RBC Heritage

GEO golfenvironment.org

Sustainability Review

2016 RBC Heritage Presented by Boeing

Contents

Statement of Commitments

Morgan Hyde
Assistant Tournament Director, RBC Heritage

"This tournament has always taken tremendous pride in its host setting and the positive impact it delivers to the region. Pursuing a more sustainable event is a natural fit given the pride and history surrounding this great tournament."

Tony Wartko
Director of Facility Services, Sea Pines Resort

"We take sustainability very seriously and have benefited greatly both as a business and as a team by doing so. We are thrilled to be able to showcase our work through the RBC Heritage and we hope to inspire other clubs, fans and spectators to do their bit too, for the sport, for the planet and for each other."

Jonathan Smith
CEO, Golf Environment Organization

"The Sea Pines Resort and RBC Heritage partnering to drive sustainability is a showcase example of golf using its positive influence to drive positive environmental and social impacts"

Teresa Wade
Founder, Experience Green

"The effort to advance sustainability for golf and the Hilton Head Island destination is also promoting connectivity and collaboration among the local community that benefits all."

Introduction

The 2016 RBC Heritage Presented by Boeing is hosted at Harbour Town Golf Links on Hilton Head Island, South Carolina. From the founding days, when Charles Fraser set aside 605 acres to form the Sea Pines Forest Reserve, to the Thanksgiving Weekend in 1969 when Arnold Palmer and Jack Nicklaus strolled the fairways of the inaugural "Heritage Classic"- Sea Pines Resort and the Heritage Classic have shared a commitment to conserving nature and delivering a positive impact to the community.

This Sustainability Review, produced by the Golf Environment Organization on behalf of The 2016 RBC Heritage Team and Sea Pines Resort, summarizes the sustainability initiatives and carbon emissions associated with the 2016 RBC Heritage Presented by Boeing. Beginning with a look at where the tournament is hosted, the Sustainability Review provides a summary of Sea Pines Resort GEO Certified achievements. Next, a breakdown and graphical analysis of how the tournament is hosted details the carbon emissions produced by Tournament Operations, Player Travel and Spectator Travel. Finally, the Review concludes with a snapshot of what the tournament leaves behind as Legacies to the Hilton Head Island community and South Carolina region.

The following partners contributed time, effort, and resources to the sustainability efforts of the 2016 RBC Heritage Presented by Boeing:

RBC Heritage

The Sea Pines Resort

GEO golfenvironment.org

experience green™

Methodology

The primary purpose of this Review is to highlight sustainability initiatives in place at the 2016 RBC Heritage Presented by Boeing while simultaneously establishing an initial baseline report to support continuous improvement moving forward. Secondly, this Review will provide recommendations of potential improvement areas, as well as outline the road to certification.

Sustainability Standard for Tournaments (in-development)

In conjunction with golf's voluntary sustainability standard (VSS) for Facilities and Developments, Golf Environment Organization (GEO) is producing a VSS for golf tournaments outlining key performance criteria for staging a sustainable golf tournament. This emerging VSS for golf tournaments provided the framework for applying sustainability planning to the 2016 RBC Heritage Presented by Boeing, and will eventually serve as the methodology for determining the eligibility of a golf tournament achieving GEO Certified. Additionally, the 2016 RBC Heritage Presented by Boeing played an important role in supporting further development and revision to the VSS by testing the initial performance criteria.

About GEO Standards and Certification

GEO Certified extends to Facilities, Developments, and Tournaments that meet golf's voluntary standard criteria for sustainability. All industry standards align with ISEAL Standard Setting Code and are openly-consulted on.

Golf's Climate Fund

Golf's Climate Fund is a dedicated sector response to credibly compensate for golf's unavoidable climate impacts. This industry approach to mitigation enables any golf association, tournament, facility, player, spectator or trade event to calculate and offset its carbon footprint into low carbon projects in developing countries.

GEO is continuing to refine the carbon footprint methodology to be applied specifically to golf tournaments. This methodology was initially tested at the 144th Open Championship at St. Andrews. The 2016 RBC Heritage Presented by Boeing is the second golf tournament to apply this methodology. The methodology and scope definitions follow Greenhouse Gas Protocol and DEFRA Guidelines for calculating carbon emissions. For the purpose of this Sustainability Review, the areas of impact are broken down under the following categories: Tournament Operations, Player Travel, Spectator Travel

Launched in partnership with The Gold Standard, the global benchmark for climate and development initiatives, Golf's Climate Fund is a vital component of GEO's approach to *Engage, Support, Communicate, and Mitigate* golf's impacts across Facilities, Developments, and Tournaments.

