf can generate high emissions, FieldTurf is working to reduce the footprint of its manufacturing facilities and innovate to provide end-of-life options that divert used fields away from landfills by recycling them back into useful materials.

Carbon intensity also plays a role in comparing both field solutions.

A study by the Zurich University of Applied Sciences conducted a lifecycle analysis for different types of fields ranging from natural turf with and without drainage, hybrid turf, and artificial turf unfilled and filled.

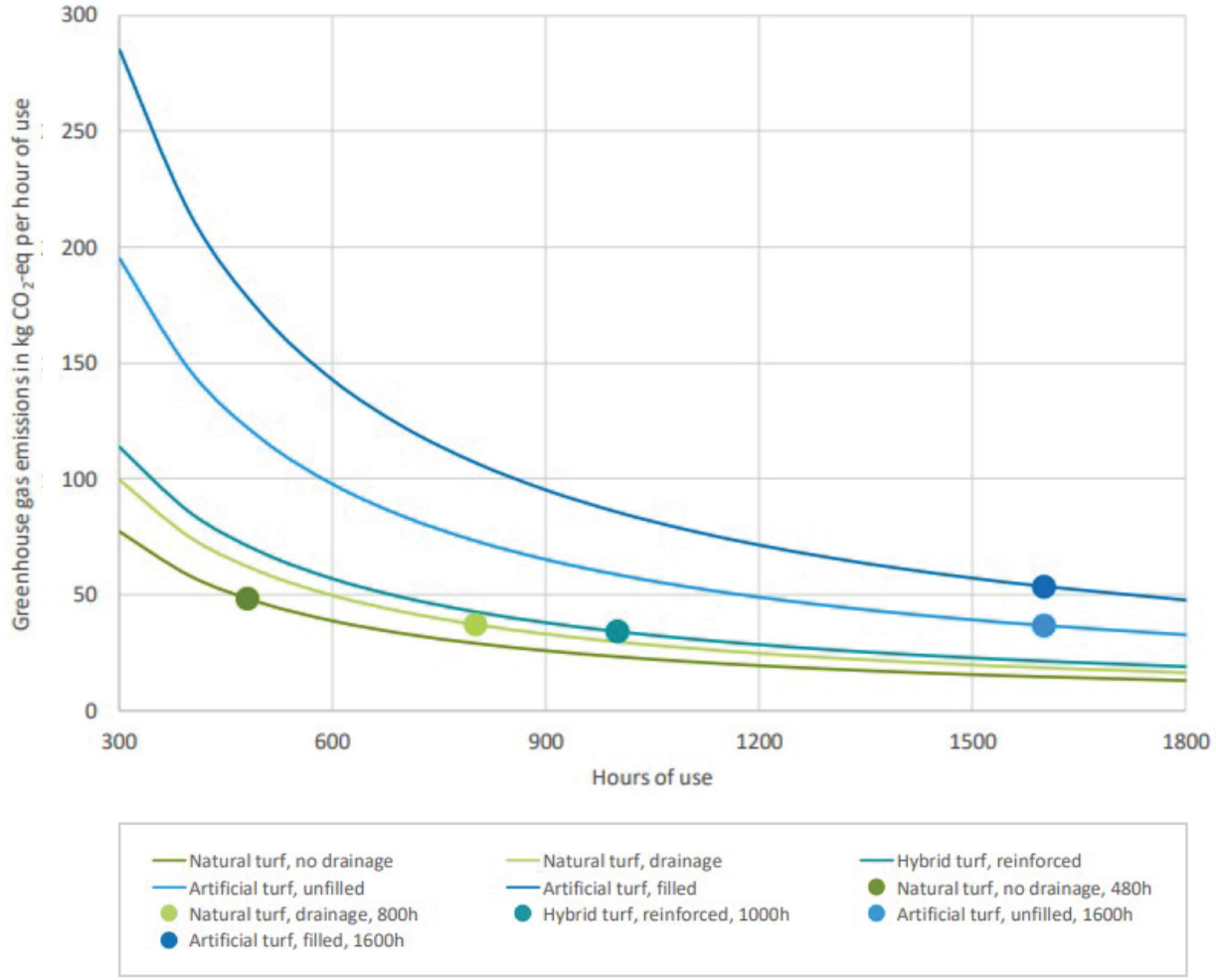
They measured the carbon intensity of greenhouse gases for each option per hour of use, noting that the hours of use vary significantly between the natural turf and artificial turf (with more play time on artificial turf).

The results show that kgCO2e per hour of use begins to converge as hours of use increase.

For example, you may only be able to get 500 hours of use from the natural turf without drainage (lowest footprint option), while you may be able to get 1600 hours of use from the artificial turf filled (highest footprint option)—**yet the greenhouse gas footprint per hour of use for both field types would be the same.**

The annual usage time not only depends on the turf type, but also on other factors like the existing infrastructure for lighting that allows for longer daily usage of the sports fields

Greenhouse gas emissions in kg CO2-eq according to IPCC (2013) per hour of use, depending on the total hours of use per year visualized for the natural, hybrid, and artificial turf sports fields under study; data points indicate the theoretical hours of use.



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Life Sciences und
Facility Management

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Life Cycle Assessment of Artificial and Natural Turf Sports Fields – Executive Summary

Prepared by

René Itten, Lukas Glauser und Matthias Stucki

Institute of Natural Resource Sciences

Zurich University of Applied Sciences

Version 1.0, Wädenswil, 28. Januar 2021

Imprint	
Title	Life Cycle Assessment of Artificial and Natural Turf Sports Fields – Executive Summary
Client	Grün Stadt Zürich, Tiefbau- und Entsorgungsdepartement, Stadt Zürich, Beatenplatz 2, CH-8001 Zürich
Contractor	ZHAW Institute of Natural Resource Sciences
Authors	René Itten, Lukas Glauser and Matthias Stucki, Life Cycle Assessment Research Group
Project support	Stefan Brunner, Johannes Neher (both Grün Stadt Zürich), Martin Rinderknecht (Sportrasen Architektur) and Stefanie Jurthe (Sportrasen-Coaching)
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Disclaimer	This report is based on sources believed to be reliable. The ZHAW and the authors give no guarantee as to the completeness of the information provided and disclaim any legal liability for damages of any kind.
Acknowledgement	The authors thank Madleine Berg and Jasper Hamlet (both FIDRA) for the exchange on microplastic emissions.
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Version	Version 1 28/01/2021 16:24:00

INTRODUCTION AND METHOD

Football is among the most popular sports globally. All that is needed for a football match is players, a ball and a sports field. However, the latter is not simply grass, but rather a precisely defined and constructed structure, which can be made of natural, hybrid or artificial turf. It is the aim of the city of Zurich to reduce both the primary energy consumption and the greenhouse gas emissions that are produced by each resident. In order to analyse and compare the environmental impact of different types of turf sports fields, Grün Stadt Zürich commissioned the Zurich University of Applied Sciences to carry out a Life Cycle Assessment (LCA) study.

