



2022 WM PHOENIX OPEN

# SUSTAINABILITY REPORT





# ENVIRONMENTAL IMPACT

The WM Phoenix Open is a zero waste tournament with emissions management and water restoration initiatives. The use of energy, materials, and water all contribute to the greenhouse gas emissions that are harming our planet. We remain committed to minimizing all environmental impacts from tournament activities and working for a sustainable tomorrow.

# SOCIAL IMPACT

Social and environmental impacts are entirely intertwined with a sustainability agenda that impacts and requires commitment from our fans, the local communities, and tournament vendors and sponsors. With a focus on supporting Arizonans across the state, the tournament prioritizes hospitality access for underserved groups and impactful charitable donations in the Phoenix-Scottsdale area. An initial analysis utilizing environmental justice tools from the US EPA also shifted how WM approaches balancing the tournament's emissions footprint.

# ECONOMIC IMPACT

2022 marked the 87<sup>th</sup> annual WM Phoenix Open, maintaining our status as one of the five longest established events on the PGA TOUR. The Thunderbirds, the tournament host, raised \$10.5 million for local charities and worked with Arizona State University to estimate the total economic impact of the 2022 WM Phoenix Open at \$453 million.

Every choice we make during the planning for the WM Phoenix Open – the best-attended golf tournament in the world – affects our claim to the title of

**"THE GREENEST SHOW ON GRASS."**

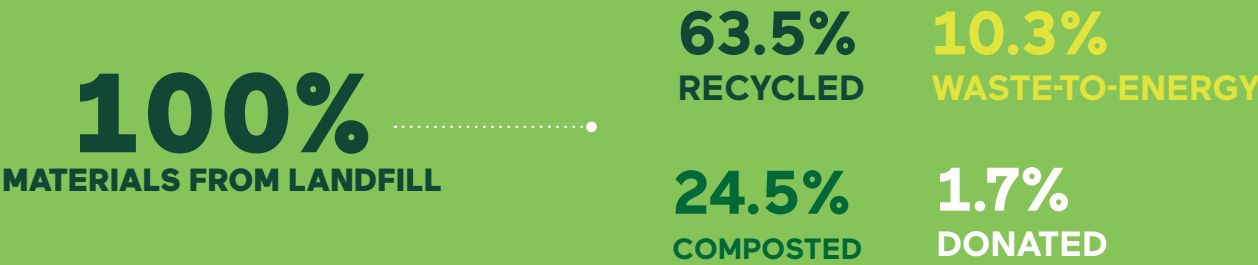


The Thunderbirds, WM, the PGA TOUR, TPC Scottsdale, and many other stakeholders align around the tournament's sustainability mission. We make every effort to use the WM Phoenix Open's platform to drive industry leadership, demonstrate how other organizations can improve their impacts, and educate our incredible fans on how to support thoughtful environmental management.

# 2022 WM PHOENIX OPEN

## “THE GREENEST SHOW ON GRASS”

### MATERIAL RECOVERY



### REUSE & DONATION



### COMMUNITY IMPACT



## TRANSPARENT REPORTING



Golf  
Environment  
Organization  
Certification ✓



UL Validation ✓

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Digital Sustainability Report