Venue - GEO Certified Highlights

In November 2015, Sea Pines Resort became the first resort on Hilton Head Island (HHI) to achieve GEO Certified, golf's global ecolabel, in recognition for their ongoing commitment to Nature, Resources, and Community. Sea Pines Resort has 3 golf courses, 2 clubhouses, conference centers, lodging facilities, and multiple dining outlets. The staff at Sea Pines Resort employs the ethos that several incremental improvements added together produce big changes over an extended period of time.

Nature

About Sea Pines Resort Natural Environment

25% of all land is open space

605 acres of forest preserve

30 different mammal species

133 different bird species

95 bird boxes installed to encourage population growth of bluebirds and purple martins

Native vegetation serves as a rookery for snowy egrets

Fallen trees are left undisturbed to offer micro-habitats to local ecosystem

Resources

About Sea Pines Resort Resource Use

100% of golf course & landscape irrigation sourced from recycled water

400 tons of material recycled annually through waste diversion techniques e.g. dehydrator, vermin culture, recycling, cardboard baler

Energy conservation is prioritized through a LED-fitted Harbour Town Clubhouse, programmable thermostats & motion sensors installed throughout the property

60% of Food is locally sourced

Sustainable purchasing policies promote local and ethical procurement

Communities

About Sea Pines Community

Eco-adventure tours of the Sea Pines Forest Preserve and Calibogue Sound marshes educate local residents and visitors about the wildlife and ecosystem on Hilton Head Island

Actively spread sustainability education and awareness through outreach events such as the Zero Waste workshop and Sustainability in Golf symposium hosted by Experience Green, a sustainability focused NGO on Hilton Head Island

Tournament - Carbon Review

The following section provides a detailed breakdown of carbon emissions produced by Tournament Operations, Player Travel, and Spectator Travel. Below is a summary highlighting notable GHG emissions of the 2016 RBC Heritage Presented by Boeing.

Operations

- Diesel fuel-powered generators produced 27% of tournament staging carbon emissions.
- 19 tons of recycled waste + 73 tons of waste sent to landfill resulted in 19 tCO_2e.
- 100% renewable energy-sourced electricity reduced total operational carbon footprint by 11%. Solar and wind power saved 23 tonnes of CO_2e decreasing tournament staging carbon emissions by 11%.

Player Travel

Out of the tournament player field, 33 players travelled directly from the Masters in Augusta, GA and 81 players travelled from the Shell Houston Open two weeks prior . Player Travel (land and air) produced a total of 103 tCO2e or 0.8 tCO2e per player.

Spectator Travel

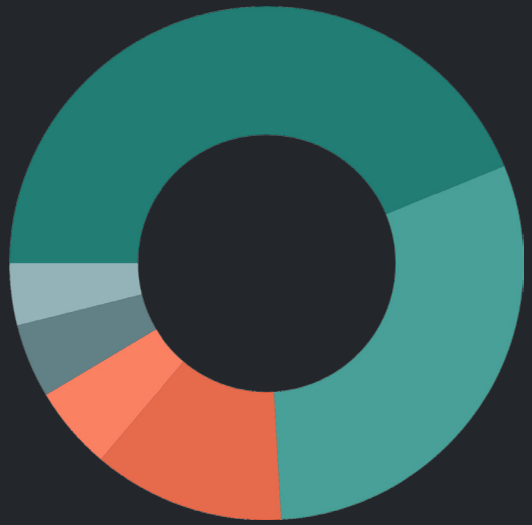
- Spectator Travel (land and air), averaged to 0.05 tCO_2e per spectator.
- Throughout the week, 4,025 bicycles travelled to the tournament saving an estimated 7.5 tCO_2e.
- The largest CO_2 footprint resulted from 4 Singaporean spectators – averaging 3 tCO2e per spectator.

