



2021 ROAD
WORLD CHAMPIONSHIPS

FLANDERS
BELGIUM



UCI ROAD WORLD CHAMPIONSHIPS 2021: SUSTAINABILITY REPORT

November 2021



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INTRODUCTION: FLANDERS 2021 AND THE UCI ROAD CHAMPIONSHIPS ARE PAVING THE WAY TO SUSTAINABLE CYCLING EVENTS

Flanders 2021 and the Flemish Region are proud to present the UCI Road Championships Sustainability Report, prepared in partnership with Deloitte.

From 18 to 26 September 2021, Belgium's Flanders, a region commonly acknowledged as the cradle of cycling, welcomed the UCI Road World Championships — which celebrated its centenary in 2021.

During the event, Flanders and the entire cycling world teamed up to make it a truly memorable occasion: it gave us the opportunity to look back on the past century, and cherish its many unforgettable moments. It also offered us the opportunity to look ahead: to create new memories, and to take on contemporary challenges together, for future generations. After all, with new times presenting new challenges, it is crucial to remain critical and to move forward.

One of these challenges is sustainability. In recent years, environmental and social awareness has taken a central place in our contemporary society – that is why

the 2021 UCI Road World Championships decided to make sustainability one of the core values of Flanders 2021, alongside innovation and a state-of-the-art culture.

During this year's edition, the Local Organising Committee (LOC) partnered with Deloitte to calculate for the very first time the full CO₂ footprint of the event, and to create a sustainability report, encompassing key learnings and recommendations on environmental, social and governance factors.

The Flemish government (through its departments OVAM, VISITFLANDERS [EVENTFLANDERS] and SPORT VLAANDEREN), together with the host cities, as well as the UCI, Deloitte and all other partners involved, defined a sustainability goal that they would all work towards to set the baseline for future editions, worldwide.



FLANDERS: PIONEERING REUSABILITY AND RECYCLING TO MAKE CYCLING EVENTS EVER-MORE SUSTAINABLE

Between 18 and 26 September, the eyes of racing enthusiasts from all over the world were focused on Flanders.

There was no better time to put Flanders in the spotlight as a cycling region *par excellence*, no better time to convince cyclists of all the assets of Flanders' cycling land and no better time to show our international pioneering role in reusability, recycling, and our steep ambitions to reduce our CO₂ emissions to the world.

Flanders has been at the head of the European peloton for a while now when it comes to recycling and reusing used goods. Thanks to EVENTFLANDERS, we can now also show that leading position to the world during an international top event in Flanders. Our far-reaching commitments and achievements on the ground have also further convinced the UCI to make their organisation more sustainable, no longer approaching international top competitions as an end in themselves, but to use them as a means for a healthier living environment.

Everything starts in the peloton, where, as of this year, the riders no longer threw their waste on the roadside, but in the predetermined litter zones,

where it was then picked up by volunteers. And also, behind the scenes, the transition to making fewer CO₂ emissions, and to a smaller mountain of waste, has begun — the supporters next to the road were also convinced to follow these good examples.

I am aware that the work is far from finished. On the contrary, it is only just beginning. To put it in a lofty cliché: Paris is still a long way. But with an ambassador like the Road World Cycling Championships and with top cyclists (which our Flandriens of the future look at with wide eyes), who are helping to reduce our waste mountain and reduce greenhouse gas emissions, we are already getting a lot closer.

We hope you enjoyed the race, enjoyed our beautiful Flanders, and are inspired to take it up a notch yourself to keep it clean.

ZUHAL DEMIR

Flemish Minister of Tourism and Environment



DELOITTE: THE IMPACT WE HAVE ON THE WORLD STARTS WITH OURSELVES

Sustainability and sport are of paramount importance to us at Deloitte. We believe that practicing sports contributes to the physical and mental well-being of our employees.

We also believe that the impact we have on the world starts with ourselves, which is why dealing responsibly with the planet is central to our strategy. This translates into what we do, how we behave and how we treat people and the environment with respect. We also promoted these values in our sustainability partnership with the 2021 championships, Flanders and UCI.

As a market leader, we do everything we can to reduce our ecological footprint and thus contribute to a more sustainable world. We do this by making greener choices in terms of mobility, travel behaviours and infrastructure, managing to reduce our CO₂ emissions by 65%. As an organisation, we also encourage our employees to make well-considered choices and to help achieve a better, greener future.

But we also look beyond ourselves. We notice with our customers that ESG rules are higher on the agenda. Sustainability also plays an increasingly important role for them. We help them from our sustainable pioneering role to make strategically greener choices.

We also helped the Road World Championships 2021, Flanders and UCI. We offered advice in drawing up its sustainability plan and closely followed the implementation of this plan. For the first time, we mapped the emissions that the Road World Championships entailed and worked together on action points for a more CO₂-neutral future.

As a cycling enthusiast, I was therefore delighted that the UCI Road World Championships had back to Belgium this year to celebrate its 100th anniversary in the cradle of cycling. Deloitte was also pleased to be able to do its bit to make this cycling party a more sustainable event, and to guide the UCI and the organising committee, Flanders 2021, in its sustainability ambitions for the 2021 UCI Road World Championships.

PIET VANDENDRIESSCHE
CEO Deloitte Belgium



UCI: OUR MISSION TO MAKE CYCLING ONE OF THE MOST SUSTAINABLE SPORTS IN THE WORLD

Climate change is a major threat to the population worldwide, and as president of the UCI I am pleased that cycling is taking its responsibility when it comes to combating this international crisis.

As a global governing body for cycling, the UCI is committed to reducing the impact of its activities on the environment and working with stakeholders to achieve important changes within the sport.

The UCI has not only set its own internal objectives, but also published sustainability guidelines that formulate recommendations for all cycling stakeholders to integrate sustainable practices into their daily activities.

I therefore congratulate and thank Flanders 2021 for recognising the absolute importance of sustainability with a strategy that covered all aspects of the organisation and implementation of the UCI Road World Championships 2021. This year we celebrated the 100th edition of our annual top event and with this sustainability strategy, Flanders 2021 paved the way for the next 100 years.

From energy and water consumption, space use and waste management to safety, equality and fair play, this clear and comprehensive strategy ensured that the 2021 UCI Road World Championships will be an example for other sporting events.

Cycling can undoubtedly play an important role in dealing with environmental problems. With the support of organisers such as Flanders 2021 and the cooperation of all partners of the event, we can do a lot to address some of the biggest threats to humanity. Together we can help fulfil the mission of the UCI: to make cycling one of the most sustainable sports in the world and to promote the bicycle as an important means of transport in the fight against climate change, to improve health and to build a more sustainable future for everyone.

DAVID LAPPARTIENT
President UCI



MAIN STAKEHOLDERS

Organising committee

- The UCI is a non-for-profit organisation whose purpose is to develop and promote cycling with the help of national federations of cycling, as well as supervise the organisation of World Championships around the world
- Flanders 2021 is an organisation of the local organising committee (LOC), vzw WK 2021, a cooperation between Flanders Classics and Golazo. Both parties can count on their experience as organisers of

some of the most important races in the Flanders region and Belgium as a whole, including the Tour of Flanders, the Omloop Het Nieuwsblad, the Baloise Belgium Tour, the BinckBank Tour, and more than 40 other events for active cyclists

- The Flanders region, through its different regional departments, and as a hotspot for best-in-class professional racers, is a proud financier of the UCI Road World

Championships. It has also provided precious knowledge and feedback on sustainability through its many different local institutions

- The UCI Road World Championships 2021 would not be able to happen without host cities. There were four major cities from Flanders — Knokke-Heist, Bruges, Antwerp and Leuven — and they proudly represented the Flemish passion for cycling and sport

List of sponsors



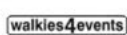
MAIN PARTNERS



OFFICIAL PARTNERS



OTHER PARTNERS



ROAD WORLD CHAMPIONSHIPS CYCLING AT A GLANCE



FLANDERS 2021: WHERE CHAMPIONS ARE BORN

Flanders has been the setting for the battle of the Rainbow Jersey on several occasions. This region, where racing is a religion, was therefore the ideal place to celebrate the centenary of the Road World Cycling Championships. Bumpy cobbles, tough climbs or endless straight tracks along canals? All Flemish assets were on the table for the 2021 UCI Road World Championships.

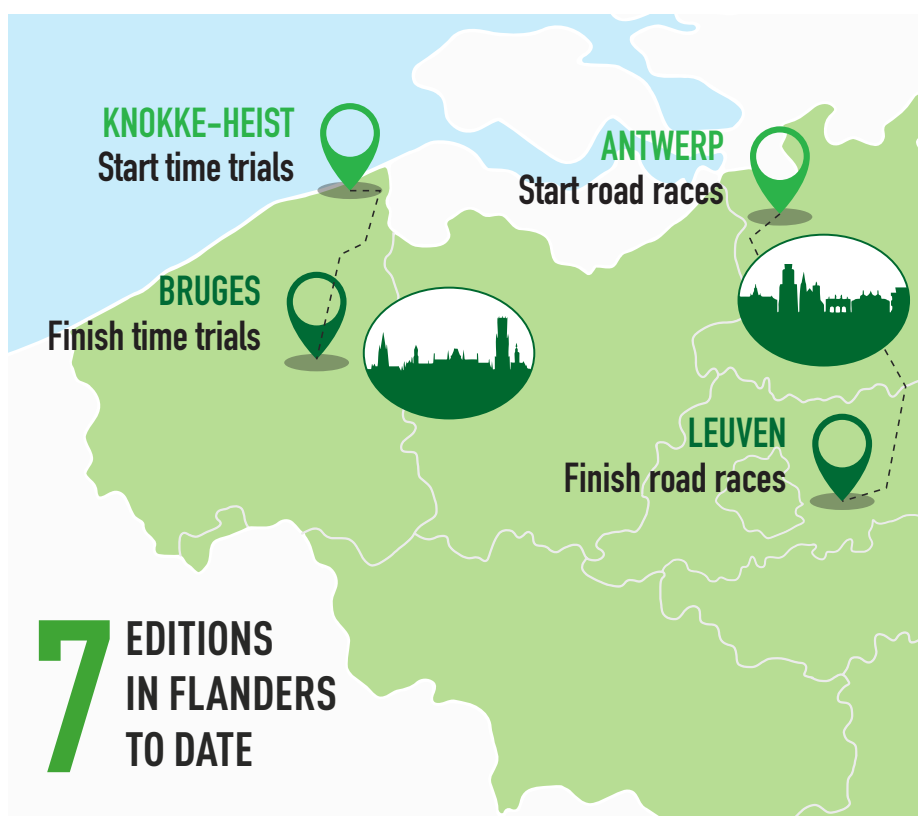
History: 100 years of the UCI Road World Championships

It all started in 1921, with the first UCI Road World Championships. The Danish capital Copenhagen set the stage for that very first fight for the world title (which was only for amateurs at the time). In the years that followed, the greatest champions donned the Rainbow Jersey — and this year the time came to crown winners in a genuine Jubilee edition.