## WATER MANAGEMENT



**7** Water Restoration Sponsors



TRADEMARK



## EMISSIONS MANAGEMENT



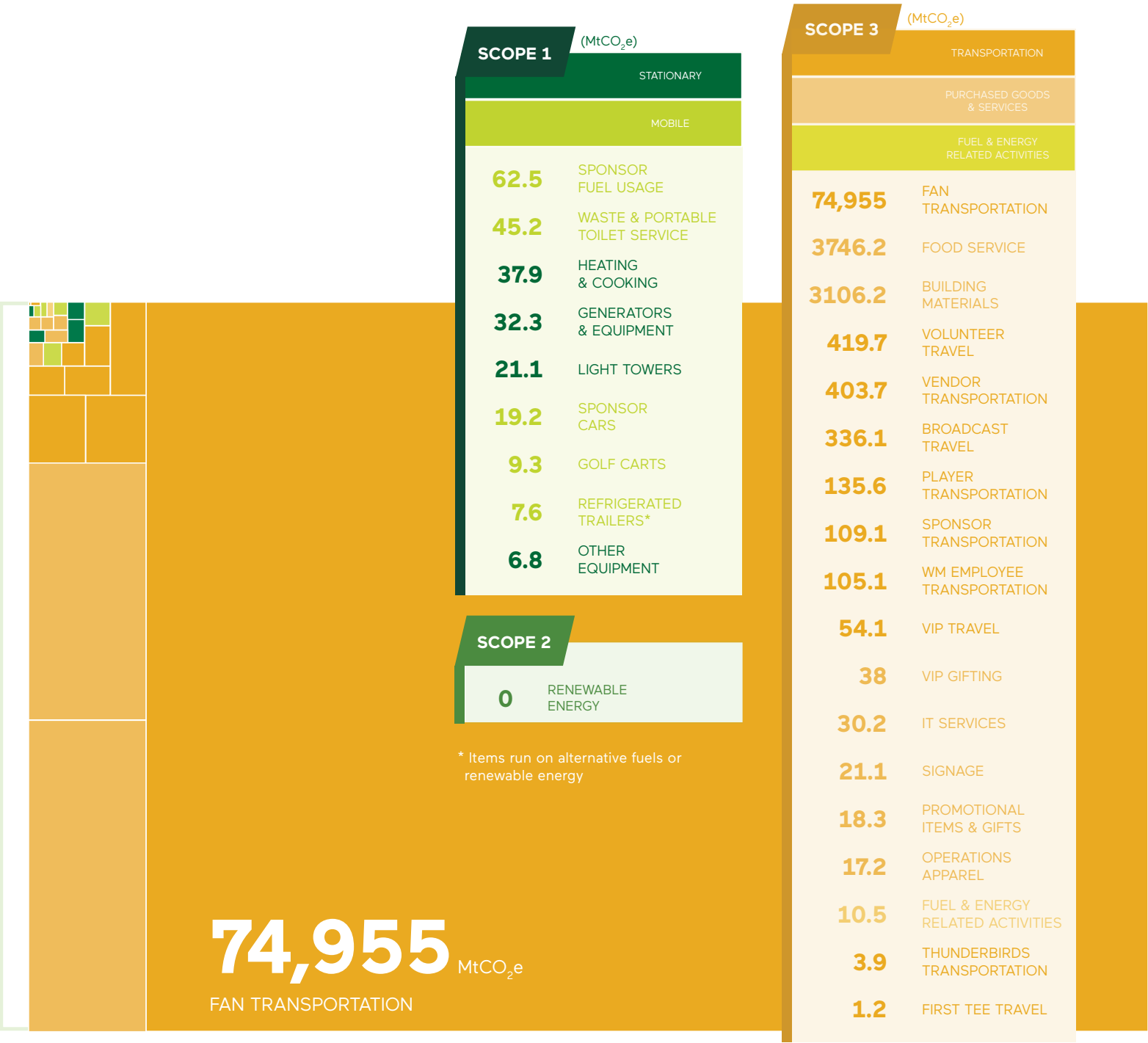
# ENVIRONMENTAL IMPACT

## GREENHOUSE GAS EMISSIONS

The Intergovernmental Panel on Climate Change (IPCC) continues to warn that global warming must not exceed 1.5°C above pre-industrial temperatures by 2050 to avoid the most catastrophic impacts of a climate emergency. Last year, the IPCC’s Sixth Assessment Report confirmed that the climate crisis is already affecting every region of the planet. Businesses and sports organizations alike play a vital role in driving down greenhouse gas (GHG) emissions and providing a platform for climate education that inspires behavior change.

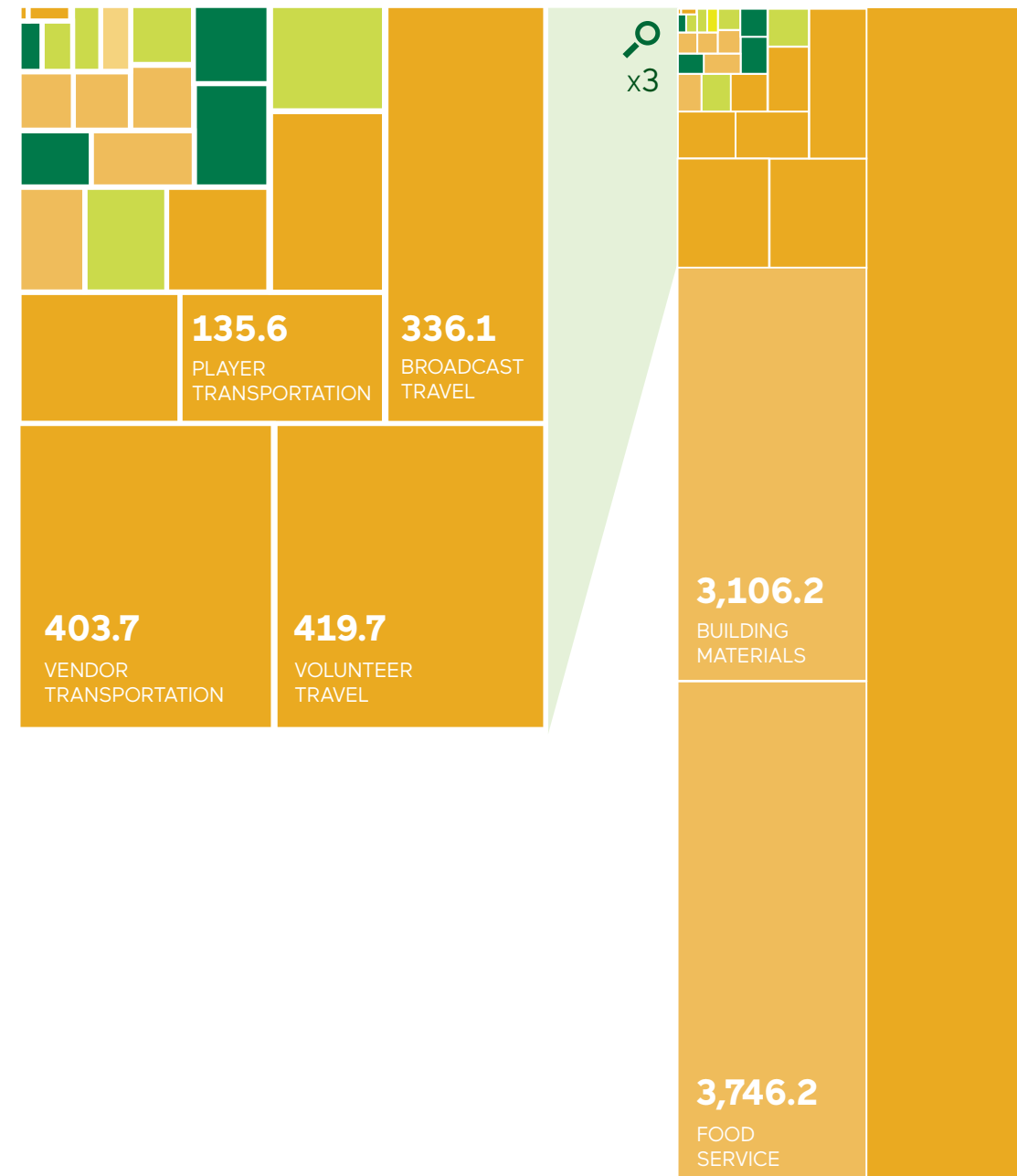
To further cement our claim to the title of “THE GREENEST SHOW ON GRASS,” we are leveraging the unique popularity of the WM Phoenix Open to announce the tournament's GHG emissions reduction targets. By 2030, the WM Phoenix Open expects to cut GHG emissions by 50% from our 2022 baseline, a reduction of 4,028.1 metric tons of carbon dioxide equivalent (MtCO<sub>2</sub>e). This includes all scope 1, 2 and 3 emissions from tournament operations except fan travel. The Thunderbirds and WM continue to work on fan transportation emissions reduction initiatives – this is the tournament's largest source of emissions as well as the area of operations where we lack the most control, even among indirect emissions sources. We plan to continue to report on and reduce our fan travel footprint as a top priority.