Operations

24,995
miles driven by courtesy vehicles

5,492
gallons of diesel used by generators

8,635
miles driven by Supplier Delivery Vehicles



60,502
gallons of water used on-site

100%
renewable energy has powered the event for six consecutive years

Partnership with Palmetto Electric Co-op and Santee Cooper

20%
of all materials were recycled or composted

Total Tournament Operations Emissions

- Delivery Vehicles (39%)
- Fuel Generators (27%)
- Waste Disposal (11%)
- Courtesy Fleet (5%)
- Sea Pines Resort Trolleys (4%)
- Catering (3%)

Operations

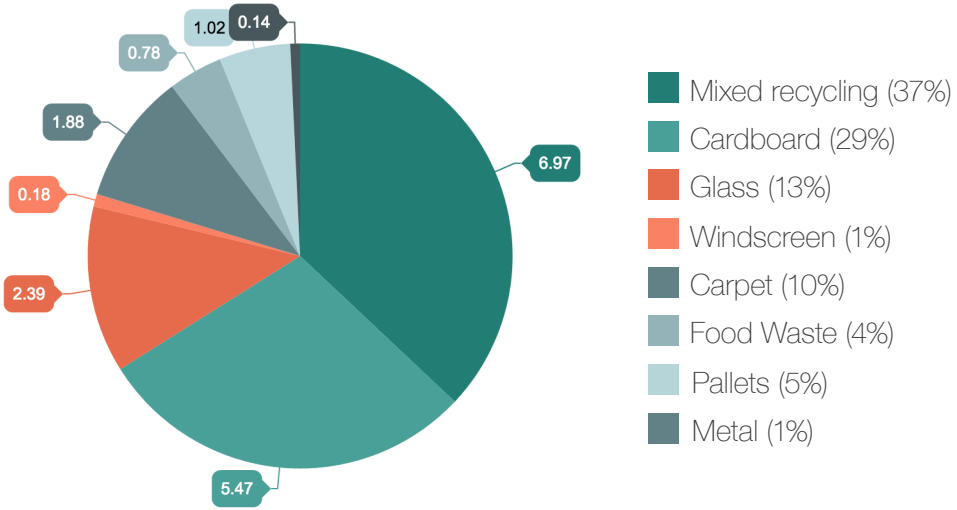
Waste overview

73.5 tons
of solid waste sent to landfill

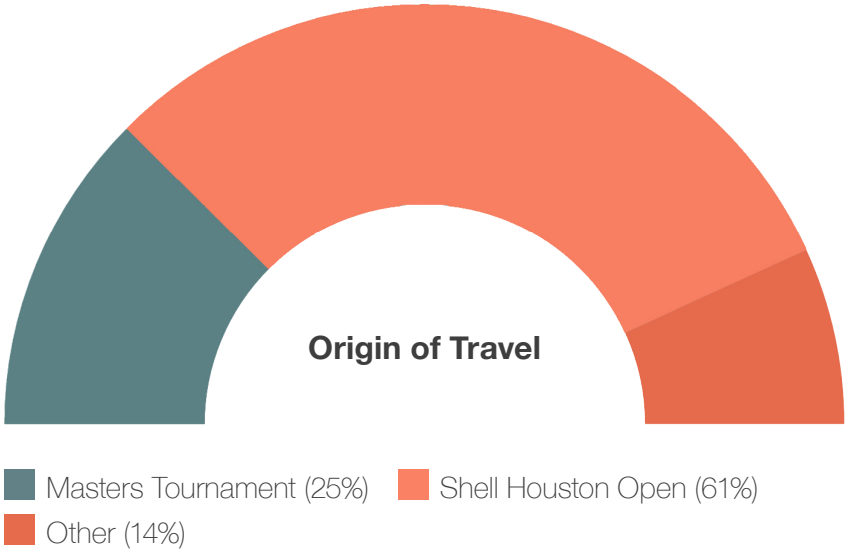
18.8 tons
of recycled waste diverted from landfill

Due to the recycling efforts of this years event, 18.8 tons of waste was diverted from landfill, equivalent to removing 1 car from the road (EPA GHG equivalencies calculator)

Recycled Materials Breakdown (tons)



Player Travel



Total Player Travel Emissions (tCO_2e)

The Masters Tournament	**33 players - 3 tCO_2e**
Shell Houston Open	**81 players - 89 tCO_2e**
Other	**18 players - 11 tCO_2e**
Total	**132 players - 103 tCO_2e**

Team RBC

10 players represented Team RBC at the 2016 RBC Heritage Presented by Boeing, all of whom competed in previous weeks at either the 2016 Masters Tournament or 2016 Shell Houston Open. The total CO_2 footprint produced by Team RBC was 4.8 tCO_2e. Jason Day came in with the lowest Footprint per shot at 0.2kg. Defending champion, Jim Furyk had the highest Footprint per shot with 53.7 kg CO_2e footprint attributed to his cannon-blasted inaugural tee shot.