In the previous 100 years, Belgium has hosted the Road World Championships nine times (six of those in Flanders), and has lauded 26 world champions. From 18 to 26 September 2021, the cycling-mad region of Flanders became once again the epicentre of racing, and the peloton came home to Flanders, Belgium, for the 2021 UCI Road World Championships.



18-26 SEPTEMBER 2021



Belgium is the country with the most Road World Championships winners

IN NUMBERS: THE UCI ROAD WORLD CHAMPIONSHIPS THROUGH THE YEARS

20

Age of the youngest-ever male road world champion (Belgian **Karel Kaers** on 18 August, 1934)

38 (ALMOST 39)

Age of the oldest male world champion: **Joop Zoetemelk** narrowly beat **Alejandro Valverde** in Gavera di Montello, Italy, in 1985

36 AND 355 DAYS

Age of **Annemiek van Vleuten** when she became the oldest-ever female world champion in Harrogate in 2019

5

Number of times sole record holder **Jeannie Longo** has been crowned women's world champion

16

Age of the youngest-ever female road world champion (achieved by German **Ute Enzenauer** in Prague in 1981)

3

Record number of world titles held by **Rik Van Steenbergen**, **Eddy Merckx**, **Alfredo Binda**, **Óscar Freire** and **Peter Sagan** (with **Sagan** winning for three consecutive years)

18

Number of times **Raymond Poulidor** (grandfather of UCI ProTeam cyclist **Mathieu van der Poel**) rode the UCI Road World Championships

24

Road World Championships start appearances by **Jeannie Longo**

7

Medals for **Alejandro Valverde** who holds the record for most medals won at the Road World Championships

8

Medals in total won by three women: **Marianne Vos**, **Jeannie Longo** and **Keetie Hage**

19'43"

Longest winning lead time (set by Budapest 1928 world champion **Georges Ronsse** after a 71km solo ride)

4'05"

Biggest lead time recorded in a women's race (set by **Jeannie Longo** in Chambéry)



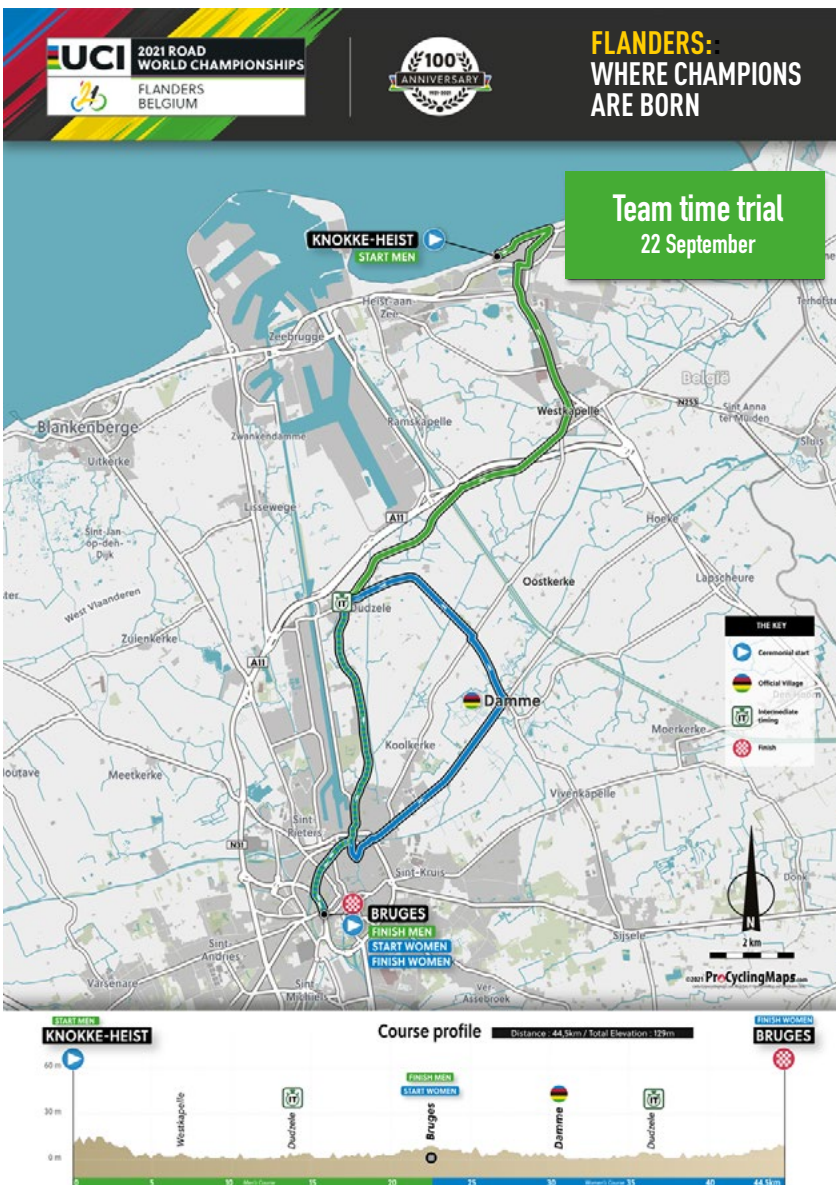
FLANDERS 2021: TIME TRIALS COURSE MAP

From 19 to 22 September, Road World Championships participants from all events, including the para-cycling race for people with disabilities, took part in the first stage of the championships: the time trials. All different categories were present on this first track to represent their countries and teams.



Knokke-Heist

Bruges



Knokke-Heist

The race started on the North Sea beach town of Knokke-Heist, at the Grand Casino, riding along the boardwalk along the sea. All categories took on the road towards the picturesque art city of Bruges.

Damme

As the cyclists passed through Damme, one of the official World Championships villages, they were taken along canals and waterways featuring the area's distinctive trees (due to wind exposure, they have grown at an angle). The intense winds typical of the region can become a formidable enemy.

Bruges

The racers reached the finish line in the historic centre of Bruges, which is UNESCO World Heritage-listed, and sometimes referred to as the Venice of the north. For the people of Bruges, cycling is a shortcut to a balanced way of life, which is why the city features several bike lanes, a green cycling belt around the city, cycling highways and even bike tunnels and bridges. Bruges has always had a strong connection with cycling (and road racing in particular), from the Eleven Cities Tour Bruges, to the Tour of Flanders.

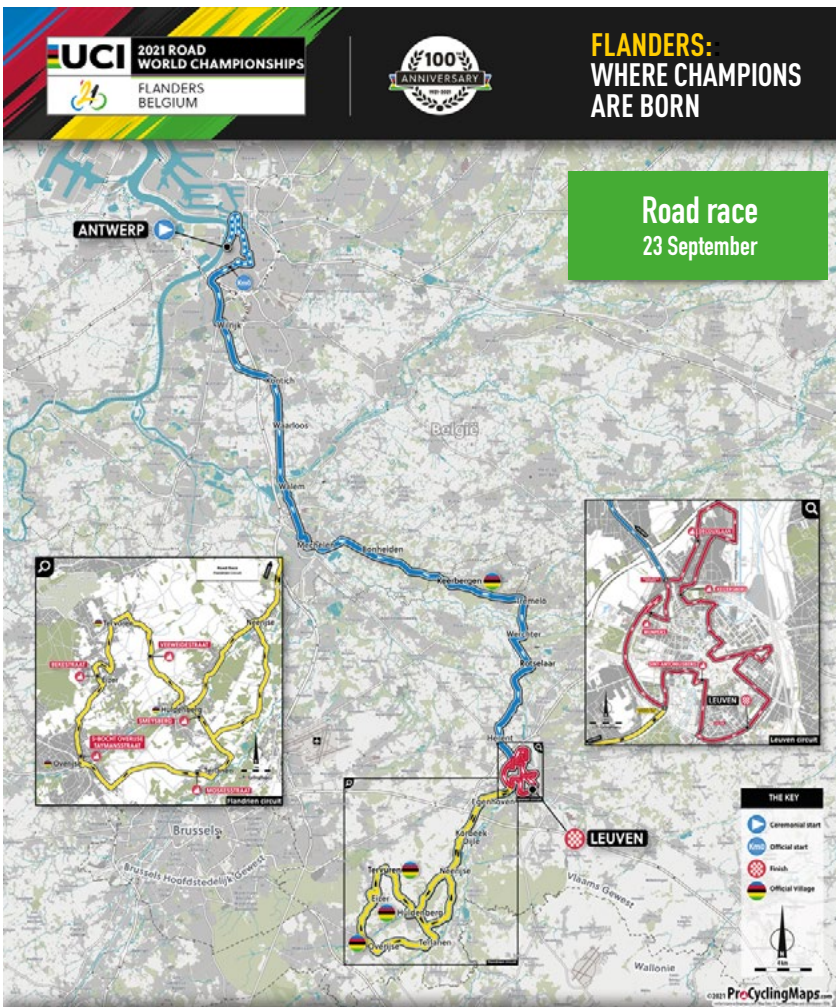
FLANDERS 2021: ROAD RACE COURSE MAP

From 24 to 26 September, teams took part in the road races, where competitors battled for the Championships in the peloton. This stage of the event is undoubtedly the favourite amongst fans: this year again, 1 million spectators gathered in Leuven to cheer the racers on.