In cooperation with the sports field experts who build and maintain the sports fields in the city of Zurich, primary data for the entire life cycle of the turf sports fields was collected. Based on this data, life cycle inventories were compiled for two sports fields using natural turf, two using artificial turf, and one using hybrid turf, covering all life cycle phases as summarised in Tab. S.1.

Tab. S.1 Overview of different types of natural and artificial turf sports fields under study

Type	Description
Natural turf, no drainage	Natural turf without drainage layer
Natural turf, drainage	Natural turf with drainage layer according to DIN
Hybrid turf, reinforced	Hybrid turf using natural turf reinforced with plastic fibres
Artificial turf, unfilled	Artificial turf without infill made of plastic or other granulate
Artificial turf, filled	Artificial turf filled with granulate made of primary plastics

The Life Cycle Inventory model includes the production and construction of the turf sports fields, as well as maintenance, renovation, dismantling and disposal. The LCA study does not include indirect environmental impacts caused by the users of the turf sports fields, such as during travel to and from the site or through the required sports clothing or nutrition. The data that was used for this study was derived from input data from the city of Zurich. The results, therefore, only have limited transferability to other geographical regions.

The functional unit of this study is defined as one hour of use of the respective artificial and natural sports field in the city of Zurich. Artificial turf fields can be used more intensively than natural turfs, which results in a higher number of annual usage hours. The consideration of different annual usage hours allows for a fair comparison of the different types of turf.

The study is largely based on the requirements of ISO 14040 / 14044 (ISO, 2006a; ISO, 2006b; ISO, 2017). The study was also subjected to a critical review in parallel with the study according to ISO 14040 / 14044 (ISO, 2006a; ISO, 2006b; ISO, 2017) by a committee of three independent experts:

This executive summary is derived from the full report from Itten et al. (2020). The full report on the study is available in German at https://doi.org/10.21256/zhaw-20774.

ENVIRONMENTAL IMPACT PER HOUR OF FOOTBALL

The LCA includes a selection of the indicators recommended by the Joint Research Council of the European Commission for the Organisational and Product Environmental Footprint (Fazio et al., 2018) shown in Fig. S.1. Based on the theoretical maximum hours of use, which differs according to the type of turf, the unfilled artificial turf sports field has the lowest environmental impact of all the indicators examined, except for greenhouse gas emissions and primary energy demand over the entire life cycle. For the other turf sports field types, the results differ, depending on the environmental impacts studied.

In the case of the natural turf sports fields, the construction and operation life cycle stages alone cause more than 80 % of the environmental impacts for all of the indicators analysed shown in Fig. S.1. During operation, the environmental impact of natural and hybrid turf is significantly higher compared to artificial turf, especially for eutrophication, since the production of the required mineral fertiliser is energy-intensive and the emissions that result from its application have eutrophying effects.

The environmental impacts of artificial turf sports fields are driven by the construction and renovation life cycle stages, which account for more than 65 % of the environmental impacts for all indicators shown in Fig. S.1. The renovation stage has higher impacts for artificial turf sports fields compared to natural turf sports fields, due to the additional material required to replace the artificial turf layer.

The filled artificial turf sports field has the highest environmental impacts per hour of use for greenhouse gas emissions, freshwater eutrophication, mineral resource use as well as total primary energy demand and non-renewable primary energy demand, mainly due to the required filling material. The replacement as well as the disposal of the filling material causes additional impacts for the filled artificial turf sports fields in the renovation and operation life cycle stages. Furthermore, the filled artificial turf sports field causes microplastic emissions due to the discharge of filling material. There is no established methodology to account for the environmental impacts caused by microplastic emissions recommended by the Joint Research Council of the European Commission for the Organisational and Product Environmental Footprint (Fazio et al., 2018). Therefore, the microplastic emissions are not represented in Fig. S.1. The environmental impacts of microplastic emissions are discussed in a separate chapter in the full report for the study in German (Itten et al., 2020).

Accordingly, an unfilled artificial turf sports field is always the preferable option with lower environmental impacts compared to a filled artificial turf sports field for all the indicators analysed in this study.