David Hearn
7.5 kg CO2e

Graham DeLaet
3.9 kg CO2e

Adam Hadwin
3.9 kg CO2e

Ryan Palmer
3.7 kg CO2e

Mike Weir
0.7 kg CO2e

Graeme McDowell
0.4 kg CO2e

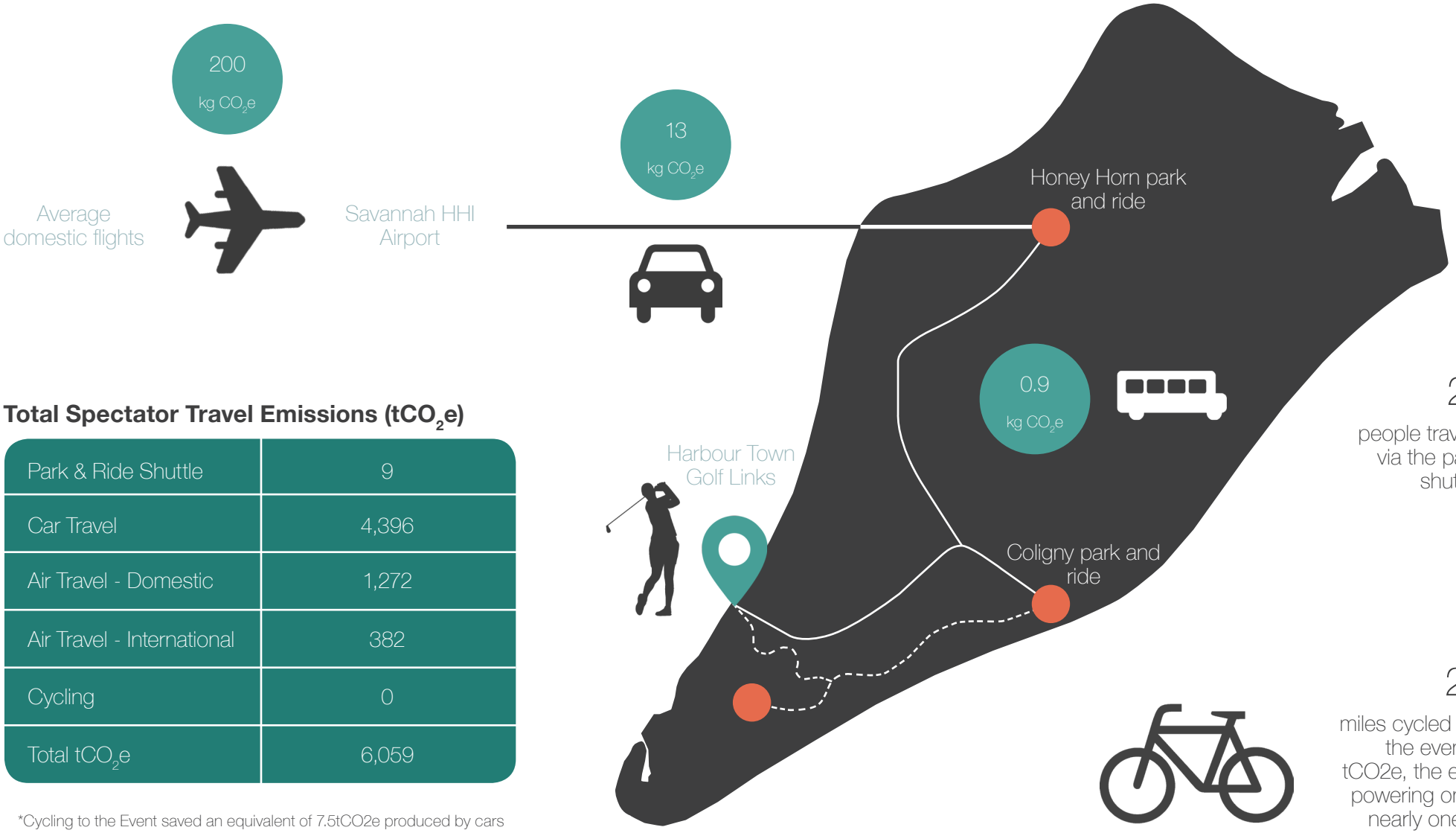
Brandt Snedeker
0.4 kg CO2e

Matt Kuchar
0.2 kg CO2e

Ernie Els
0.2 kg CO2e

Jason Day
0.2 kg CO2e

Spectator Travel: Local



Total Spectator Travel Emissions (tCO_2e)