Antwerp

Leuven



Antwerp

The peloton set out from Antwerp, capital of diamonds, and home to one of the biggest ports in the world. Its rich history, combined with its modern sensibility, has made it a magnet for creativity and innovation. The importance of sport to Antwerp is clear: it is one of the world's 23 Olympic cities, and the Royal Antwerp Bicycle Club is the oldest cycling club in the country, with sporting events gathering over 600,000 spectators. So it's not surprising that Antwerp has hosted the start of Tour of Flanders since 2017, and was chosen for the start of the road race at 2021's competition.



Leuven

Featuring a compact and car-free city centre, 2021 European Sports City Leuven offers many attractions for cyclists. Here the riders negotiated the local course: a tough urban loop mapped out through terrain which, thanks to a gradient of up to 9% in Wijnpers, Keizersberg, Decouxlaan and Sint-Antoniussberg, is anything but flat.



Flandrien Loop

Spotlight on the Flandrien Loop
Leuven might be the end of the race, but the riders still had to face the Flandrien Loop, which features slopes of up to 18% in the Smeysberg, the Moskesstraat, the S-Bocht (Taymansstraat, the Bekestraat and Veeweidestraat). The Flandrien Loop connects host city Leuven with four Road World Championships villages: Overijse, Huldenberg, Keerbergen and Tervuren. The race finished on the slightly ascending Geldenaaksevest, which lies at the end of the Leuven Loop.



*Altometry and course profile vary from race to race. The race illustrated here is the women elite road race.

SUSTAINABILITY AT A GLANCE

CO₂



52%

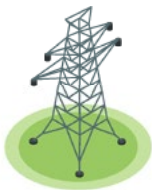
reduction in CO₂ emissions (Scope 1 and 2) at Flanders 2021, thanks to its use of electric vehicles, biodiesel and green energy



2,292

tonnes of CO₂ emissions (direct and indirect; Scope 1, 2 and 3) produced — this is equivalent to the annual carbon footprint of 265 Belgian citizens, or 1,380 return flights from Brussels to New York

ENERGY



95%

of event electricity came from green electricity

23%

of cars leased for the event were either electric or hybrid vehicles



WATER

162

water-saving toilets used



350,000

litres of water saved, thanks to the use of water-saving toilets



WASTE

29%

of waste was recycled, thanks to 2,240 volunteers, the city services and 1048 extra garbage cans



200,000+

reusable cups used during the event, replacing single-use plastics (which were banned in both official and non-official fan zones)



FAIRPLAY

60+

doping tests performed



HEALTH & WELLBEING

7,200

participants in the children's obstacle course, which was designed to promote safe and inclusive cycling



NON-SMOKING EVENT

for zones controlled by the organisation

SAFETY

NO

major safety incidents reported



MOBILITY

45

extra trains scheduled by the national train company (with 62,440 extra passengers during the week-ends)



INCLUSIVENESS

27

para-cycling race participants

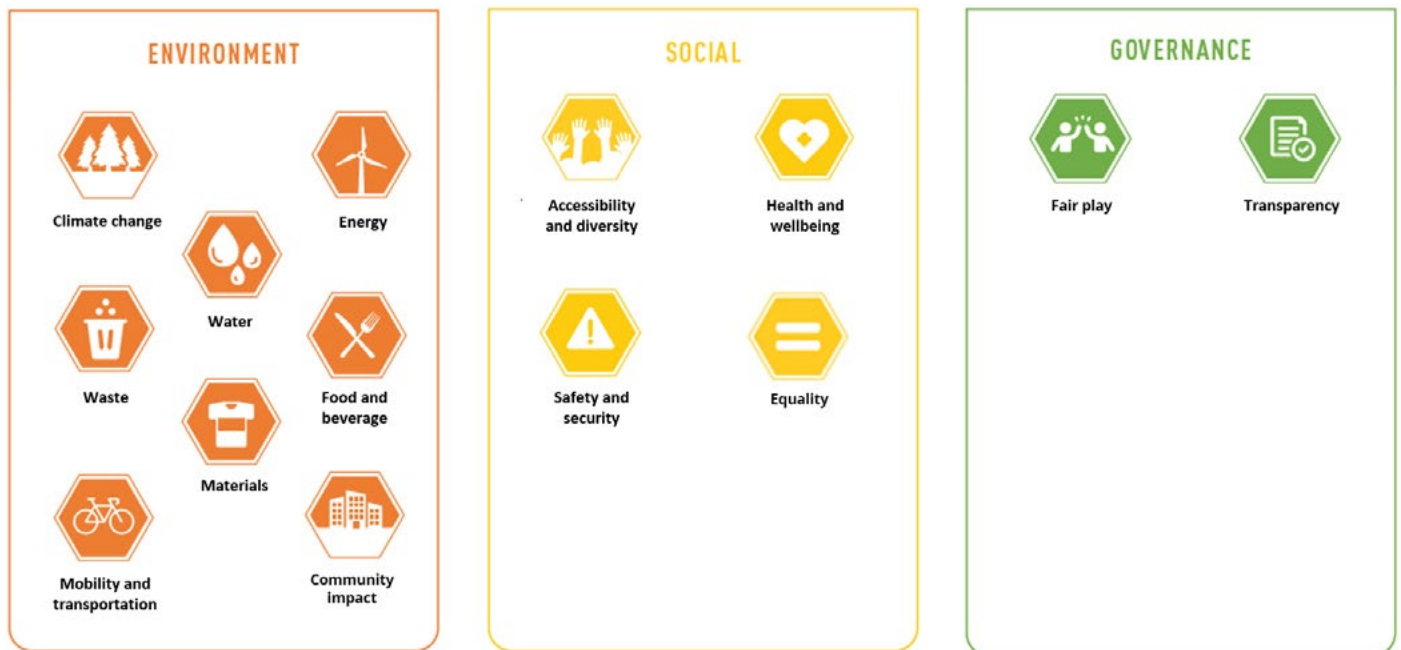


112 volunteers from under-represented groups, thanks to partnerships with eight local organisations



OUR APPROACH TO SUSTAINABILITY: THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE FRAMEWORK

In partnership with Deloitte, the Flanders 2021 Road World Championships focused on 14 key sustainability topics across three dimensions: environmental, social and governance (ESG). The ESG framework was selected because it provides a broad overview of sustainability factors relevant to the organisation of a sporting event.



In addition, all 14 topics were mapped with the United Nations Sustainable Development Goals (SDGs) in order to identify three 'priority' SDGs. Additional SDGs have also been identified as 'important', because the UCI Road World Championships contributed positively to those objectives.

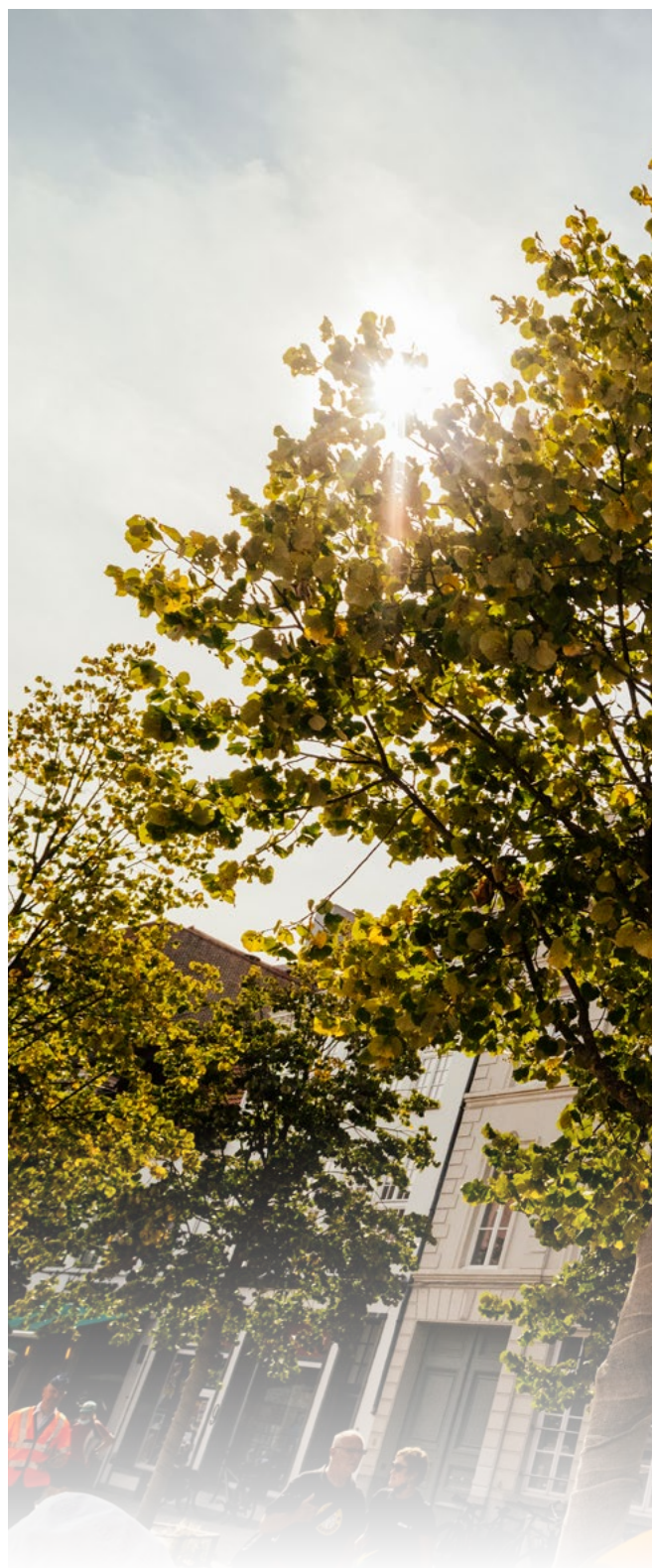


ENVIRONMENTAL FACTORS

When it comes to sustainability, the first thing that comes to mind is the environment. For this edition of the UCI Road World Championships, the organising team set up a task force that identified the most important points to be considered, with regard to taking care of our planet. To start with, the task force decided to measure the greenhouse gas emissions of the event, including data related to electricity, fuel, gas, petrol, and water consumption. For each of these streams, the team imposed limits on the use of resources. Three additional dimensions also received close attention: resource management (including energy, water and waste, among others), mobility and transportation, and the impact on communities.