SEE  
NEXT  
PAGE



## GREENHOUSE GAS EMISSIONS (MtCO<sub>2</sub>e)

[Click here](#) to review all WM Phoenix Open emissions sources and associated GHG emissions from the 2022 tournament.





# ENVIRONMENTAL IMPACT

## GREENHOUSE GAS EMISSIONS

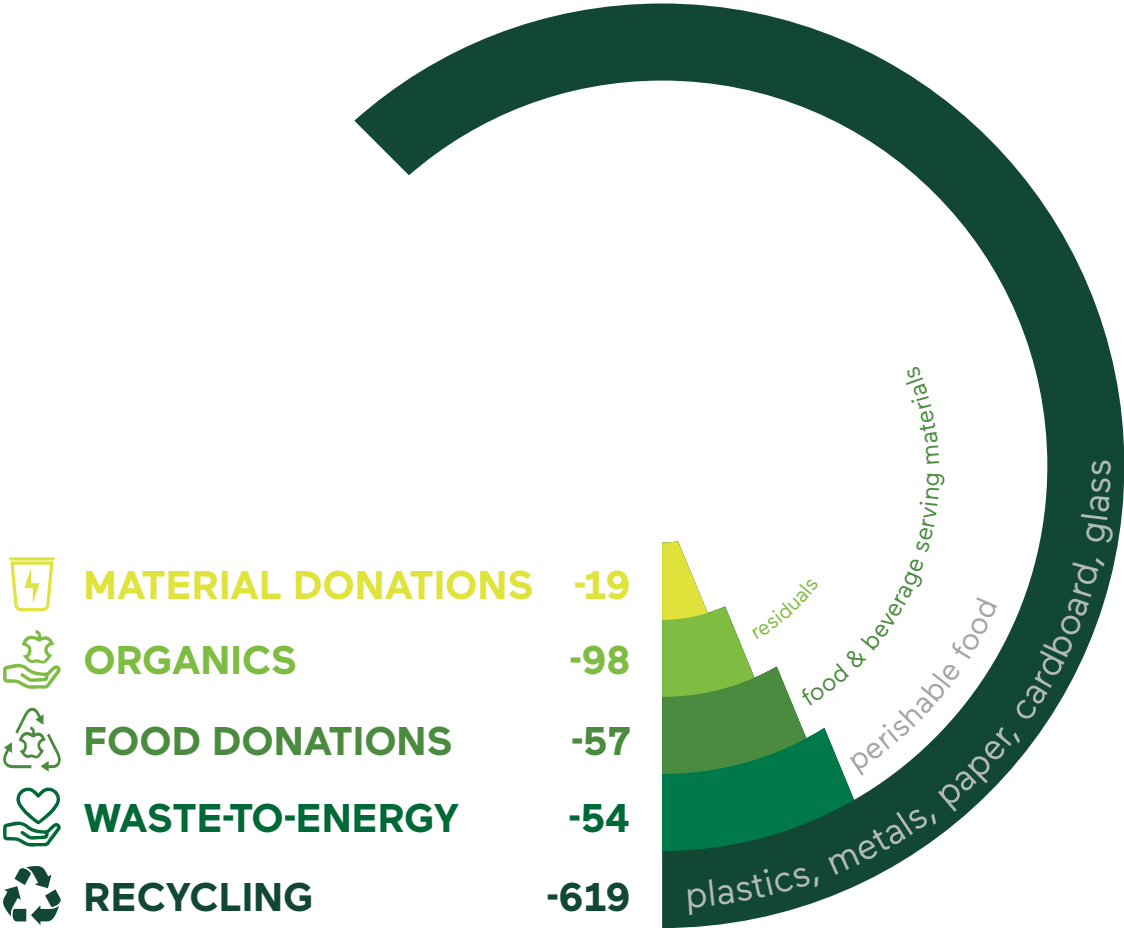
Using sports as a unifying tool to drive climate awareness, the WM Phoenix Open remains committed to the [UNFCCC Sports for Climate Action framework](#). The Sports for Climate Action initiative positions sports organizations and their communities on the path of the low carbon economy and a 1.5°C threshold set by the Paris Agreement.