Park & Ride Shuttle	9
Car Travel	4,396
Air Travel - Domestic	1,272
Air Travel - International	382
Cycling	0
Total tCO_2e	6,059

*Cycling to the Event saved an equivalent of 7.5tCO2e produced by cars

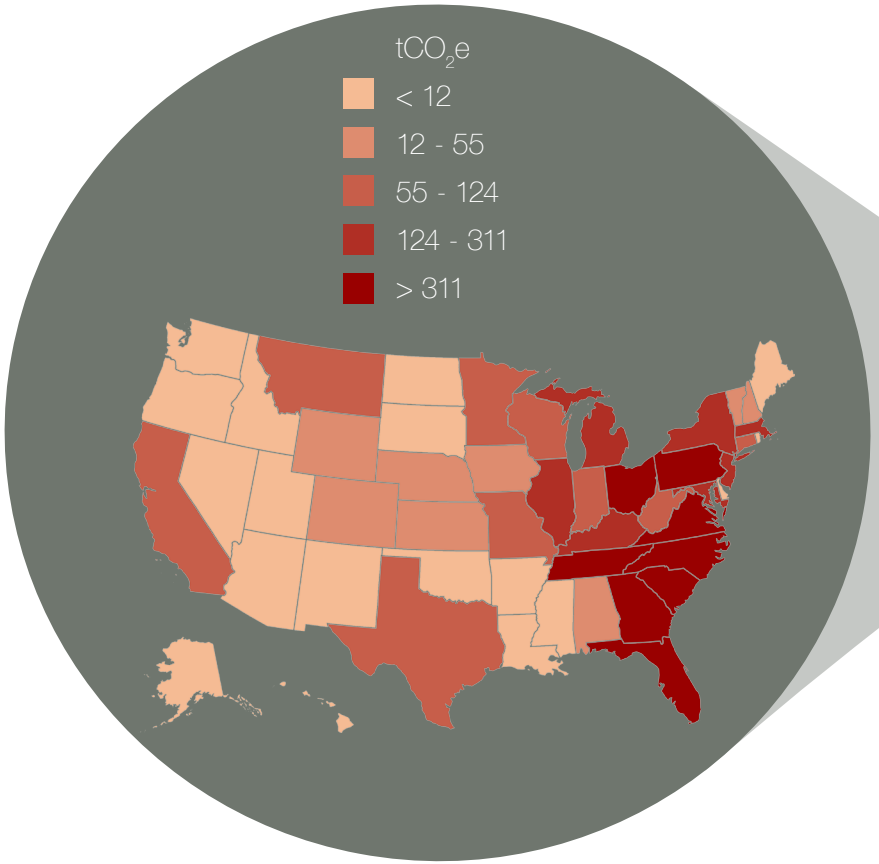
22,682

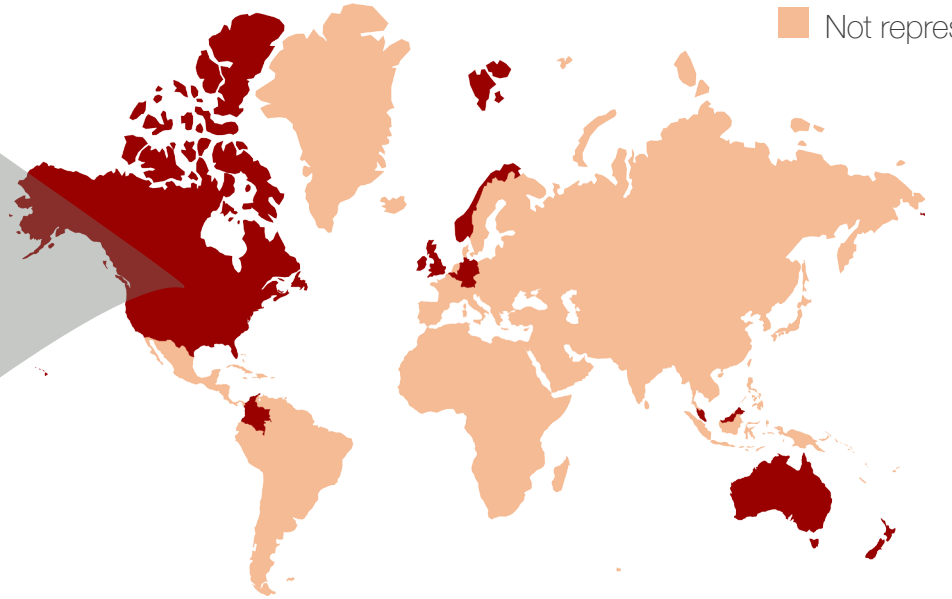
people travelled locally via the park and ride shuttle services