Understanding climate change and carbon impact

It's no secret that most of the activities that are undertaken as part of our daily lives have a certain level of carbon impact. This project sought to gain a better understanding of where the main carbon impacts were, therefore laying the foundation to reduce further the carbon impact of future events.



A holistic approach to determining the emissions streams

For this initiative, Deloitte worked on integrating as much activity as possible in the carbon calculation tool, taking into account data constraints and limitations. An initial mapping exercise of all the activities and emissions streams was performed to determine what data to collect, from whom and in what timeframe. Below is an overview of the scope of the carbon footprint model, categorised according to the Greenhouse Gas (GHG) Protocol methodology.

Scope 1: Direct GHG emissions	1.1	Fuel consumption of own vehicles
	1.2	Fuel consumption of generators
	1.3	Air conditioning
Scope 2: Indirect GHG emissions from purchased electricity, heat and steam	2.1	Electricity consumption events
	2.2	Electricity consumption vehicles
Scope 3: Other indirect GHG emissions	3.1	Fuel consumption of third-party vehicles
	3.2	Volunteer commuting
	3.3	Water and wastewater
	3.4	Waste
	3.5	Leased buildings
	3.6	Materials
	3.7	Freighting goods
	3.8	Hotel stays
	3.9	Travel
	3.10	Other fuel- and energy-related activities

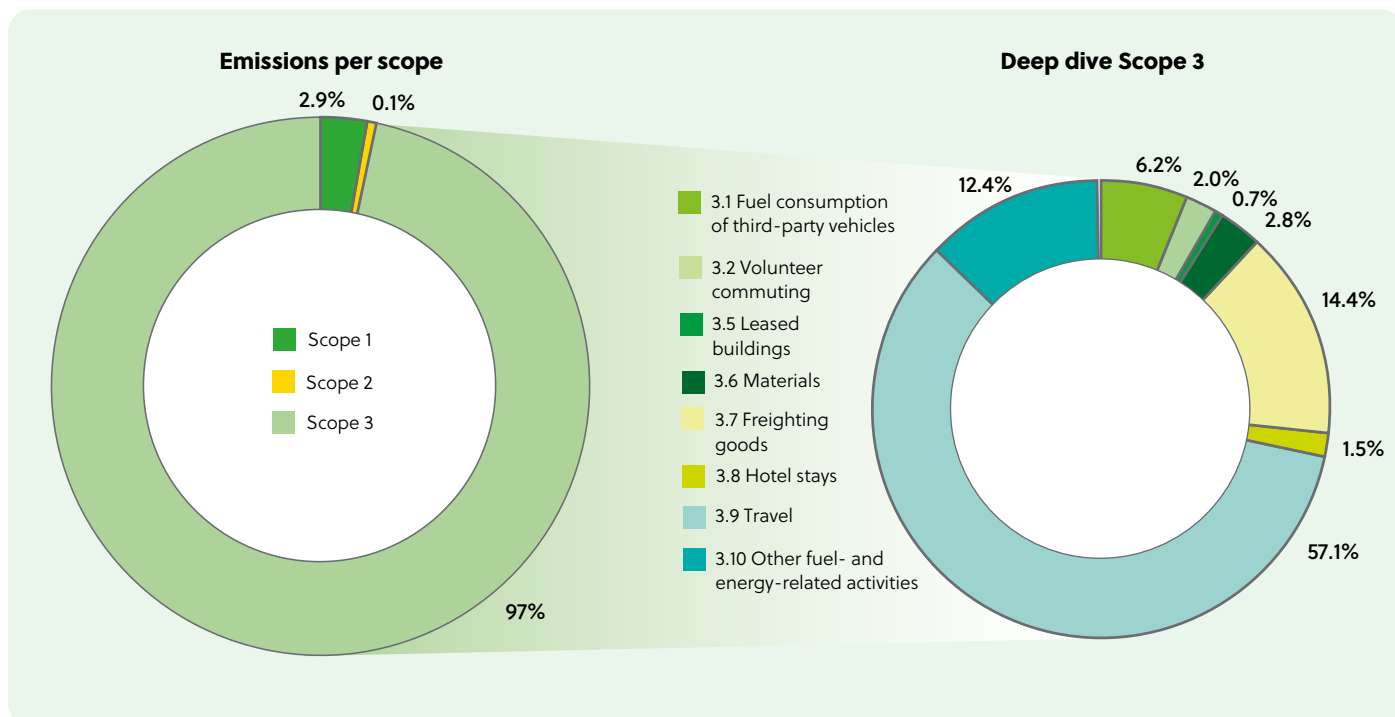
60+ stakeholders were involved in the data collection process

Please see *Appendix 1: Carbon footprint methodology* for further explanation on the calculation methodologies applied, as well as the limitations of scope of our CO₂ computation model for each indicator.



Measuring carbon impact from the event

Figure: Emission per scope



Scope	tCO ₂ e	% of total
Scope 1: Direct GHG emissions	65.4	2.9%
Scope 2: Indirect GHG emissions from purchased electricity, heat & steam	2.2	0.1%
Scope 3: Other indirect GHG emissions	2,224.5	97%
Total	2,292	100%

The emission per activity have been further presented in the figure on the next page.

Figure: Distribution of emission sources

SCOPE 1	tCO ₂ e	% of total
1.1 Fuel consumption of own vehicles	64.5	2.8%
1.2 Fuel consumption of generators	0.9	0.1%
1.3 Air conditioning	0.0	0.0%
Total	65.4	2.9%

SCOPE 2	tCO ₂ e	% of total
2.1 Electricity consumption events	0.0	0.0%
2.2 Electricity for Electric Vehicles	2.2	0.1%
Total	2.2	0.1%

SCOPE 3	tCO ₂ e	% of total
3.1 Fuel consumption of third-party vehicles	142.6	6.2%
3.2 Volunteer commuting	45.2	2.0%
3.3 Water and wastewater	0.0	0.0%
3.4 Waste	0.5	0.0%
3.5 Leased buildings	15.4	0.7%
3.6 Materials	63.5	2.8%
3.7 Freighting goods	330.7	14.4%
3.8 Hotel stays	34.1	1.5%
3.9 Travel	1,307.8	57.1%
3.10 Other fuel- and energy-related activities	284.7	12.4%
TOTAL	2,224.5	97.0%

OUTSIDE OF SCOPES	62.3	
TOTAL Scope 1, 2	67.6	
TOTAL Scope 1, 2, 3	2,292	

This is the first time the full CO₂ footprint of a Road World Championships has been calculated, so the event had no comparable baseline to which it could refer. However, the efforts and subsequent results have been measured by Deloitte and, where possible, translated into a CO₂ reduction. Thanks to multiple initiatives implemented by the organisation, the Scope 1 and 2 emissions have been reduced from 139.6 tonnes to 67.6 tonnes (a reduction of 72 tonnes of CO₂e, or 52%).

72 tonnes of CO₂e saved by using EVs, biodiesel and green electricity, leading to a 52% reduction in emissions from Scopes 1 and 2

Of this 52% emission reduction, 45% came from using biodiesel for generators, 4% came from electric and hybrid vehicles, and 3% came from green electricity procured by the cities.

It is important to note here that the use of HVO (hydrotreated vegetable oil) biodiesel led to a lower carbon footprint, due to the GHG sequestration of the plants used for the biodiesel. This sequestration of plants amounts to 62.3 tonnes, and is reported within the 'Outside of scopes' emissions, as required by the GHG protocol accounting standard.

The efforts of Scope 3, such as the promotion of sustainable mobility for volunteers, the selection of local suppliers, the reduction in waste and water consumption, and the use of existing buildings rather than temporary constructions, were too uncertain to be correctly quantified — this is why the focus has been on the direct operations (Scopes 1 and 2) of the UCI Road World Championships.

The goal of reducing CO₂ footprint has enabled the organisation to identify the next steps and the areas where quick wins could be achieved for future editions.