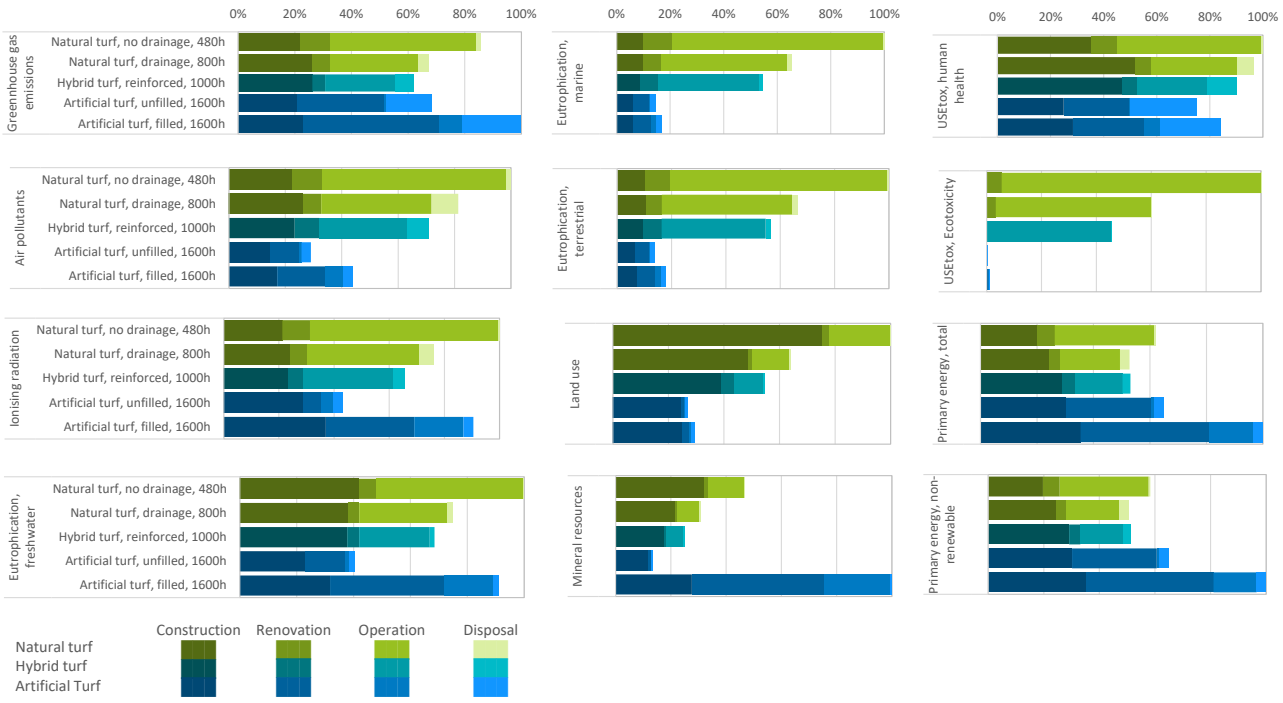

Fig. S.1: **Environmental impacts of the different turf sports fields per theoretical hour of use for the different midpoint categories according to the recommendations from Product Environmental Footprint by Fazio et al. (2018), greenhouse gas emissions by IPCC (2013), primary energy demand by Frischknecht et al. (2007), and human and eco-toxicity by USETox (Rosenbaum et al., 2011) divided into the contributions of construction, renovation, operation and disposal. The theoretical number of hours of use is 480 and 800 hours for natural turf without and with drainage layer construction, and 1,000 and 1,600 hours for hybrid and artificial turf sports fields, respectively.**

In addition to the midpoint indicators in Fig. S.1, the aggregated total environmental impacts according to the Ecological Scarcity Method according to Frischknecht et al. (2013) are shown in Fig. S.2. The comparison per hour of use considers the environmental impacts caused by the construction, operation and disposal of the sports fields as well as the annual usage hours. The results also show the differences between the theoretically possible and the actual annual usage hours accounted for in the city of Zurich.

The high result for hybrid turf in Fig. S.2 is subject to uncertainty, since for this type of turf usage data from only one hybrid turf sports field was available. The differences between natural turf and artificial turf are more robust. For both the theoretical and the effective annual usage hours, the unfilled artificial turf has the lowest environmental impact per hour of use.

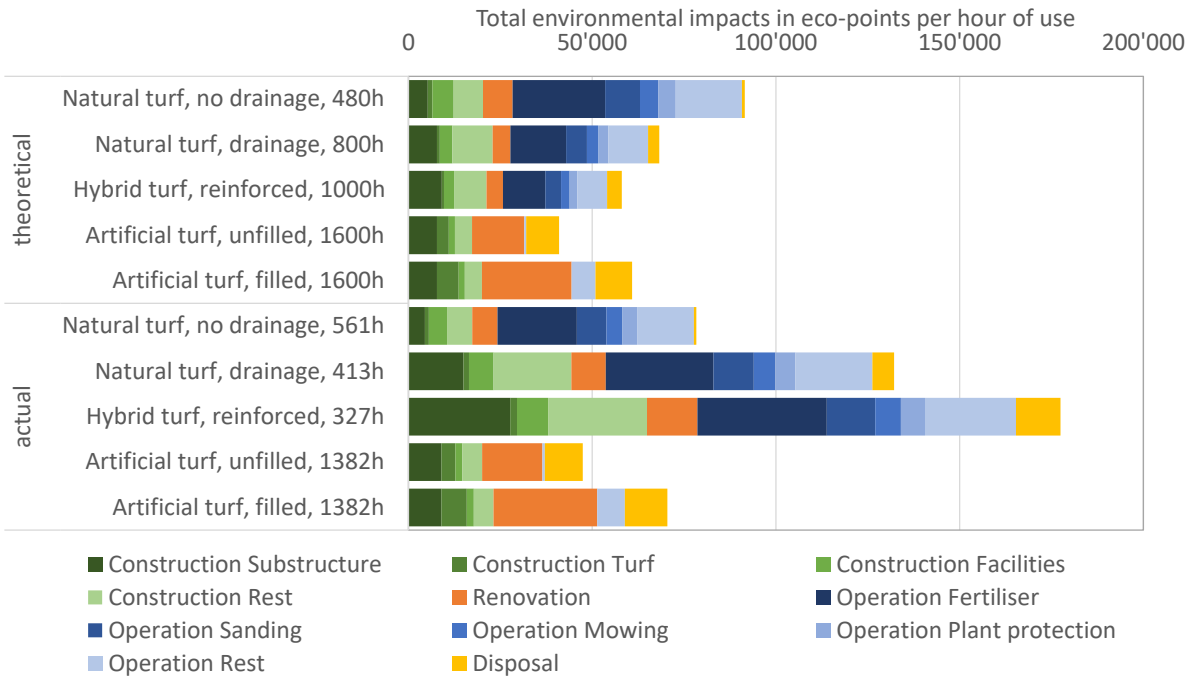

Fig. S.2: **Total environmental impacts of the different turf sports fields per theoretical and actual hour of use according to the ecological scarcity method (Frischknecht et al., 2013) divided into the 11 most important contributions from construction, renovation, operation and disposal.**

The annual usage hours have a major influence on the environmental impacts of sports turf, particularly because different types of turf for sports fields allow for different maximum annual usage hours. If the number of annual usage hours is identical, the natural turf without drainage causes the lowest total environmental impacts and the filled artificial turf causes the highest total environmental impacts according to the Ecological Scarcity Method 2013. However, since natural and hybrid turf allows for fewer hours of use, on average an artificial turf causes lower greenhouse gas emissions and a lower total environmental impacts per hour of use according to the Ecological Scarcity Method than a natural or hybrid turf. A natural turf with a drainage layer construction, which is played on for 800 hours per year, causes approximately the same amount of greenhouse gas emissions per hour of use as an unfilled artificial turf, which is played on for 1,600 hours. However, if an unfilled artificial turf is only used for 800 hours per year, it causes significantly more greenhouse gas emissions per hour of use than a natural grass turf with a drainage layer or a hybrid turf. Fig. S.3 shows the greenhouse gas emissions per hour of use for the different types of turf under study depending on the total annual usage hours.

The most important factor for the environmental impact is the annual usage hours. Artificial and hybrid turf can be played on for much longer per year than natural grass. At optimal capacity utilisation, artificial turf sports fields have significantly lower environmental impacts per hour of use.

However, the annual usage time not only depends on the turf type, but also on other factors like the existing infrastructure for lighting that allows for longer daily usage of the sports fields.