Alternative energy is prioritized across all operations. The Thunderbirds purchase 100% renewable electricity to mitigate our scope 2 footprint, and generators that are not plugged into the grid run on biodiesel. Most WM trucks used to haul tournament waste run on compressed natural gas, emitting less than half the GHG emissions of diesel.

In 2022, WM offset all scope 1 and a portion of non-fan travel scope 3 emissions. Based on an analysis that utilized environmental justice tools from the US EPA, WM opted to provide \$42,000 to Tribal Renewable Energy Fund projects through the [Bonneville Environmental Foundation](#). This represents a path to supporting meaningful and emissions reduction projects that can't be a part of the carbon offset markets. These Tribal Renewable Energy Fund projects are incredibly impactful, supplying energy independence, resilience, and security to the Nations in which these projects are implemented.

In 2023, we are planning to start the WM Phoenix Open Sustainable Communities Fund, combining contributions from WM and the Thunderbirds while providing an opportunity for tournament stakeholders to get involved as well. Fund planning is underway with the intent of financing emissions reduction projects that support marginalized and vulnerable populations in local communities, particularly groups who may be disproportionately affected by the climate crisis, such as Tribal Nations and people of color.

## Potential Avoided Emissions from Material Recovery (MtCO<sub>2</sub>e)



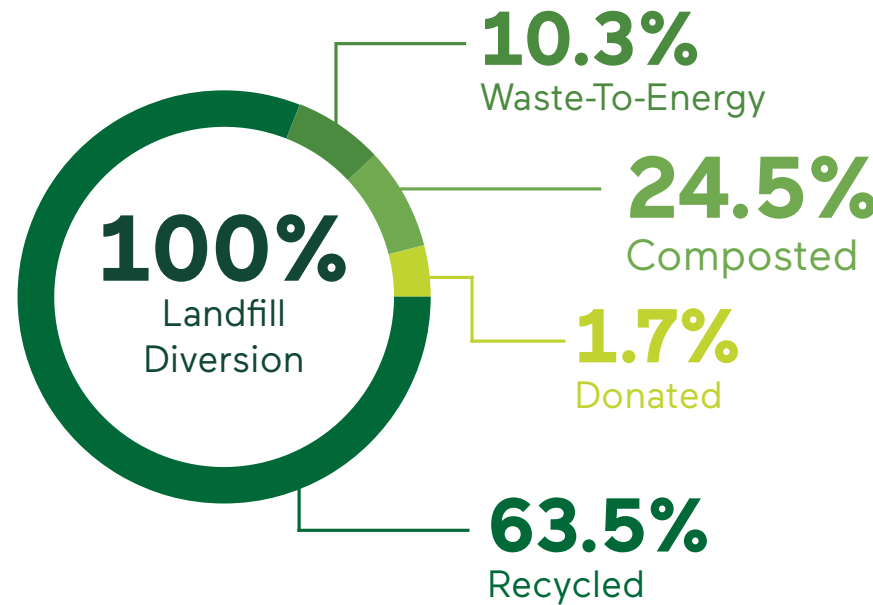
\*Potential avoided emissions are calculated in accordance with GHG Protocol standards and use the EPA's Waste Reduction Model (WARM).

# ENVIRONMENTAL IMPACT

## MATERIALS

WM launched the Zero Waste Challenge in 2012 to continuously improve the management of materials consumed on site, expand vendor and fan understanding of proper waste disposal, divert waste from landfills, and share a feeling of responsibility for creating the Greenest Show on Grass. Since then, there have been no landfill bins on course—only recycle and compost bins.

**In 2022, the WM Phoenix Open again diverted 100% of tournament materials from the landfill.** Over the twelve years of WM’s title sponsorship, the idea of what makes a sustainable event has evolved. While the concept of zero waste has been an important strategy, we recognize that it does not always consider the upstream and downstream impacts of our management choices. In our ongoing effort to reduce GHG emissions, we continuously explore the life cycle impacts of tournament materials, a concept called [Sustainable Materials Management](#) (SMM). SMM helps us understand, for example, that impacts can occur at all stages of a beer cup’s life—from the design, manufacturing, transport, and packaging of the beer cup, to how the WM Phoenix Open golf fan will dispose of it, to whether it gets recycled, composted, reused, or incinerated. Choices made at each step of a product’s life can optimize material usage, reduce water and energy consumption, and mitigate GHG emissions.



## SOME RESULTS

- 100% of vendors contractually commit to the reuse, donation, recycling, or composting of all materials brought on site.
- 52% of 2022 signage was reused from previous tournaments.
- 84% of 2022 signage is being stored for reuse.
- 170 pounds of wine and liquor bottles were turned into reusable glasses through a local vendor, Refresh Glass.
- Daily tickets, pairing sheets, parking passes and parking maps were printed on paper that uses 30% post-consumer recycled content.
- 100% of tournament paper materials were Forest Stewardship Council Certified.
- The WM logo water feature used 144,000 golf balls, reused every year since 2012.
- M Culinary Concepts led vendor donation of over two tons of unused, perishable food to local organizations.
- Almost five tons of carpet was donated to Stardust Building Supplies.