Key learnings

- Efforts in Scopes 1 and 2 were essential for the organisation, given its responsibility regarding these emissions. A lot of efforts have been done here, such as:
 - Use of biodiesel
 - Use of green electricity
 - Use of electric vehicles and plug-in hybrid vehicles
- Similarly, efforts in Scope 3 were also crucial. For this scope, the organisation had less direct control on the activities and therefore on the emissions. However, this is where the biggest sources of emissions usually lie, and therefore a small change can have a very big impact



Recommendations

- To continue raising the sustainability bar at future editions of the Road World Championships, and other events in Flanders, the potential standards could be implemented:
 - Scopes 1 and 2:
 - Further electrify the fleet of vehicles
 - Further align with the cities to see how their electric network could be improved (in order to keep reducing the number of generators needed)
 - Scope 3:
 - Gather mobility data on spectators by introducing virtual ticket to access the fan zones (data types could include mode of transport used and distance travelled)
 - Select hotels which are making efforts regarding their sustainability footprint and select suppliers located nearby the host cities to avoid transport related emissions
 - Encourage the racing teams and press in neighbouring countries to travel by train rather than plane or car
 - Building on the foundations of Flanders 2021, keep encouraging vegetarian alternatives for the catering of the event, and use further existing buildings
- Offset emissions to make sure that all the remaining emissions that could not be reduced are mitigated
- For data collection, assign clear data owners among the stakeholders (including a clause relating to how environmental data collection in the tender could help ease the process)

Resource Management

Energy

Flanders 2021 put the emphasis on reducing energy consumption by streamlining energy flows, using alternative energy sources and raising awareness among all its stakeholders.

Streamlining energy flows

As the energy partner for Flanders 2021, Powershop ensured that all energy sources used were the most eco-efficient, taking into consideration the local environment and the existing infrastructure. Powershop used the following measures to prioritise the energy sources:

1. Using the electricity network from the cities
2. Using batteries powered by electric power (solar or wind energy)
3. Using biodiesel generators

The primary goal was to reduce the number of generators, and then to eliminate all traditional fuel generators. Indeed, regular diesel emits approximately 99% more CO₂ than biodiesel generators, and the switch significantly reduced the carbon impact¹.



“We are not only a company that rents out generators, we also look for sustainable solutions such as fixed voltages, batteries and other solutions.” Powershop

90% of the electricity used during the event has been sourced from the fixed network

Only **10%** of the electricity used was sourced from generators running on biodiesel

From the overall electricity sourced from the fixed network, **95%** was from green sources

25,658 litres of biodiesel used for generators vs 0 litres of traditional diesel

99% CO₂ reduction when using biodiesel generators vs traditional fuel-based generators²

1. Taking into account the sequestered emissions from the plants of the biodiesel, as described in the previous chapter
 2. See footnote above

Embracing alternative energy sources

On top of the energy master plan, Flanders 2021 also decided to make this event a flagship of alternative energy sources by involving different partners:

- Automotive partner: each race and circuit usually requires numerous vehicles (for security or medical teams, transport of staff and media, as well as TV coverage, broom wagons, and so on). Flanders 2021 replaced 34 of its traditional thermic-based motor fuel vehicles with four electric vehicles and 30 hybrid vehicles, resulting in:
 - A 98% CO₂ reduction by use of electric vehicles versus diesel cars³
 - A 29% CO₂ reduction by use of hybrid cars versus diesel cars⁴
- Energy partner: the UCI stage in Leuven featured 24 solar panels with maximal peak power of 6kW. This was enough energy to provide lighting for several tents
- Gasoline provider: this partner provided more than 25,000 litres of biodiesel for generators. This represents roughly the capacity of a small tanker lorry

Raising awareness

Flanders 2021 knew it needed support to achieve its environmental objectives. On its mission to reduce carbon emissions, the organising committee decided not only to act, but also to engage its stakeholders by developing a Sustainability Charter that involves the following points:

3. Including well-to-tank emissions

4. See footnote above



1. Make maximum use of the available power supply from the fixed network
2. Install LED or energy-saving lamps wherever possible

This charter provided guidelines for the many different event stakeholders — namely caterers, infrastructure providers and facilities managers — and was endorsed by all stakeholders when agreeing to the contract with the organisation.



Recommendations

To develop on the points relating to carbon impact, and to further improve the energy plan of future editions of the race, the following ideas could be implemented:

- Further develop the use of batteries as storage capacity, and charge them with the local green electricity network (subject to available technologies)
- Ensure host cities have the technical knowledge to accurately assess where or how their local network should be improved to keep decreasing the number of generators needed
- Reduce air pollution during the race by further increasing the number of electric cars in the fleet



Water

To manage water resources, the organising team took measures to reduce water consumption, treat water effluents appropriately, and improve water accessibility for fans.

Reducing consumption

The organising team identified different water flows during the event — namely, water usage from infrastructure, catering, drinking water stations and sanitation. After consulting with all stakeholders, it decided to reduce water consumption through sanitation.

Measures taken:

- Use of vacuum toilets, which save up to seven litres of water per use⁵
- 162 vacuum toilets saved approximately 350,000 litres of water⁶

Managing treatment

One important aspect of water management is making sure that effluents are treated accordingly before being released in nature. The organising team ensured that all effluent water (grey and black) was either released in the local sewage through existing sanitation infrastructure or collected in containers and sent to water treatment stations.

The treatment of the water depends on the type of toilets used. A traditional water toilet leverages the local sewage system for its effluents. When no connection to the sewage system was available, two options were leveraged: vacuum toilets or chemical toilets.

The organising team drastically limited the use of chemical toilets, employing them only when vacuum toilets were not operationally appropriate.

Only **14%** of the toilets were chemical, resulting in **265** fewer chemical toilets (in comparison to events with similar or same capacity)

⁵ The estimated number of litres saved thanks to the use of vacuum toilets is provided by the sanitation supplier

⁶ Estimations based on Deloitte calculations



A chapter on cleaning agents was also integrated in the Sustainability Charter to ensure no harmful long-lasting chemical products were used by toilet providers.

Cleaning agents (detergents, soaps and products) should be biodegradable

Encouraging accessibility

Additionally, the organising team attached great importance to water accessibility for event attendees. As such, on top of the nine water stations that were already available in Antwerp, two water bars were installed in Leuven's busiest event location.

52% of extra toilets that were delivered during the event were vacuum toilets

2 water bars installed in Leuven

Key learnings

- Dry toilets and vacuum toilets are the most water-saving options. They should be prioritised when choosing toilets solutions for situations where existing infrastructure is unavailable
- The limiting factor is their set up: they are usually installed as cabins, making them less appropriate for single-usage



Recommendations

- Toilet needs and usage are difficult to estimate without knowing the number of attendees in advance
- Liaise with the toilet rental suppliers before the event to measure the wastewater released in water treatment facilities
- Public water fountains are not always present outside — this must be considered to compute the total number of water stations present at the event
- Catering tenders should include the obligation to serve tap water. This will help avoid the transportation of thousands of litres of bottled water to the event and the recycling of the bottles
- Increase the number of drinking water stations available for visitors to fill their bottles. This will encourage tap water consumption, therefore reducing the amount of transported bottled water

Waste

The organising team took a holistic approach to waste management: that is, it implemented a waste management plan that gave stakeholders the opportunity to reduce and recycle waste, and raise awareness among local communities.

Collaborating on holistic waste management with local municipalities and OVAM

Flanders 2021, together with OVAM and the local municipalities, set up a waste management plan to guarantee that waste was properly collected and sorted, and, where possible, given a second life via specialised local organisations.

Establishing regular and frequent waste collection

24.7 tonnes of waste was collected during the nine days of the UCI Road World Championships. This was only made possible with the help of the many different partners:

- In Antwerp and Leuven, Suez provided containers in the 29 waste-collecting areas, while in Bruges and Knokke-Heist, Vanheede provided waste collection material for 21

⁷ See appendix for the breakdown per category of waste for each city. Comparison done based on Deloitte calculations



waste-collecting areas. In total, 592 extra trash cans were added in Antwerp and Leuven, and 456 in Bruges and Knokke-Heist

- Throughout the four host cities, a total of 2,240 volunteers from the green teams collected waste, which, in addition to cleaning the venue, also raised awareness amongst fans
- Fost Plus, the association behind the recycling of household packaging in Belgium, supported local municipalities with signage for separate collection. In total, more than 235 banners were provided to municipalities to raise awareness about waste sorting
- OVAM, Flanders' public waste agency that promotes prevention of waste and reuse of materials, was actively involved in providing guidance to local communities on waste prevention, collection and sorting, as well as recommendations on the implementation of reusable cups
- Municipalities and inter-municipal waste cooperatives were also involved in the organisation by providing signage, manpower and extra trash cans to collect and separate the waste
- Host cities also played their part in the waste collection by providing waste pickers to the green teams and the support of their waste services
- Three litter zones were installed along the road racetrack to allow racers to dispose of their waste in a dedicated zone

“It turned out that there was relatively little waste for such a large event – mainly due to the use of reusable cups and the good work of the green teams.” Suez

24.7 tonnes of waste collected, which represent the average yearly production of 50 households in Flanders⁷

50 waste-collecting areas⁸ were set up around the four host cities

2,240 volunteers collected waste

1,048 extra trash cans were provided for unsorted waste, PMD (plastic bottles, metal packaging and drink cartons), paper and glass

3 litter zones were set up along the road racetrack

Understanding that the best waste is no waste

Based on the principle that the best waste is no waste at all, the organising team took the following measures to avoid waste creation at the source:

- No publicity caravan was set up before the tour, preventing the distribution of unnecessary flyers and merchandise
- Partners from the UCI Road World Championships drastically limited merchandise, ensuring only merchandise with value, such as caps, was distributed
- No single-use drink receptacles, including cups, bottles and cans, were distributed or sold during the event. Local authorities and external organisers were asked to follow up on this restriction as well
- No flyers or posters were distributed during the event. Also, official roadbooks were sold as a collector's item (rather than actively handed out)

200,000+ reusable cups were served to visitors from the fan zones in host cities.