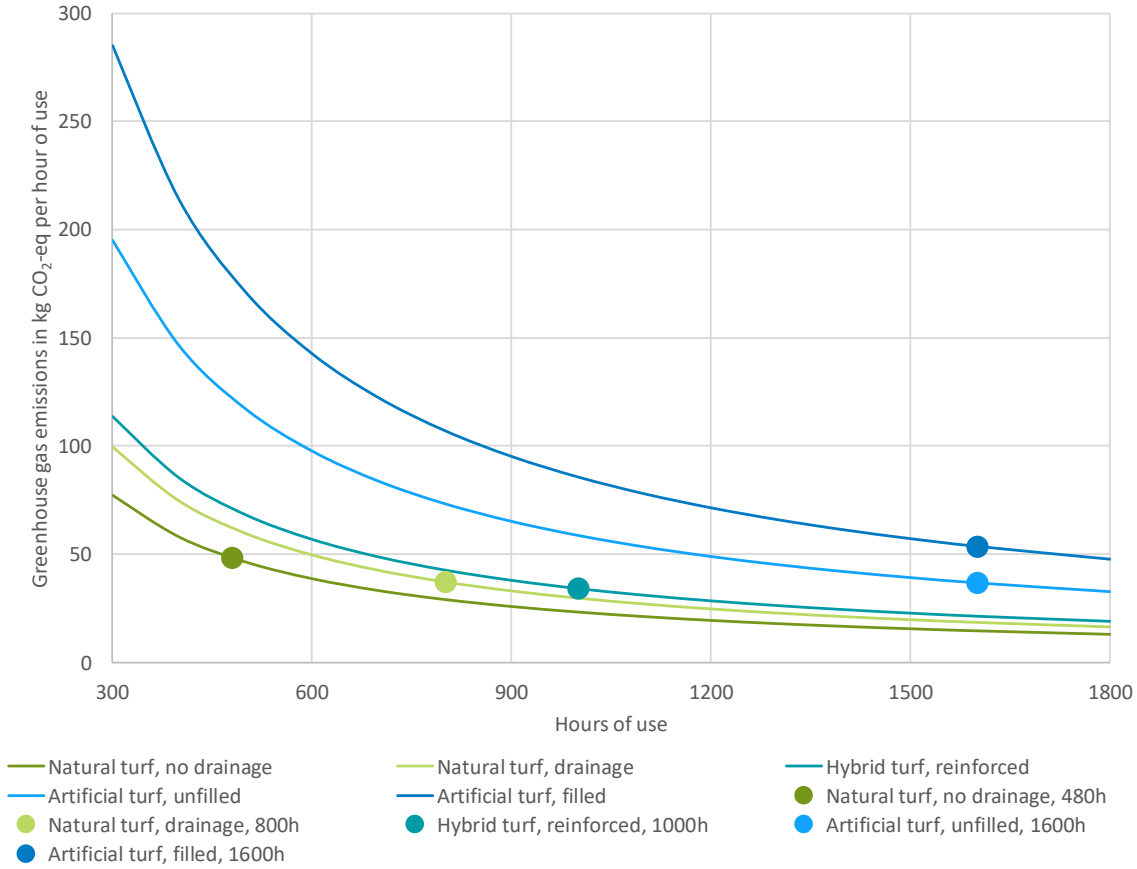

Fig. S.3: **Greenhouse gas emissions in kg CO2-eq according to IPCC (2013) per hour of use depending on the total hours of use per year visualised for the natural, hybrid and artificial turf sports fields under study; data points indicate the theoretical hours of use.**

REDUCTION POTENTIALS FOR THE FOOTPRINT OF FOOTBALL

The environmental impact of artificial and natural turf sports fields can be effectively reduced by optimising the annual usage hours of the existing fields. The optimisation of the annual usage hours also efficiently reduces the pressure for the construction of additional sports fields. In general, intensively used pitches have significantly lower environmental impacts per hour of use than extensively used pitches. The data on annual usage hours suggests that the use of the existing turf sports infrastructure in the city of Zurich is not fully optimised. Therefore, before new construction or conversions are carried out, the utilisation of existing sports fields should first be increased.

When planning new sports turf, the number of hours of use should be estimated as accurately as possible so that the optimum type of turf can be selected for the sports field. This means that for high intensity of use, artificial turf is more environmentally sustainable, and for less intensive use, a form of natural grass is. In general, the chosen sites should allow for the highest possible number of annual usage hours.

At present, almost all artificial turf is produced from primary plastic. Environmental impacts caused by the construction of artificial turf sports fields could be reduced by using recycled secondary plastics. However, the use of recycled secondary plastics may also have adverse effects which increase the environmental impact, e.g. due to the use of plastic granulate contaminated with heavy metals made from scrap tires as infill for filled artificial turf sports fields.

A customer, such as the city of Zurich, could and should encourage artificial turf producers to use recycled secondary plastics in cases where these will have a positive impact on the environment. It could also be investigated whether existing artificial turf could be renewed or recycled instead of disposing it in municipal solid waste incineration plants.

The choice of turf type is only relevant for new construction or replacement of sports turf. For existing sports turf, however, there are possibilities to optimise the environmental impacts caused by the maintenance of the existing sports fields. In the case of the investigated natural and hybrid turf sports fields, fertilisation causes a high share of greenhouse gas as well as eutrophying emissions. With a reduced use of mineral fertiliser, these environmental impacts can be reduced accordingly.

Although mowing sports turf only contributes just under 6% of the total environmental impact of natural grass turf in drainage layer construction, this amount could be significantly reduced by transitioning from conventional mowing with diesel engines to mowing robots powered by certified green electricity.

With these recommendations, the life cycle assessment study supports the environmental optimisation of the planning and management of artificial and natural turf sports fields.

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SUSTAIN THE GAME
GOAL ZERO
CARBON OFFSET
BETTER TOMORROW

OUR COMMITMENT

Building for tomorrow: it's our sustainability commitment.

That means our innovation isn't limited to product specs. Our promise to keep players safe on our turf has naturally evolved into an obsession — one with a singular focus to completely eliminate its potential to harm not just people but the environment, too. Now in everything we do, we strive for the lowest impact on people and the planet — from our zero turf to landfill commitment, to circular design, to the utmost care for those who play on and handle our products.

PEOPLE. PLANET. PERIOD. OUR SUSTAINABILITY IS FOCUSED.

WE CONSERVE WATER

Water is a human right that is essential to life, and its stewardship is core to our sustainability strategy. From manufacturing to installation, our products address water efficiency, scarcity, and quality. Every FieldTurf field is estimated to save 2 million gallons of water annually vs natural grass.

WE BUILD FOR THE FUTURE

We focus on efficient production using green energy, reducing the environmental impact of our operations, and achieving the highest quality manufacturing certifications (ISO 9001-2015, ISO 14001-2015, ISO 45001-2018).