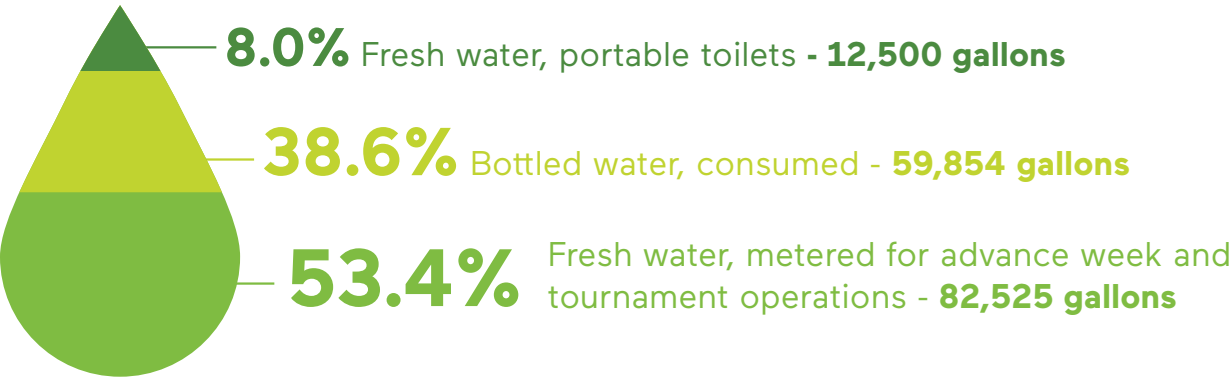
# ENVIRONMENTAL IMPACT

## WATER

Tournament sponsors, vendors, and operational collaborators join the Thunderbirds and WM to balance the WM Phoenix Open’s water impacts. The TPC Scottsdale's high efficiency water management system optimizes gray water reuse. On-course tournament conservation measures also help ensure that water is used responsibly. Since 2011, approximately 56,466 gallons of water from cooking and cleaning have been reused in the portable toilets. 2022 marked the seventh year of the tournament’s coordination with [Bonneville Environmental Foundation](#) as a [Change the Course](#) sponsor. In 2022, we all combined efforts to restore 50 million gallons of water to Arizona's Verde River Valley, bringing the program’s seven-year total to over 368 million gallons restored.

The WM Green Scene also featured water education. Signage highlighted the restoration initiative as well as program sponsors, and a new cornhole game educated fans about how reusing and recycling textiles conserves embedded water, the water required to make products and food.

## TOURNAMENT DIRECT WATER FOOTPRINT





# ENVIRONMENTAL IMPACT

## SUSTAINABILITY EDUCATION

WM uses the tournament’s platform to educate fans about how to make a positive impact on the environment. To combat a large, consistent disposal issue, WM also continued to promote how to Recycle Right®, specifically keeping food, liquid, and plastic bags out of recycling bins.

PGA TOUR players kept the energy and excitement of the WM Phoenix Open alive by engaging fans at home in a [sorting competition](#) and [sustainability PSA](#). Players also encountered educational efforts throughout their WM Phoenix Open experience, learning about how to support the zero waste program. Players found a quick guide to recycling and composting on course as well as sustainability metrics about the tournament’s initiatives related to water restoration, GHG emissions management, and zero waste.

The WM Green Scene also featured climate education. Alongside the embedded water version, a new cornhole game educated fans about how minimizing and composting food waste reduces GHG emissions. Food waste reduction represents a significant opportunity across the world, so it is essential to expand the understanding of why it is important to not waste edible food.

WM also led behind-the-scenes sustainability tours for sports and event organizations, PGA TOUR sponsors and partners, and other sustainability professionals. Fans learned about the intent behind the WM Green Scene games, our bin design, the vendor engagement process, and other planning strategies for the tournament’s comprehensive sustainability program.

Events have an incredible ripple effect. Sustainability is in the DNA of the WM Phoenix Open so our vendors, sponsors, and fans are compelled to consider their footprint. If they leave with a different understanding of climate impacts, there is potential for that knowledge to outweigh any on-course achievements.





# SOCIAL IMPACT

## WM SUSTAINABILITY FORUM

The 2022 WM Sustainability Forum once again brought together sustainability leaders from the waste industry and beyond through a virtual setting. With a theme of For Tomorrow<sup>SM</sup>, the event focused on WM's investments in innovations that are bringing about a more just and sustainable future. The Forum included a keynote by WM CEO Jim Fish and featured conversation with WM executives and corporate sustainability leaders. The event also elevated the voices of youth activists, designers who participated in the WM Design Challenge, and experts on creating diverse and inclusive workforces.

We also hosted an in-person event, [Together Today, For Tomorrow<sup>SM</sup> \(TT4T\)](#), which highlighted innovation in sustainability and featured thoughtful discussions between industry leaders. Through several conversations throughout the year, TT4T inspired meaningful climate action by connecting individuals and communities in conversation.

In addition, we showcased the work of designers who participated in the [WM Design Challenge](#), Powered by Slow Factory. Through this challenge, six teams created design solutions that embrace regenerative practices. Participants received grants to develop their ideas and mentorship from leaders in the textile recycling supply chain.

WATCH THE 2022 WM SUSTAINABILITY FORUM

# Together Today, For Tomorrow



# SOCIAL IMPACT

## ENVIRONMENTAL JUSTICE MAPPING

### LOCAL ANALYSIS

WM conducted a community impact analysis for the WM Phoenix Open using US EPA environmental justice tools EJScreen and EnviroAtlas. This analysis included a review of demographic and socioeconomic indicators, environmental indicators, health disparities, critical service gaps, and impacts of climate change, which were collected within an 18-mile radius of the WM Phoenix Open site. The radius was set based on ensuring consideration of local Tribal Nations.

### GENERAL FINDINGS

The WM Phoenix Open is located near several large communities with a diversity of races, migration backgrounds, and languages spoken. Within the 18-mile radius, the US EPA's environmental justice data indicated a pattern of vulnerable communities dealing with environmental factors that affect human health such as extreme heat, heat islands, and air pollutants.