⁸ Waste-collecting areas were defined based on the presence of fans in certain areas of the host cities



“We estimate that the CO₂ footprint of reusable PP cups is 45% lower than single-use PP cups and that the use of reusable cups significantly reduced unsorted waste during the UCI Road World Championships.” Reuz

Maximising recycling

Recycling is not only necessary to reduce environmental impact, but also to demonstrate that Belgium is one of Europe’s top recycling countries. To lead by example, the organising team called on professional waste collection and treatment companies to ensure a proper treatment of the waste.

29% of total waste from the event was recycled

1. Food and beverage stand holders will provide at least one waste bin and one PMD bin at the front, both clearly visible and easily accessible

2. Each stand is responsible for waste from the products it offers and its disposal within a radius of five metres around the stand

Waste (tonnes)	Host cities				TOTAL	%	Unsorted vs recycling rate
	Knokke-Heist	Bruges	Antwerp	Leuven			
Unsorted	1.3	3.0	1.3	8.6	14.1	71%	71%
PMD	0.3	0.2	0.1	0.5	1.1	6%	
Paper	0.2	0.6	0.2	1.3	2.3	12%	29%
Glass		0.6		1.2	1.8	9%	
Food		0.3			0.3	1%	
Wood				0.3	0.3	1%	
Total	1.8	4.6	1.5	11.9	19.8	100%	100%

19.8 tonnes of waste came from the host cities, while 4.9 tonnes of waste came from the official Road World Championships villages, amounting to 24.7 tonnes in total. The official Road World Championships villages have been excluded from the recycling rate waste calculations due to lack of data. Based on the numbers above, it can be concluded that the proportion of recycled PMD is very low, although this is the type of waste that spectators typically bring from home or buy in shops along the route. This shows that it is very difficult to collect and sort PMD at open events which take place in public space.

Educating fans and empowering suppliers

Flanders 2021 implemented a dedicated awareness-raising campaign, “Be a Green Champion”, through its various communication channels – such as social media, print and online communications, local green teams, and on-site banners – to reach its fans and the local communities. Additionally, one of the electric vehicles was equipped with loudspeakers to promote sustainability, asking spectators to respect the environment and to correctly dispose their waste.

As part of the Sustainability Charter, suppliers from the UCI Road World Championships also committed to managing their own waste in the most eco-friendly way possible. They were allowed to use the waste containers put at their disposal by the organising team.

3. It is the responsibility of the stand holder to collect and sort the waste it produces, according to the waste charter

The elements from the Sustainability Charter regarding waste and catering were developed in collaboration with The Public Waste Agency of Flanders (OVAM). It was inspired by specific guidelines for creating sustainable events. The link to these guidelines can be found [here](#).





Key learnings

- Appointing a coordination body between all the waste collection stakeholders improved the result of the waste collection
- Involve all stakeholders in the waste collection process and sorting of waste
- Large deployment of reusable cups significantly reduces the amount of waste



Recommendations

- Increase communication around reusable cups and the refund system for the visitors
- To facilitate the collection process and reduce collecting points, use only one system of reusable cups

- Increase the scope of waste collection by involving waste-collecting groups outside the fan zones and outside the official UCI Road World Championships villages, as well as along the track
- Involve the relevant local authorities well in advance to enable the implementation of a reusable cups system for fan zones
- Include a compulsory clause for the use of reusable cups and cutlery in the tender for caterer(s)
- The contract with the beverage sponsors should include a compulsory clause to supply reusable cups for all official zones and locations
- The contracts with the host cities should include a clause for a compulsory use of reusable cups on their territory during the event
- Increase efforts in the collection of clean and sorted PMD brought by spectators and work with shops and Horeca to reduce PMD waste to a minimum



Food and beverage

Excitement and festivities go hand-in-hand with hunger and thirst — this is no secret to the organising team from the UCI Road World Championships, which partnered with external catering companies to ensure fans, VIPs, volunteers and others stakeholders received good, healthy food throughout the event.

On top of that, external food providers were encouraged to use local products and reduce their amount of waste by enforcing a ban on single-use cups.

Diversifying offer and promoting local products

Beyond the traditional Flemish delicacies, the organising team took special care to introduce variety into the food served during the event. As such, fans and visitors had the opportunity to enjoy a wide range of foods, including salads, pasta, wraps, burritos, soup, juices and smoothies. Food stands also offered suitable meal options for special diet such as vegetarian, vegan, and gluten free. Based on a sample of food stands, an estimated 50% of the meals proposed did not include meat.

Additionally, all food suppliers committed to a more sustainable food offer by adhering to the following principles of conduct:

Food is, as much as possible, organic, local and seasonal, and other products are, as much as possible, Fair-Trade labelled. Every stand holder should offer at least one vegetarian or vegan option

Banning single-use cups

Thanks to the cooperation of different stakeholders, reusable cups were the norm during the event, not the exception.

⁹ Based on Deloitte calculations

¹⁰ Based on Deloitte calculations



75,000 single-use glasses saved in the VIP area (estimate)⁹

Suppliers present in the fan zones also pledged to avoid usage of single-use plastic cups, putting in place a deposit system for reusable cups (fans received a reusable cup by paying a €1 deposit, which was refunded upon return). When a fan wanted another drink, they could simply give back their glass and receive another. All in all, it meant that for each reusable cup provided, one single-use cup was saved.

- **200,000+** single-use glasses saved inside and outside official fan zones
- **1.24 tonnes** waste cups avoided – a 5.9% decrease of the total waste¹⁰ (estimate)

Usage of reusable cups is compulsory for all drinks (including water, juice, cocktails and wine). Disposable drinks containers can only be used behind the counter



Recommendations

- Further develop vegetarian options
- Coordinate to reduce any potential food waste by aligning with local food waste charities or associations
- Agree contractually with the food suppliers and catering partners to serve healthy meals (incorporating reusable materials) to volunteers and crew
- Work on encouraging packaging-free catering and reusable materials
- Include the catering suppliers in the reusable deposit system

Materials

The organising team also committed to reducing its material needs by, for example, renting materials, and using materials that were sustainably sourced or reusable.

Pivoting to digitalisation to reduce event collateral

Digitalisation is a key step towards using fewer material resources. From the promotion of the event to the distribution of the rewards, the organising team decided to make use of it as much as possible.

- Promotion of the event took place without printing flyers or distributing gadgets
- Digital marketing was used throughout the event, with a major focus on social media platforms (namely LinkedIn, Instagram and Facebook)
- All VIP tickets were digital

Choosing sustainably sourced materials

The event organisers were proud to announce that, for the very first time, the best-performer Rainbow Jersey was made from 100% recycled PET. In addition, the flowers presented during the award ceremonies (100 bouquets in total) were sourced locally from organic farmers. Plastic wrapping was also avoided by using cotton ribbons or natural rope.

Encouraging rental amongst suppliers

The organising team urged suppliers to avoid buying materials that would be thrown away after the event. For these materials, the Sustainability Charter advised to rent the materials, as shown below:

Furniture or materials, such as signposts, are rented wherever possible, or if this isn't possible, are produced with reuse in mind



Recommendations

- Implement a circular material policy for purchases
- Work with sponsors to select jerseys and clothing that use organic or Fair-Trade cotton
- Explore the option of using non-year-specific banners, signs and posters to allow for the reuse of materials through the years
- Use reusable or recycled materials when possible, for example, wrist bands for VIPs and crew, and accreditation tags for partners and press



Mobility and transportation: making eco-friendly choices

Mobility was a key pillar of the UCI Road World Championships, as organised by Flanders 2021. A mobility specialist was onboarded to encourage fans, third parties and volunteers to make smart and eco-friendly mobility choices.

Developing mobility plans

A mobility partner was assigned by the organising team to create the master mobility plan and ensure the event ran as smoothly as possible for the locals, fans, Horeca partners, and other stakeholders involved in the organisation.

Actions undertaken before the event:

- Using a multichannel approach (that is, social media, city banners and posters) to communicate to local residents that the racetrack is going to pass their houses
- Coordinating the local mobility deviation plan to ensure fluidity of local traffic
- Informing fans, Horeca partners and third parties how they can reach their dedicated zones
- Providing a 'do it yourself' mobility kit for local municipalities affected by the race

Actions undertaken during the event:

- Creating on-site routes for fans and visitors to guide them through the dedicated fan or VIP zones
- Communicating key mobility information through dedicated communication channels
- Including bike and car parking and public transport information on VIP tickets




Promoting smart and eco-friendly mobility

The organising team partnered with mobility experts to implement several action points that promoted soft mobility, and consequently reducing the environmental impact of the event:

- A communication campaign from NMBS and De Lijn (the national train company and regional public transport company, respectively) encouraged the use of the train or the local bus transport by putting special banners in the train stations, and advertising in the newspaper available in the stations
- Dedicated walking routes between hotspots were mapped out (namely stations, parking, fan zones, and so on)
- Dedicated biking routes were highlighted to encourage cycling among visitors
- Increased bike parking capacity was introduced

62,440 extra train passengers recorded by the national railway company during both weekends of the championships



 **Key learnings**

- Involving a professional mobility partner was essential in ensuring transportation was handled properly
- Collaborating with local public transport companies allowed higher usage of public transport
- Using different local recruitment agencies to tap into local manpower avoided unnecessary travel

 **Recommendations**

- Leveraging a tool to count/estimate the number of spectator present during the event would be useful to further improve the assessment of transportation needs and data
- Using dedicated public transport tickets for the event would allow a more accurate assessment of the number of people coming to the event
- Another way to better assess attendees numbers is to carry out surveys during the event, evaluating means of transportation and the destination of visitors
- Reward fans coming by bike with free treats and services
- Work with public transport companies to introduce special reduced-price tickets to encourage fans to use public transport
- Encourage carpooling through an online platform and by offering discounted parking tickets

Impact on communities: Leuven, Antwerp, Knokke-Heist and Bruges

The UCI Road World Championships was hosted by four cities: Leuven, Antwerp, Knokke-Heist and Bruges. The organising team was cautious to respect not only the local environment, but also the communities locally, and their right to have a clean and pleasant city to live in.