25,000

miles cycled to and from the event saved 7.5 tCO2e, the equivalent of powering one home for nearly one entire year

Spectator Travel: International

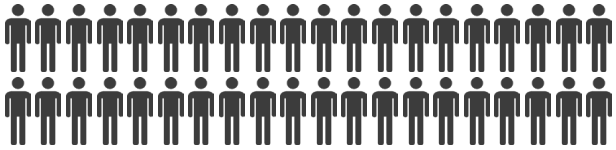




Countries represented

- Represented
- Not represented

1 spectator travelling from the UK has the equivalent impact of **40** local spectators



High Impact Countries (tCO_2e)

UK	101	Australia	8
Canada	52	Ireland	4
Singapore	12	Norway	4

Legacies - Beyond the Ropes

"Plaid About Reading"

$2,000 raised across 10 local schools

Children attended the tournament & met PGA Tour stars

Scholarships Awarded

Since 1993, The Heritage Classic Foundation has awarded a total of $3.8 million in scholarships to local high school students

First Tee *Lowcountry*

$250,000 raised through "Birdies for Charity" (2015)

$6,925 raised through "Heritage Champions Fore Charity"

Charitable contribution

$32 million has been raised and contributed to local charities since 1987

Volunteers

More than 1,200 volunteers from local high schools, NGO's and other areas of the community, support tournament week

Economic Impact

$96 million generated for the South Carolina economy (2014)

Access

All active military personnel granted complimentary admission to the tournament

Catering

Unused food donated to 'Second Helpings'

Estimated $288,000 raised through concessions to support local causes

Conclusion

The 2016 RBC Heritage Presented by Boeing is a showcase example of a major sporting event partnering with a renowned golf facility to demonstrate sustainability in and through golf. One of the feature highlights of the 2016 tournament included 4,000 + spectators cycling 25,000 + miles over the course of the week. In addition to encouraging spectators to cycle to the tournament, 3 shuttle locations were located throughout Hilton Head Island, resulting in a well-rounded strategy for providing sustainable accessible forms of transportation. Another highlight was Harbour Town Golf Links and Sea Pines Resort achieving GEO Certified prior to the 2016 event. This recognises their commitment to nature protection, resource efficiency, and community value. The tournament has also continued to build on a successful partnership with Palmetto Electric, powering the tournament from renewable energy sources for the past 6 years.

The tournament has highlighted a number of opportunities to build on in subsequent years. The foundation for a successful waste management programme was kick started this year through a collaboration between RBC Heritage, i2 Recycle and Sea Pines Resort. This resulted in 20% of waste being diverted from landfill and provides a good base from which to drive more ambitious waste reduction targets in 2017.

RBC Heritage and Sea Pines Resort have demonstrated a commitment to lowering the environmental footprint of the tournament as made evident through the “Keeping it Green” initiatives and data collection efforts of the 2016 RBC Heritage Presented by Boeing. Due to these efforts, RBC Heritage now has a strong baseline report, best practices, and a leadership pathway to make the tournament more sustainable in future years.

A final thank you to the various individuals that provided support with producing this sustainability review; Morgan Hyde (RBC Heritage), Angela McSwain (RBC Heritage), Tony Wartko (Sea Pines Resort), Mike Bennett (i2 Recycle) Nicholas Keller (Sea Pines Resort), Teresa Wade (Experience Green), Clyde Johnston (Experience Green), Saffron Stone (Sea Pines Resort).