Working to understand our footprint is essential to moving forward with holistic, community grounded environmental action as well as taking responsibility for the impacts on the surrounding inhabitants, human and non-human alike. We are leveraging US EPA data to better understand effects of extreme heat and air pollutants to nearby at-risk communities and to focus engagements as well as resources in those communities.

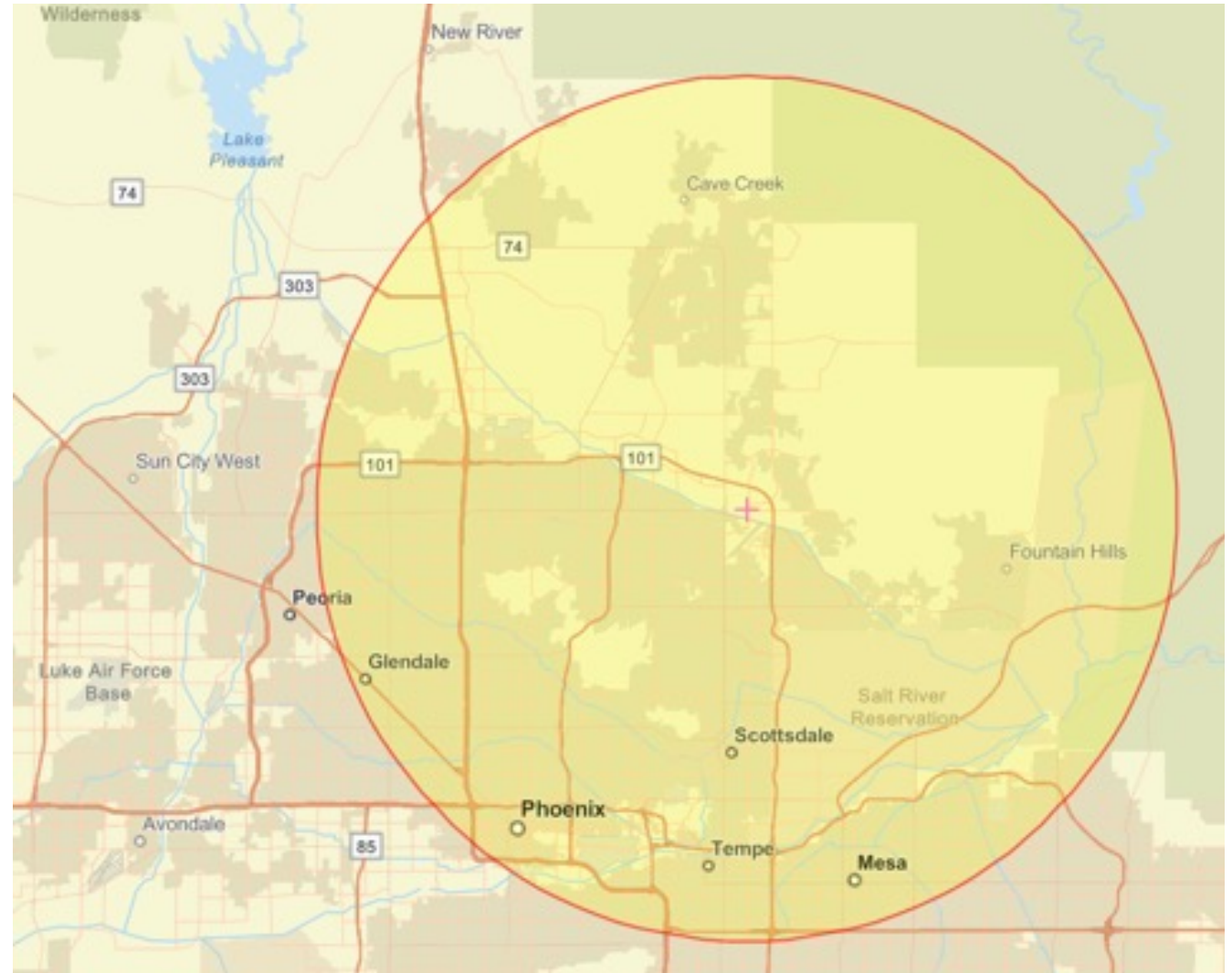


Figure 1 shows the 18-mile radius around the TPC Scottsdale included in the analysis.



# SOCIAL IMPACT

## COMMUNITY ENGAGEMENT

By supporting philanthropic activities and programs throughout the week, the WM Phoenix Open benefits communities across Arizona and leaves a lasting, positive social impact long after the tournament ends.

## HOMETOWN HEROES – YOUTH – DIFFERENTLY-ABLED INDIVIDUALS

The Thunderbirds once again celebrated active first responders as well as active and retired U.S. military personnel with their guests at the Birdies for the Brave Patriots' Outpost. This is the 20th year that the tournament has extended this free invitation and an exceptional view of the 18th Hole as a small gesture of thanks to our hometown heroes.

Tuesday was a special day at the WM Phoenix Open, especially for children of the Valley. More than 600 kids from local elementary schools were allowed to participate in the R.S. Hoyt Jr. Family Foundation [Dream Day](#) benefiting The First Tee of Phoenix. At the TPC Scottsdale Champions Course practice range, the kids met Arizona Cardinals legend Larry Fitzgerald, interacted with local team mascots, and participated in a golf clinic sponsored by PING to learn the great game of golf from one of the best, Bubba Watson. After the athletes spoke, the kids were treated to a dazzling trick shot show performed by pro golfer Tania Tare. It was a beautiful Scottsdale day that these kids won't soon forget.