WE USE SUSTAINABLE & RECYCLED MATERIALS

We innovate our choice of product components and materials using closed-loop design thinking that respects workers and the planet, resulting in a more sustainable product.

WE NURTURE HUMAN POTENTIAL

People are central to what we do. We focus on unlocking their innate talents, ensuring they have the agency to take action and fulfill their potential, and we motivate them through transparency and open communication.

WE SAFEGUARD ATHLETES

We were founded with the promise to make athletes safer during the game — and now we extend that promise to all the lives we touch through rigorous safety testing, product performance, and respect for the well-being of our people and our communities.

1995

1997

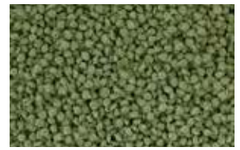
2009

2010

2010

2014

2016



2016

2019

2021

GOAL ZERO

2022

2022

CARBON OFFSET

2023

2022

OUR JOURNEY

1995
- FieldTurf is founded by two athletes who believe in a better game for all. They promise to Change The Game for athletes with a surface that offers improved performance and safety.

1997
- The first 3rd-generation infill turf, a revolutionary playing surface, is installed at Ringgold High School in PA.

2009
- Introduce the "Green Machine," the only unit able to remove both rolls of artificial turf and infill unharmed.

2010
- The first field to be completely recycled.
- Flagship manufacturing facility in Calhoun, GA opens, allowing for continued investment and focus on quality and excellence.

2014
- The first infill recycling center in the Pacific Northwest is launched, enabling infill to be recycled from aged fields to avoid landfills.

2016
- EcoMax — the first synthetic turf infill made partially of recycled materials — is introduced.
- Safety study supported by FieldTurf wins AOSSM's STOP Sports Injuries Award, which recognizes top research leading toward significant awareness and change in the prevention of traumatic and overuse injuries in youth sports.

2019
- ThermaGreen, creators of innovative shock pads made of post-industrial cross-linked polyethylene, is added to the FieldTurf family.

2021
- FieldTurf introduces Goal Zero, a new commitment to divert 100% of job site and manufacturing waste from landfills by 2025 in North America.

2022
- FieldTurf launches industry-first carbon offset program.
- FieldTurf surface at Mercedes-Benz Stadium is fully recycled during replacement.
- FieldTurf fibers are now produced with green energy at Morton Extrusionstechnik – electrical power.

2023
- Tarkett's ambitious 2030 climate targets approved by the Science Based Targets initiative (SBTi) – Fully aligned with the Paris Climate Agreement objective.

SUSTAINABLE AT EVERY STAGE

BUILDING YOUR FIELD

FIBER PRODUCTION WITH GREEN ENERGY
FieldTurf polyethylene fibers are extruded with green energy. All of the electrical power consumed at Morton Extrusionstechnik, our state-of-the-art fiber extrusion plant, is certified to have been generated from renewable energies.

INFILL FROM RECYCLED & NATURAL MATERIALS
FieldTurf has an extensive portfolio of traditional, natural, and alternative infill systems. SBR, styrene-butadiene rubber, is a recycled material derived from passenger car tires. Our PureFill, PureGeo, PureSelect (USDA Certified Biobased Product), and TrueBlend infills help repurpose natural materials like cork, coconut peat, and olive cores, helping divert thousands of pounds from landfills.

INSTALLATION WITH ZERO JOB SITE WASTE
Through our Goal Zero commitment, FieldTurf will divert 100% of its manufacturing and job site waste in North America by the target date of 2025.

CARBON OFFSET
With the FieldTurf Carbon Offset Program, you can now calculate the exact emissions from the manufacturing, transport, and installation of the surface and offset them so your project achieves carbon neutrality.

USING YOUR FIELD

WATER SAVINGS
Your FieldTurf field is estimated to save 2 million gallons of water annually versus a natural grass field.

ELIMINATE THE USE OF FERTILIZER & CHEMICALS
Your FieldTurf field will help eliminate the use of hundreds of pounds of fertilizer and nitrogen annually. When not managed properly, these materials can negatively affect plant, animal, and human environments.

REDUCED MAINTENANCE
Your FieldTurf field will help drastically reduce the need for maintenance, which causes negative impacts due to line painting, gas-powered mowers, grass clipping waste, and more.

INCREASED ACTIVITY
Your FieldTurf field will allow for increased use versus a natural grass field, encouraging athletics, recreation, and physical activity across your community.

REPLACING YOUR FIELD

INFILL REUSE
When replacing your aged surface, you can choose to either reuse the existing infill on your next project or leverage our Infill Take Back program. The reclaimed material is collected, cleaned, and recycled in future projects. Both options deliver a material that has been tested and proven to equal new infill in quality and durability, but with the added bonus of greatly reducing your project cost and carbon footprint.

CARPET RECYCLING
All the components in the systems manufactured by FieldTurf are 100% recyclable. FieldTurf is expanding its partnerships with recycling facilities across North America to be able to recycle carpet from anywhere, anytime, once it's reached the end of its life.

CREATE NEW MATERIALS
Using a proprietary process that upcycles the material into a high-grade polyurethane & polypropylene blend, the carpet can be transformed into various products like nailer boards, planters, and park benches.

MAKING A REAL DIFFERENCE EVERY YEAR

16 BILLION SAVED

Over 16 billion gallons of water saved annually

One artificial turf field is estimated to save 2 million gallons of water annually versus a natural grass field

17 MILLION RECYCLED

Over 17 million tires recycled into raw materials to build new fields annually

Over 50 million pounds of infill cleaned and re-used in new fields

7 MILLION POUNDS RECYCLED

Over 7 million pounds of post-industrial material is recycled annually at our manufacturing facilities

4 MILLION SAVED

Over 4 million pounds of fertilizer saved annually

When not managed properly, these materials can negatively affect plant, animal, and human environments.

**Data representing 2022 achievements*

OUR ZERO WASTE-TO-LANDFILL COMMITMENT

GOAL ZERO

OUR COMMITMENT:

Reach an industry-leading achievement of being the first artificial turf producer to divert 100% of our job site and manufacturing waste from landfills by 2025.

"Zero turf to landfill" is our long-term goal. We're investing in field-recycling efforts, partnerships, and technology to innovate our end-to-end process to offer an industry-leading solution to schools, cities, and private venues that are replacing their synthetic turf fields.

And as part of Goal Zero, you can join us on our mission.

You can rely on FieldTurf to recycle or infill-divert your aged carpet and infill to the highest environmental standards in the industry. Few suppliers can offer a full post-consumer field recycling program, with many offering empty promises of recycling and, instead, leveraging third-party vendors to inventory old carpets to avoid landfills.