Leveraging existing infrastructure

Using existing infrastructure prevents not only the transportation and installation of many short-lasting infrastructure systems, but also the many disturbances associated with their presence (for example, noise, air pollution, and use of public space). It also promotes local infrastructure to the many event attendees.

50% of event venues were already-existing infrastructure or buildings

Implementing noise control measures

Fan zones were equipped with the necessary equipment to make sure that spectators could see and hear the race as well as possible. For the dedicated podiums and award ceremonies at Leuven and Bruges, the organising team and the sound system provider set up dedicated noise sensors that monitored noise levels on-site. Only one noise complaint was reported during the entire event.

Discouraging wild peeing

Mass events occasionally produce undesirable side effects; one of them is wild peeing. The organising team decided to prevent this phenomenon as much as possible by providing a total of 325 extra toilets. Municipalities also took part in this effort by setting up a good network of public toilets that was available at all time for visitors in their cities.

325 extra toilets were provided by the organising team

22 permanent public toilets were leveraged from the host cities



Respecting the local environment

Effluent water was always disposed of diligently. Two options were considered for water treatment: either the water was disposed within the sewerage network of the cities (with the help of the local water management companies), or it was transported and treated by the supplier through its own water treatment facility.

To protect the local landscape, and prevent soil compaction, the organising team provided barriers and ground-protecting steel plates. Ground protection was introduced in Knokke-Heist to avoid damage to the beach, and in Leuven to protect parkland.

27,500m² of steel plates set up in Knokke-Heist and Leuven

105,552m² of barriers set up in the host cities to make sure people stay on the dedicated routes

Key learnings

- Cooperation and good communication with municipal agents was key to identifying how to respect the local environment and control noise
- This cooperation also ensured the leverage of local infrastructure, including sport halls or other municipal infrastructure

Recommendation

- Data collection by third-party providers could be improved (with certain assumptions being avoided) by mentioning the necessity to collect certain data upfront

SOCIAL FACTORS

Because sustainability is not only about the environment, the organising team also put a lot of effort into social considerations, by improving the accessibility and inclusivity of the event, fighting gender discrimination, and raising community awareness about health and safety.

Maximising accessibility for the whole community

The organising team put in place a bold program to maximise site accessibility, not only from a fan perspective, but also for volunteers, racers and the whole community.

Partnering with Vzw Inter on a professional and dedicated accessibility plan

Vzw Inter is an organisation that supports event organisers with accessibility for people with disabilities. On top of advising the organised committee on measures that could improve the accessibility of the event, it prepared the accessibility plan and organised the according supply chain for visitors needing special assistance during the event in the fan and VIP zones. It also briefed the team of volunteers dedicated to make the event a unique experience for every fan present. The accessibility plan included the following action points:

- Podiums and dedicated fans zones for people with reduced mobility
- Sign language interpreters during the major presentations in in Leuven and Antwerp
- Guides for visually impaired people (and partially sighted people)
- Availability of an audio induction loop system, or hearing loop, which connects the hearing aids of participants to the public announcement system, avoiding background noises. This was available for people with hearing disabilities
- Dedicated parkings and sanitations for people with reduced mobility
- Information points and dedicated routes

32 toilets were available for people with disabilities

25 information points were provided on-site for visitors

81 of people with special accessibility needs were present at the event

17 assistant stewards were available to guide visually impaired persons

4 podiums were set up for people with disabilities — one in each of the host city



“The organisation of the 2021 UCI Road World Championships went to great lengths to ensure good accessibility for supporters with disabilities. We received very positive feedback from the visitors both during the competitions and in our evaluation form afterwards. An example for future events!” Inter Vlaanderen



Introducing the para-cycling race event

For the second time in the history of the UCI Road World Championships, the organising team included a race for people with disabilities. This race happened on Sunday 19 September and was organised in partnership with Parantee-Psylos and Sport Vlaanderen, both of which are local organisations involved in developing sport in the community (with Parantee-Psylos specialising in para-cycling integration in sport clubs and different sport federations).

This year’s track followed the time trials track, starting in Westkapelle and finishing in Bruges. Cyclists with hand bikes, tricycles, adapted two-wheel bicycles and tandems could participate, and Parantee-Psylos organised a shuttle service for people with reduced mobility to transfer their rolling chairs. The best time was recorded by Ewoud Vromant, with an average speed of 47km/h.

2nd Road World Championships to integrate a para-cycling event (after Yorkshire 2019)

27 participants to the para-cycling event

“We believe integration of para-cycling is a top priority and we are very proud this was also reflected during the UCI Road World Championships.” Sport Vlaanderen and Parantee-Psylos

 **Key learnings**

- Participants in the para-cycling race gave positive feedback on the shuttle service that transported wheelchairs from departure to arrival
- On average, most of the people with disabilities arranged their ticket in advance, facilitating the smooth organisations of parking slots, infrastructure and other practicalities
- Podiums for people with disabilities were not fully occupied, except for on Sunday 26 September in Leuven

 **Recommendations**

- Para-cycling could be incentivised by creating prizes or start premiums for para-cycling participants
- For such large-scale events, the accessibility plan and requirements could be extended to the official Road World Championships villages along the track

Creating a diverse and inclusive environment

Making this event inclusive was essential for the organisation, which engaged with many external ONGs involved in social inclusion activities. The LGBTQ+ community was also actively engaged to raise awareness around sport inclusiveness and join the Rainbow Jersey movement.

Empowering under-represented groups

In order to improve the inclusiveness of the event, special measures were taken to integrate vulnerable groups in the organisation of the Road World Championships, by giving them the chance to act as volunteers. For this element of the event, Flanders 2021 contacted a list of partners that each worked with a specific vulnerable group, ranging from refugees and people with disabilities to less-well-off young people. The tasks requested from the volunteers included stewarding, setting up or dismantling scenes, hosting information point centres and collecting waste as part of the green teams.

112 people from under-represented groups took part in the event as volunteers

Here is a selection of partners and some of the organisation involved in integration:

- Refu Interim, which organises integration jobs for newcomers in Leuven and Bruges
- Dovenkring Brugge, which assists people with hearing disabilities
- Den Tube, which helps less-well-off young people find a job in Leuven
- VZW Honk, which assists young people with disabilities in finding a job in Leuven
- OCMW, which helps less-well off individuals find a job in Bruges

- Atlas Antwerpen, which helps people who speak non-national languages to get a job
- Kras Antwerpen, which places young people in work
- Viro Vzw in Bruges, which assists people with disabilities to land a job



Promoting safe spaces

The UCI Road World Championships partnered with organisations called Wel Jong Niet Hetero and Out For The Win, two associations whose goal is to make every LGBTQ+ person feel comfortable in their respective work, sports and leisure environments. Actions were taken mainly on the communications front, with an awareness campaign called "Chasing The Rainbow Together", which aimed at taking a first step towards a safer and more accessible sports climate for everyone.

The organisation also integrated a live chatbot to the Flanders 2021 website where people could send questions, claims or report issues and incidents.

Gender equality and representation

Gender equality was a top priority for all stakeholders at the event. This influenced many different topics, namely race rewards, TV broadcasting, and general visibility on the different communications channels, such as social media.

The Road World Championships featured tracks that included events for men and women for both Elite and Junior levels. They also introduced a mixed-gender race.

Equal awards and prizes

Money prizes were set equally for men and women, and with full transparency.

	MEN ELITE	MEN UNDER 23	MEN JUNIORS	WOMEN ELITE	WOMEN JUNIORS
INDIVIDUAL ROAD RACES					
1st	€8,000	€4,000	€2,000	€8,000	€2,000
2nd	€4,000	€2,000	€1,000	€4,000	€1,000
3rd	€2,000	€1,000	€500	€2,000	€500
Total	€14,000	€7,000	€3,500	€14,000	€3,500
INDIVIDUAL TIME TRIAL:					
1st	€8,000	€4,000	€2,000	€8,000	€2,000
2nd	€4,000	€2,000	€1,000	€4,000	€1,000
3rd	€2,000	€1,000	€500	€2,000	€500
Total	€14,000	€7,000	€3,500	€14,000	€3,500
ELITE					
TEAM TIME TRIAL: - MIXED RELAY					
1st			€15,000		
2nd			€7,500		
3rd			€3,750		
Total			€26,250		

Figure: List of rewards set by the UCI

Media coverage and representation

Special attention and focus was given to inclusive and diverse representation and coverage on social media and by local and international media outlets.

Key learnings

- No incidents were reported regarding unequal treatment
- Social media coverage included all the different race categories

Recommendations

- Increase awareness of reporting procedures regarding unfair treatments of participants, visitors and event members
- Set higher targets and strategies to attract more women participants
- Organise awareness campaigns to encourage sport activities within under-represented communities
- Introduce gender-neutral toilets



A celebration of health and wellbeing

Sport is a moment of celebration of our bodies, offering well-deserved relief from all the stress of our day-to-day lives. Being conscious of that, the organising team wanted not only to promote the professional practice of a sport, but also the practice of leisure cycling and the wellbeing of our communities in our society.

Partnering with the Flemish Association Against Cancer

Kom op tegen Kanker is an organisation that strives for a world without cancer. For more than 30 years, it has been moving mountains, together with the whole Flanders, in the fight against cancer and in the improvement of patient care. It is also involved in funding research to improve cancer treatment and provide a better quality of life for people who have (or have had) cancer.