The festivities continued later in the morning when community leaders and celebrities joined PGA TOUR players and Valley team mascots in the annual San Tan Ford Special Olympics Putting Challenge. Twenty-three-time gold medalist Michael Phelps, former Diamondbacks pitcher Brandon Webb and San Tan Ford owner Tim Hovik are just a few of the participants that paired up with Special Olympics athletes to putt nine holes.

The inspiration of the morning events carried over into the afternoon when DJ Gregory received the PGA TOUR Courage Award in what was a heartfelt, emotional moment. Gregory, who was born with cerebral palsy and walks with the assistance of a cane, has walked more than 14,000 miles and 42,000 holes at PGA TOUR events, raising more than \$1 million for his Walking For Kids Foundation. Gregory was given the award at a surprise ceremony at the WM Phoenix Open and is the first non-player to receive the prestigious honor. In addition to the award, the PGA TOUR, The Thunderbirds, WM, and Jon Rahm donated \$25,000 each to Gregory's foundation.



# ECONOMIC IMPACT

## ANALYSIS

The Thunderbirds coordinated with Arizona State University to conduct an economic impact analysis of the 2022 WM Phoenix Open. Results indicated an overall economic impact of \$453 million, demonstrating the widespread benefits to the local community.

## CHARITABLE DONATIONS

The WM Phoenix Open generated \$10.5 million for charity in 2022, making donations to more than 200 different organizations throughout the year and funding additional improvements to the local community.

Players, caddies, volunteers, and fans covered TPC Scottsdale in green for the 12th annual GREEN OUT day to show support for environmental sustainability. The Thunderbirds donated \$56,666 to three environmentally focused charities – Change the Course, Waste Not, and The Arizona Recycling Coalition.

The stands at the iconic 16th Hole were full of enthusiastic golf fans on Wednesday afternoon of tournament week for the WHOOP Shot at Glory, a closest-to-the-pin contest for a chance at \$1 million for charity. A special performance of “Taps” by trumpeter Dr. Jesse McGuire honored victims of 9/11 as the American Flag was unfolded. Brad Schoenberg, Taylor Morrison President, won the Shot of Glory with a tee shot coming to rest just 11 feet, three inches from the cup. With the stellar tee shot, Schoenberg earned \$40,000 to be donated to a charity of his choice. WHOOP CEO Will Ahmed came in second place, accruing \$25,000 for charity, and Adam Pritchett of Pacific Office Automation came in third, securing \$15,000 for charity.

More information on benefiting charities can be found at the [Thunderbirds’ WM Phoenix Open website](#).





# CERTIFICATIONS

For years, the WM Phoenix Open has invited third-party certifiers to evaluate our environmental claims.

## GOLF ENVIRONMENT ORGANIZATION

In 2022, we achieved our sixth [Golf Environment Organization](#) tournament certification. The WM Phoenix Open was the first PGA TOUR tournament to achieve this certification and remains the largest event ever to achieve this level of recognition. The TPC Scottsdale has maintained its Golf Environment Organization’s facility certification since 2019 as well.



## UL ZERO WASTE

For the tenth straight year, UL provided a third-party validation of the WM Phoenix Open’s zero waste program. In 2022, the tournament achieved 100% landfill diversion with 11% incineration with energy recovery.





# MATERIALITY

## PROCESS

The Thunderbirds and WM conducted the tournament’s first materiality survey in advance of the 2022 tournament. Performing this assessment of issues, risks, and opportunities illustrated what is material to the WM Phoenix Open’s sustainability strategy in a changing global climate. This assessment helped us identify topics that are strategically important to the WM Phoenix Open and its stakeholders while guiding decision-making across the tournament's value chain.

## ANALYSIS

- Responses to all materiality indicators trended higher in importance, illustrating the widespread commitment to environmental and social impacts.
- After adjusting operations for the Covid-19 pandemic, Health & Safety and Fan Experience topped the internal and external list, demonstrating a shared commitment to maintaining the uniquely fun WM Phoenix Open experience while prioritizing safety.
- The next set of priorities included Charitable Donations, Community Involvement, Industry Leadership, Innovation, and Waste Diversion, aligning with the tournament’s current focus on community, leadership, and thoughtful material management.
- The five lowest ranked elements included Climate Strategy, Emissions Reductions, Renewable Energy, Inclusion and Diversity, and Environmental Education, indicating that our planning team’s internal focus in future years should highlight these areas to improve the understanding of the value to the community and environment.
- The Thunderbirds and WM can utilize this analysis to design an updated sustainability strategy for future tournaments.



## MATERIALITY STAKEHOLDERS

### INTERNAL

The Thunderbirds  
WM

### EXTERNAL

Vendors  
Sponsors  
Local Non-profits  
PGA TOUR  
CAA Golf



# UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

The United Nations [Sustainable Development Goals](#) (UN SDGs) provide a set of universal goals to help combat the urgent environmental, political, and economic challenges facing our world. The UN SDGs call on all organizations to apply their creativity and innovation to solve sustainable development challenges. The WM Phoenix Open strives to support the UN SDGs and assess how we can establish targets to expand our positive impact on the local communities and the environment.

1 NO POVERTY



## Goal 1: End poverty in all its forms everywhere

Through annual donations from the Thunderbirds, the WM Phoenix Open assists in raising awareness and facilitating the mobilization of resources to alleviate poverty. Tournament contributions support Arizona charities and organizations that help lift those most in need.