Our industry-first Goal Zero commitment demonstrates our unwavering promise to protect people and the planet.

When AMB Sports and Entertainment embarked on replacing the surface at Mercedes-Benz Stadium in 2022, the organization trusted FieldTurf to ensure all components of the field avoided being sent to landfills in the replacement of the surface.

When crews removed the existing FieldTurf surface at Mercedes-Benz Stadium to install the new field, the infill was removed for future use, and the carpet was transported to FieldTurf's recycling partner. There, proprietary technology removed any remaining infill to produce a clean blend of the face and backing fiber polymers. The clean blend was then pelletized and transformed into pallets, composite wood for decking and siding, and advanced chemical recycling.

LIMIT THE ENVIRONMENTAL IMPACT OF YOUR FIELD

PROGRAMS

PROGRAM 1

RE-COVER

Extend the life of your field by installing a brand new field right on top of the existing surface. The process repurposes the existing field to help provide added safety and performance to the new field.

PROGRAM 2

RECYCLE

All the components in the systems manufactured by FieldTurf are 100% recyclable. FieldTurf is expanding its partnerships with recycling facilities across North America to be able to recycle carpet from anywhere, anytime, once it's reached the end of its life.

PROGRAM 3

INFILL REUSE & TAKE BACK

When replacing your aged surface, you can choose to either reuse the existing infill on your next project or leverage our Infill Take Back program. The reclaimed material is collected, cleaned, and recycled in future projects. Both options deliver a material that has been tested and proven to equal new infill in quality and durability, but with the added bonus of greatly reducing your project cost and carbon footprint.

FieldTurf is dedicated to increasing our number of recycling facilities that can take back infill and reprocess it. The Infill Take Back Program may not be available in your area.

PROGRAM 4

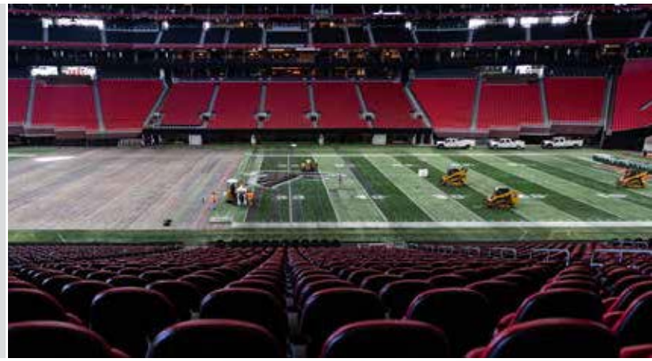
CARBON OFFSET

With the FieldTurf Carbon Offset Program, you can now calculate the exact emissions from the manufacturing, transport, and installation of the surface and offset them so your project achieves carbon neutrality.

FIELD SURFACE RECYCLING

1 FIELD REMOVAL

The aged carpet and infill are removed from the venue and prepared for transport.



2 INFILL REGENERATION

The carpet rolls are sent to a Tarkett Sports recycling facility to extract the infill, clean it, and separate it for reuse.

3 CARPET RECYCLING

The aged carpet is sent to a specialized facility to be cut, processed, and refined into a blend.

4 PRODUCT MANUFACTURING

Using a proprietary process that upcycles the material into a high-grade polyurethane & polypropylene blend, the carpet can be transformed into various products like nailer boards, planters, and park benches.

JOIN OUR JOURNEY TO CARBON NEUTRALITY

CARBON OFFSET

With the FieldTurf Carbon Offset Program, you can now calculate the exact emissions from your new surface and offset them so your project achieves carbon neutrality.

STEP 1
PLAN YOUR FACILITY

One size does not fit all. Location, product, size, and date can vary the impact of your project.

Once your scope and products are finalized, our proprietary carbon calculator will assess your total potential emissions.

STEP 2
CALCULATE THE IMPACT

FieldTurf's exclusive surface intensity calculator can calculate the exact amount of CO_2e emissions that will result from your project.

This is achieved by tallying the emissions from a field's specific materials, manufacturing, transport, and installation.

STEP 3
OFFSET THE EMISSIONS

Your voluntary offsets are simply added to your invoice. Offsets are provided through the Carbonfund Foundation's Carbonfree® Partner Program.

This program funds third-party validated and verified renewable energy, forestry, and energy efficiency projects supporting a low-carbon transition for the planet. Every project will be awarded a certified carbon free sign to display at their facility.

Carbon emissions for each project are calculated using FieldTurf's proprietary surface intensity calculator. Actual emissions may occasionally vary due to uncontrolled project-related factors.

PROTECTING THE FUTURE OF PLAY

BETTER TOMORROW

The power of sport has a global reach. It drives community development and collaboration, empowers youth and individuals, adds to health and education, and can help us create a more inclusive society.

Through our Better Tomorrow Program, we partner with leading organizations building sport capacity, whether it's mentoring coaches or making the game more accessible, ensuring future generations continue to play.

GOOD SPORTS

Partners with Good Sports, who helped equip over 500,000 kids in 2022.

FieldTurf CURE CLASSIC ALL-STARS ORANGE SEMINOLE

Partners with the Cure Classic All-Star Game, part of the Orlando Sports Foundation and its mission to "bring teams together to find a Cure for Cancer".

Make-A-Wish GEORGIA

Partners with Make-A-Wish® Georgia, helping grant wishes for exceptional kids in Georgia

HIGH SCHOOL BROYLES AWARD

The High School Broyles Award is presented by FieldTurf, honoring the nation's top high school assistant football coaches.

AFCA NAIA OFFICIAL TURF PARTNER NFCA nfhca

Partners of leading national associations to support future generations of coaches & athletes.

Tarkett Cares

Supported over 800 community initiatives with employees volunteering 3,500 days and over 1.1 million euros of product donations between 2017 and 2022 through our Tarkett Cares program.

ACROSS OUR GROUP, WE'RE LEADING THE FIELD IN SUSTAINABILITY. LEARN ABOUT OUR ACHIEVEMENTS:

Tarkett

TARKETT HUMAN CONSCIOUS DESIGN™

Our commitment to stand with present & future generations. To create flooring and sports surfaces that are good for people and for the planet. And to do it every day.

It's a holistic way of doing business, capable of marrying the specific expectations of each of our customers with the profound challenges of protecting our planet. Working together with our partners, we deliver safer and healthier spaces in which people can reach their full potential.

For over 140 years, we have proudly been undertaking this commitment. We launched our first recycling-focused circular economy initiative in 1957, have raised indoor air quality standards for more than a decade, and excel in researching and designing solutions for diverse environments.