Appendices

2016 RBC Heritage GHG Emissions

			Quantity	tCO_2e
TOURNAMENT OPERATIONS (Scope 1)				
Park and Ride Shuttle	Diesel	845	Gal.	8
Courtesy Car Fleet	Petrol	1,677	Gal.	14
Fuel Generator Consumption	Diesel	5,492	Gal.	55
Catering Transport	Diesel	705	Gal.	7
Delivery Vehicle Travel	Diesel	7,930	Gal.	79
Cooking Oil	Vegetable Oil	N/A	Gal.	N/A
Electricity	Renewable Energy	46,241	KWh	0
Waste Disposal				
Compost		-		
Recycling		19	Tonnes	0.4
Solid Waste		73	Tonnes	19
Water	Potable (metered)	N/A	Gal.	
	Gray-water		Gal.	
	Bottled		Gal.	
Total				183
PLAYER TRAVEL (Scope 2)				
Total player air travel to event	Aviation turbine fuel	10,390	Gal.	100
Total player land travel (from Masters)	Petrol	311	Gal.	3
Total				103
SPECTATOR TRAVEL (Scope 3)				
Land Travel - Car	Petrol	526,562	Gal.	4,396
Air Travel - Domestic	Aviation turbine fuel	132,162	Gal.	1,272
Air Travel - International	Aviation turbine fuel	39,690	Gal.	382
				6,050
TOTAL GHG EMISSIONS				6,336

RBC Data, Methodology and Assumptions

Methodology

All footprint methodology and scope definitions follow Greenhouse Gas Protocol and DEFRA Guidelines for calculating carbon emissions. The areas of impact were defined as Tournament Operations, Players, and Spectator Travel.

Verification

This report is based on the best data, assumptions and estimates available at the time of the report. GEO is establishing an annual independent peer review partnership with the Edinburgh Centre for Carbon Innovation to provide confidence that all methodology used follows GHG accounting and reporting principles.

Below is the methodology used when collecting data in the defined areas of impact:

Tournament Operations

The following tournament emission categories were defined as owned impacts of the event. Bespoke data collection sheets were created and sent to all relevant suppliers and contractors prior to the event in the following categories:

- Bioenergy
- Delivery Vehicles
- Electricity
- Fuel Consumption
- Heat and Steam
- Refrigerant Leakage
- Staff and Courtesy Vehicles
- Waste Management
- Water Consumption

The above data sheets were completed by the suppliers and collated by the GEO post-event to calculate the event's operational carbon footprint.

Players

The following player emissions were defined as shared impacts:

- Player air and land travel from previous tournaments
- Player local travel in courtesy vehicles

The following assumptions were used in the calculation methodology:

- All flight emissions were calculated including radiative forcing, the influence of non-CO2 effects of aviation (water vapour, contrails, NOx, etc.)
- Players departed from their last tournament location to HHI
- The 33 players from the Masters field travelled in a luxury vehicle from Augusta, GA to HHI
- Of the players travelling by air to Savannah Airport, 25% of the field were assumed to fly in a chartered plane, sharing emissions from the journey with an average of 2 others. The remaining 75% of the air travellers were assumed to fly first-class commercial.
- The players not travelling from Augusta or Houston were assumed to travel from a population-weighted average of the major cities in the United States

The following emissions were defined as out of scope:

- Caddy, family and entourage travel and accommodation
- Player accommodation

- Food, drink and activities outside of play

Local Transport

The following data and assumptions were used in the calculation methodology:

- Sea Pines trolleys transported 10,814 people over the week, covering 4,354 miles, consuming 844.5 gallons of fuel
- Two local bus stations were located at Honey Horn (5.6 miles from venue) and Coligny (1.6 miles from venue)
    - Local buses transported a total of 22,682 spectators during the week
    - Local buses were assumed to transport 30 people per ride

Spectators

The following data and assumptions were used in the calculation methodology:

- Ticket sale transaction data was extrapolated to represent the demographics of all unique spectators
- Average spectator travel distance from each state or country was represented using the capital city as an origin point
- Spectators were assumed to attend an average of 3 days (based on an average from data collected at previous tournaments)
- Spectators based 620 miles (1000 km) or less from HHI drove to the event in an average car, using petrol as fuel
- Spectators based 620 miles (1000 km) or more from HHI flew to the event via an average commercial airline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