8 DECENT WORK AND ECONOMIC GROWTH



## Goal 8: Decent work and economic growth

The WM Phoenix Open generates a substantial impact on the local community, resulting in an estimated \$453 million of economic activity. The scale of the tournament offers opportunities for economic growth, employment, and community involvement.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



## Goal 9: Industry, innovation, and infrastructure

The WM Phoenix Open strives to model innovation and best practices for all industries. Sponsorship means more than branding at the tournament, so the Thunderbirds and WM actively engage organizations interested in contributing to our sustainability initiatives related to responsible procurement, water restoration, emissions reductions, and waste diversion. WM's TT4T series convened influential thought and business leaders who share the passion to evolve our thinking and systems to adapt to the changing demands of the environment.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



## Goal 12 Responsible consumption and production

Sustainable consumption and material management are top priorities at the WM Phoenix Open. We divert 100% of tournament materials from the landfill and every vendor contractually commits to the reuse, donation, recycling, or composting of all materials brought on course. In addition, WM works with like-minded brands involved in the tournament's supply chain to utilize and promote products made from recycled materials.

13 CLIMATE ACTION



## Goal 13: Climate Action

The WM Phoenix Open aims to model GHG emissions measurement and management to reduce our impacts while also inspiring others to take action. The Thunderbirds and WM engage vendors to reduce the tournament's GHG footprint on course and down the supply chain, balancing our remaining footprint with carbon offsets. WM established a new GHG baseline for the tournament in 2022 and plans to set science-based targets in line with our UNFCCC Sports for Climate Action framework commitment and the Paris Agreement.



# APPENDIX





# WM PHOENIX OPEN

## EMISSIONS

The table below outlines the WM Phoenix Open's sources and associated GHGs from the 2022 tournament.

Scope 1	Fuel	MtCO <sub>2</sub> e
Stationary		
Generators and Equipment	Biodiesel	32.3
Other Equipment	Biodiesel	6.8
Light Towers	Biodiesel	21.1
Heating and Cooking	Propane	37.9
Mobile		
Sponsor Cars	Gasoline	19.2
Golf Carts	Gasoline	9.3
Sponsor Fuel Usage	Gasoline	1.8
Sponsor Fuel Usage	Diesel	0.6
Vendor Fuel Usage	Gasoline	14.8
Vendor Fuel Usage	Diesel	45.3
Waste and Portable Toilet Service	Diesel	45.2
Waste and Portable Toilet Service	CNG	0.0
Refrigerated Trailers	Biodiesel	7.6
Scope 1 Total:		241.9

Scope 2		MtCO <sub>2</sub> e
Renewable energy	Electricity	0.0
Scope 2 Total:		0

Scope 3	MtCO <sub>2</sub> e
Purchased Goods and Services	
Building Materials	3,106.2
Signage	21.1
Food Service	3,746.2
Promotional Items & Gifts	18.3
IT Services	30.2
VIP Gifting	38.0
Operations Apparel	17.2
Fuel and Energy Related Activities	
Upstream Emissions	10.5
Waste Generated in Operations	
Donation - Materials	0
Donation - Food	0
Waste-to-energy	12.9
Organics	100.0
Recycling	17.7
Scope 3 Transportation	
Fan Transportation	74,955.0
Vendor Transportation	403.7
Sponsor Transportation	109.1
Volunteer Travel	419.7
Broadcast Travel	336.1
Player Transportation	135.6
WM Employee Transportation	105.1
VIP Travel	54.1
First Tee Travel	1.2
Thunderbirds Transportation	3.9
Scope 3 Total:	83,641.7

Total GHG Emissions	83,883.6
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1 MtCO<sub>2</sub>e is metric tons of carbon dioxide equivalent.

2 The [World Resources Institute GHG Protocol](#), [Climate Registry General Reporting Protocol](#), and [EPA WARM](#) were used to calculate GHG emissions

The WM Phoenix Open operates under ISO20121 standard for sustainable events management, which defines the requirements to ensure an enduring and balanced approach to economic activity, environmental responsibility and social progress relating to events.

The GHG emissions and analysis reflected in this report are exclusive to the WM Phoenix Open and are not part of WM's corporate GHG inventory or reporting.



# THE THUNDERBIRDS

Organizing the WM Phoenix Open in the Valley of the Sun since 1937, the mission of The Thunderbirds is to assist children and families, help people in need and to improve the quality of life in their communities. In its history, dating back to 1932, the tournament has raised more than \$176.1 million for charities in Arizona. The Thunderbirds and the WM Phoenix Open have raised more than \$110 million for local charities since 2010 when WM became title sponsor. For more information on the governance of The Thunderbirds and the organization's charitable impacts, please consult the [WM Phoenix Open website](#).

## WM

Based in Houston, Texas, WM is North America's largest comprehensive waste management environmental solutions provider. In collaboration with the PGA TOUR and The Thunderbirds, WM is dedicated to making the WM Phoenix Open the greenest tournament on the PGA TOUR. Learn more about the [WM Advisory Services](#) team, WM's [corporate sustainability efforts](#), and [WM Phoenix Open](#) activities at [wm.com](#).

# TPC SCOTTSDALE

Sixteen acres on the 400-acre property of [TPC Scottsdale](#) have been devoted to naturalized habitat areas, and 200 acres are desert vegetation and landscaping in the McDowell foothills of the Sonoran. TPC Scottsdale is a 36-hole resort and public golf facility, and has been part of Audubon International's Cooperative Sanctuary Program since 1995. Since 2019, the TPC Scottsdale has maintained its Golf Environment Organization's sustainable golf course certification.