We hold people and the planet at the heart of our operations–and we're dedicated to proving it, day after day.

Preserving resources through circular economy

RENEWABLE, ABUNDANT OR RECYCLED MATERIALS

69% of raw materials do not contribute to resource scarcity

RECYCLED RESOURCES

145,000 tons of recycled materials in production

17% of our raw materials are recycled materials

2030 global objective: 30%

FLOORING TAKE-BACK

close to **115,000**

tons of flooring collected from 2010 to 2022 by Tarkett ReStart® collection and recycling program in our 8 recycling centers across the globe

WATER CONSUMPTION

-59% versus 2010 (m^3)

69% of plants equipped with a closed loop water system

Fighting climate change

RENEWABLE ENERGY

13 plants purchasing 100% renewable electricity

43% of total energy consumption comes from renewable energies

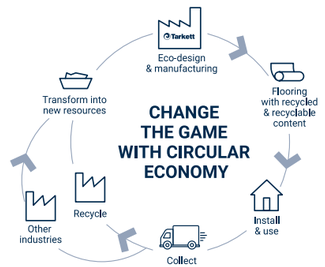
GREENHOUSE GAS EMISSIONS

-41% Scope 1 & 2 versus 2019

2030 objective: -50% vs. 2019 & -30% scope 1+2+3 vs. 2019

146,921 tons CO_2e

(Scope 1 & 2) in 2022 from production sites and car leasing



250 euros / ton CO_2e

This is the shadow carbon price we apply internally to assess the impact of our investments on our carbon footprint

Using good materials for people's health and the environment

CRADLE TO CRADLE® MATERIALS ASSESSMENT

95%

of our raw materials are third-party assessed for their impact on people's health and the environment based on Cradle to Cradle® criteria

INDOOR AIR QUALITY

99%

of flooring solutions have low VOC (volatile organic compounds) emission levels (10 times lower than the most stringent world standard)

HEALTHY INDOOR ENVIRONMENT / PHTHALATE-FREE

96%

of our flooring solutions containing PVC (vinyl and carpet) are phthalate-free[1] on a global level (% of m² produced)

Respecting and developing teams

SAFETY

3.36

2025 objective: 1.0

injury frequency rate (Recordable Lost Time Accident Frequency Rate FR1t)[2]

DIVERSITY

27%

2025 objective: 30%

of women among managers & senior executives

INTERNAL MOBILITY

54%

2025 objective: 70%

of open management positions filled by an internal candidate

Supporting local communities and global initiatives

COMMUNITY SUPPORT

800

community initiatives with employees volunteering **3,500** days and **over 1.1 million euros** of product donations between 2017 and 2022

EXPERTISE SHARING

52,000

professionals or students trained as professional installers or in flooring installation techniques from 2012 to 2022

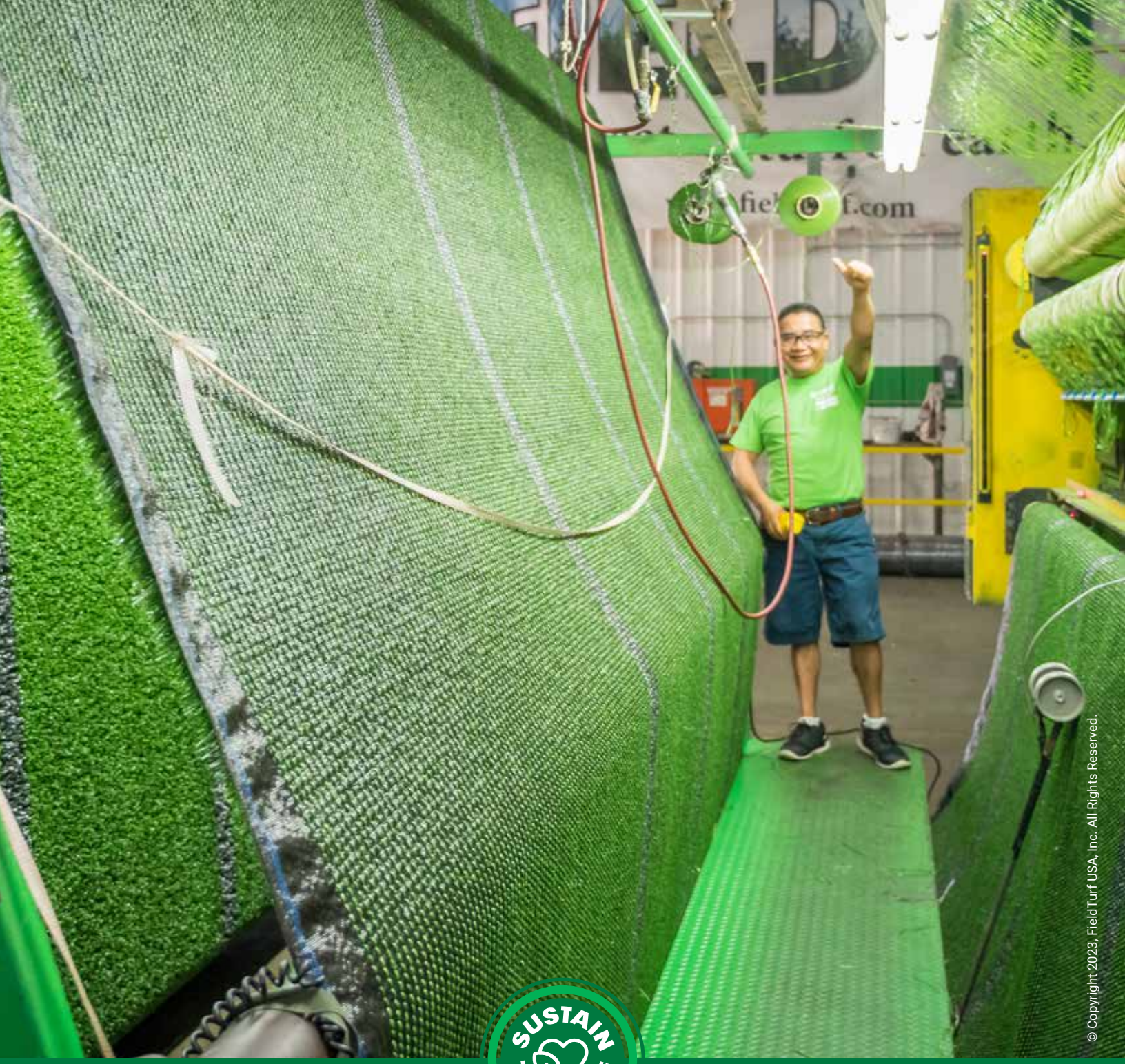
Engaging with our value chain to promote climate solutions and circular economy

Deploying our responsible sourcing program

80% of requested suppliers completed a third-party CSR assessment (in spend)

Engaging with customers, architects, designers and end-users

37 showrooms in 21 countries



SUSTAIN THE GAME

HELP US SUSTAIN THE GAME AND MAKE THE WORLD BETTER

FieldTurf®
A Tarkett Sports Company

fieldturf.com

FieldTurf®
A Tarkett Sports Company

SUSTAIN THE GAME

GOAL ZERO

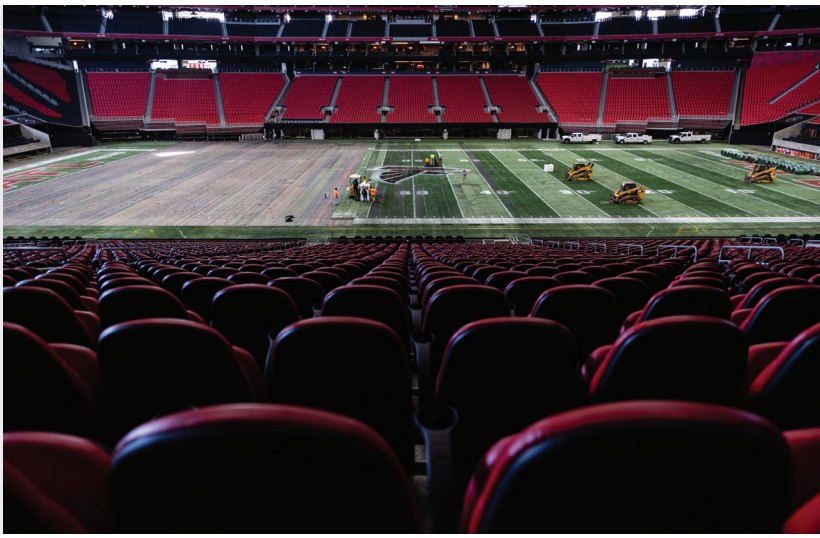
FieldTurf's commitment to divert 100% of job site and manufacturing waste from landf lls by 2025 in North America.
An Industry-First

THE ROAD TO GOAL ZERO

1

FIELD REMOVAL

The aged carpet and infill is removed from the venue and prepared for transport.



2

INFILL REGENERATION

The carpet rolls are sent to a Tarkett Sports facility in Oregon to extract the infill, clean it, and separate for reuse.

FieldTurf®
A Tarkett Sports Company

SUSTAIN THE GAME

3

CARPET RECYCLING

The aged carpet is sent to *Circular Polymers* in California to be cut, processed, and refined into a blend.

4

PRODUCT MANUFACTURING

Using a proprietary process that upcycles the material into a high-grade polyurethane & polypropylene blend, the carpet can be transformed into various products like nailer boards, planters, and park benches.

GOAL ZERO

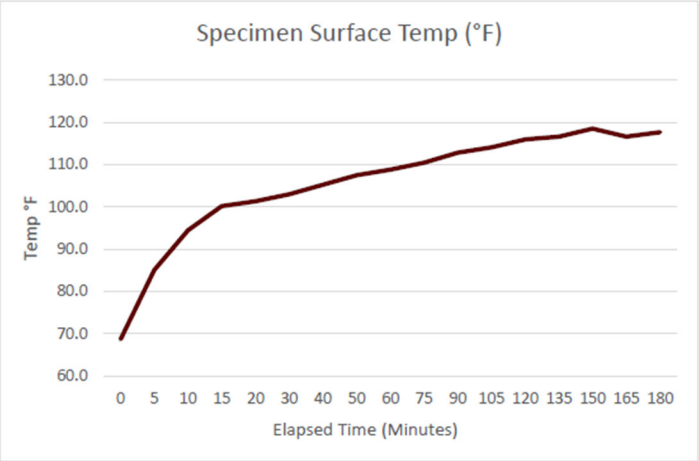
See Goal Zero in action at Mercedes-Benz Stadium, home of the NFL's Atlanta Falcons and Atlanta United of Major League Soccer. All components of the field avoided being sent to landfills in the replacement of the surface in February 2022.

Banning the use of artificial turf is a miss-guided policy

Scientific studies and real-world experience have shown that artificial turf provides a safe, non-toxic, environmentally sound choice for athletic fields that allows for more playing time and economic savings over natural grass.

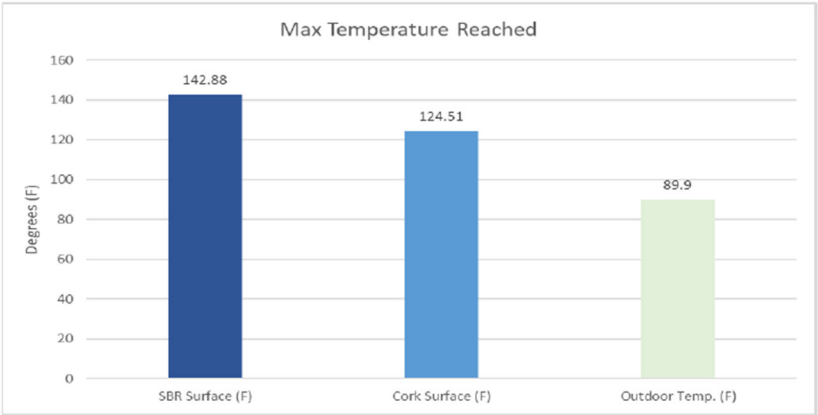
Laboratory studies have shown that artificial turf with natural fill under full sun conditions remains within tolerance category 1 for the FIFA 14 heat test method (<122 °F)

- Laboratory testing was performed to determine the relative effect infill can have on the surface temperature of a synthetic turf system
- Synthetic turf carpet with infill was exposed to infra-red heat lamps for a prolonged period to simulate the heating of the sun in a controlled environment per FIFA Test Method 14 heating apparatus
- Results for synthetic turf with PureFill are shown here



Natural infill produces a cooler surface than crumb rubber infill

- Studies in 2024 showed that – under identical conditions – the use of natural infill results in approximately 20 degrees cooler temperature on the surface of artificial turf than the use of crumb rubber



Temperatures at 2 feet and 5 feet above the surface of the field are the same for natural grass as artificial turf and environmental testing across three surfaces showed minimal differences in surface temperature

- Researchers at the University of Georgia found that wet bulb globe temperature (WGBT) for artificial turf was no different to a well-watered grass field (Grundstein & Cooper, 2020)
- In this chart, A = artificial turf, G = grass, and T = hardcourt tennis court