This is why the organising team selected Kom op tegen Kanker as charity partner. For this partnership, the organising team launched a social media campaign called "Gelijken Echte" — literally, "Like A Real One" — in which top personalities from Flanders formed the biggest cycling team in the race against cancer. The team was headed by the TV presenter Karl Vannieuwkerke, and included former professional cyclist Ine Beyen and sport journalist Maarten Vangramberen.

Their action in this Road World Championships has been threefold:

1. Raise awareness against cancer
2. Raise money
3. Make the event smoke free

To raise awareness through its "Like A Real One" campaign, Kom op tegen Kanker organised different activities:

- A team challenge for companies, schools or any other people interested, that consisted in cycling the longest distances possible for the association. In total, more than 1,581,130km from 2,943 people were registered in the platform, which represent the equivalent of 39 times around the world
- Together with a local radio station, it organised an activity in which children cycled to fill air balloons. This took place over the summer in the fan zone of Leuven

To raise money, Kom op tegen Kanker also created a clothing collection related to the “Like A Real One” campaign. This collection included both Santini cycling outfits (the official clothing partner of the Road World Championships) and leisure outfits, for those who prefer to stay on the sidelines of the peloton. All profits were used to fund cancer prevention projects.

On top of the funding activities, Kom op tegen Kanker came up with the idea of making the Road World Championships a smoke-free event. For this initiative, it placed posters and banners in every fan zone and VIP area, to encourage people not to smoke. Checks were undertaken within the VIP areas, and no-smoking signs were also posted to ensure this was respected. The main goal of this campaign was to raise awareness about the fact that smoking is the leading cause of preventable cancer, with statistics showing that nine out of ten lung cancer cases are caused by smoking cigarettes.

Promoting cycling and sport in local schools

In partnership with Sport Vlaanderen and MOEV, the organising team was also present in local schools to promote cycling, and sport in general, through the following action points:

- Creation of four educational bundles for students from elementary and high schools
- In collaboration with local specialised biking associations, Flemish schools were encouraged to create dedicated routes so that every student could cycle to school
- Students could also win a chance to interview Thibau Nys and Jesse Vandenbulcke, two young professional cyclists, by taking part in a list of challenges. In total, more than 193 groups from 140 different schools subscribed to the different challenges:
 - XXL WK-SHIRT **18 schools**
 - WK-CHOREO **22 schools**
 - WK-FIETSPARCOURS **35 schools**
 - WK-MOVE **18 challenges**
 - WK-MUURSCHILDING OF TEKENING **23 challenges**





The winning team was invited to go backstage at the UCI Road World Championships to meet members of the Under-23 team, visit the TV compound, attend the reward award ceremony, and enjoy food and beverages from the VIP zone.

Additionally, 60 children were given passes to the Sven Nys Cycling Centre, where they were introduced to BMX cycling.

Setting up the Little Champions program

Little Champions is a project of Cycling Vlaanderen, the official sports federation for cycling in Flanders. Cycling Vlaanderen developed a sustainable obstacle course to encourage youngsters to practice bike safety. They travelled all over Flanders prior to the event, and were then present in the host cities when the event started.

Environmental aspects were also considered when building the track: obstacles were made from recycled materials and protective elements including recycled tractor

tyres. Those obstacles were easily removable to adapt to the level of difficulties, therefore making the event accessible for more attendees.

Helmets were used to ensure the safety of children joining the open and accessible courses. This obstacle course taught children that cycling is fun, and at the same time improving their agility and traffic perception.

7,200 children took part in the obstacle course between 23 July and 26 September 2021.



Key learnings

- The event created great visibility for the charity partner during the event, and in the press
- Enforcement of smoke-free rules was difficult to apply in an outside environment without the help of stewards

Measures to prioritise safety and security

NO major accidents were reported among participants, racers and fans

For the organising team, attendee security was an absolute priority — that is, for fans, volunteers, employees, riders, and third parties — allowing them to enjoy their time at the Road World Championships in the best conditions possible.

Creating a security masterplan with a professional security partner

The organising team hired a specialised security partner, To B-Seen, to make sure the race was well-secured and that every heat zone was properly identified. A crowd management system was implemented to ensure a dynamic redirection of the pedestrian traffic when certain pathways or routes were congested. In addition, a risk analysis was executed to calculate the probability and impact of each risk, highlighting the need for mitigation measures. This overall security plan was drawn up with third parties with the goal of protecting every person present at the event.

“Safety comes with teamwork. Thanks to the good cooperation with various partners, we were able to make the UCI Road World Championships a safe and enjoyable event for all fans and participants.”
To B-Seen

During the event, the security partner also coordinated the central platform, which was in charge of all communication with emergency services (police, firemen, and so on). The central platform was in constant contact with all security agents on the field, coordinating and monitoring all security needs and issues.

Ensuring rider safety

An important aspect of security included the identification of all the dangerous crossroads on the race route, and their appropriate securitisation. This process was executed in compliance with the UCI Road World Championships rules, and included various infrastructures:

- Three medical hotspots for each track race, including at the departure, arrival and along the race
- Five ambulances dispatched in Antwerp and Leuven, and four in Knokke-Heist and Bruges
- Approximately 30,000 race barriers along the track race



Ensuring visitor safety

Fans and VIPs were also well-supervised, with the necessary staff and volunteers present to watch and warn in case of suspicious behaviour. Moreover, medical staff from the Red Cross were also present to provide first aid on site.

- 125 shifts of volunteer stewards dispatched around the host cities
- 206+ shifts of professional security agents dispatched around the host cities
- 130 people from the Red Cross involved in the medical permanence



Monitoring weather forecast

The organising team assigned a representative to liaise with local weather forecast services to make sure that no extreme weather events would occur during the race, and be prepared to take the necessary measures if extreme weather was confirmed.



Key learnings

- Events happened without major incident, and safety was ensured thanks to appropriate execution of the masterplan
- Safety was divided between three partners (To B-Seen: safety at event zones; Scelta Mobility: safety regarding mobility; and Flanders: safety along and on the track)



Recommendation

- Communication between all the partners is key: to ensure good communication between the management and the field, a clear hierarchy could be created, for example, by using badges that indicate who has the authority to make decisions and to direct stewards



GOVERNANCE FACTORS

Fair play

Measures were also taken to ensure that the races were correctly monitored and that cyclists respected rules regarding doping and others fraud mechanisms.

Implementing anti-doping measures

Between four and eight racers were tested per race, depending on their category. Elite racers were the most monitored, with up to eight checks per race. A very strict protocol was in place to ensure that checks were diligently performed. This protocol outlined who could perform the testing, namely official Doping Control Officers (DCO), and in which conditions the tests were to be performed.

When the decision was taken to perform a test on a racer, a DCO was assigned to the racer, who then had two hours to take the test. This process followed the principles outlined by the World Anti-Doping Agency. Once the test had been performed, the DCO sent the result to a certified laboratory and results were sent to a special committee. If the test was positive, the committee could decide to take disciplinary measures and change the outcome of the race.

60+ tests carried out during the Road World Championships

To prevent fraud before and during testing, selected racers were followed by chaperones, who were in charge of verifying that the checks being performed followed the protocol. The chaperone usually wore a white uniform and was assigned by the DCO. Their responsibility ended once the racer had reached the testing centre, and the DCO informed them that they no longer needed to keep track of the racer.

60+ chaperones present at the event

Preventing mechanical fraud

Random checks for mechanical fraud were also carried out to prevent the use of electric assistance or non-compliant bike configuration.

Introducing jury and video assistance

Only experienced and professional jury members were selected to join the jury committee of the Road World Championships. A VAR system was also used to assist the jury in decision-making.



Transparency: Key steps to good governance

Displaying good governance practices was crucial to the organising committee. Actions were taken from two key angles: follow a transparent supplier selection procedure and be transparent in internal organisation structure.

Supplier selection procedure

The 2021 Road World Championships was organised on behalf of the Flemish government. The LOC was appointed as organiser, and was therefore subject to legislation on public contracts.

Practically, this meant that public tenders were carried out for each supplier whose budget was exceeding the threshold of €30,000. When a public tender was organised, the buyer must have received request offers from at least three providers, before selecting the best offer based on a list of criteria.

The Audit Committee Top events EVENTFLANDERS checked the selection process of suppliers and the purchase of goods. The procedures for choosing suppliers were therefore transparent and took sustainability criteria present in the Sustainability Charter into account.

Organisational structure

To increase transparency of the event, the organising team decided to disclose the organigram of the team. As shown in Appendix 2, the UCI, as the owner of the Road World Championships, was overseeing the whole organising committee. All the operational elements of the event were shared between Golazo and Flanders Classics — two companies with experience in organising major sport events.



Key learning

- Flanders 2021 reported on key aspects of good governance, such as the organigram



Recommendations

- Hybrid organisations like Flanders 2021 are by nature ephemeral, and therefore it was difficult to align reporting procedures with the Code of Good Governance in Flemish Sports Federations. However, this Code of Good Governance could serve as inspiration to further improve on the governance side through disclosure and visibility of budgets and remunerations
- Clearly communicate the event's sustainability goals and objectives to all stakeholders well in advance to ensure these are included in decision-making and subsequent actions
- Include specific sustainability clauses in the contracts with suppliers, sponsors, partners and municipalities
- Involve host cities and municipalities in the very early stages of the sustainability ideation phase. These stakeholders should attend regular webinars sharing best practices and ideas, which would ensure they are aligned. Since business organisations and smaller public bodies have very different organisational structures and decision making procedures, it is important to allow enough preparation time for them to react accordingly
- The event's winners and best-known athletes are inspirational public figures. Explore the idea of leveraging their position to act as ambassadors promoting the values and objectives of the Road World Championships. They can lead by example, by promoting sustainable travel, waste recycling, and gender equality, to name a few. This ambassador role could automatically be assigned to all future UCI Road World Championships winners

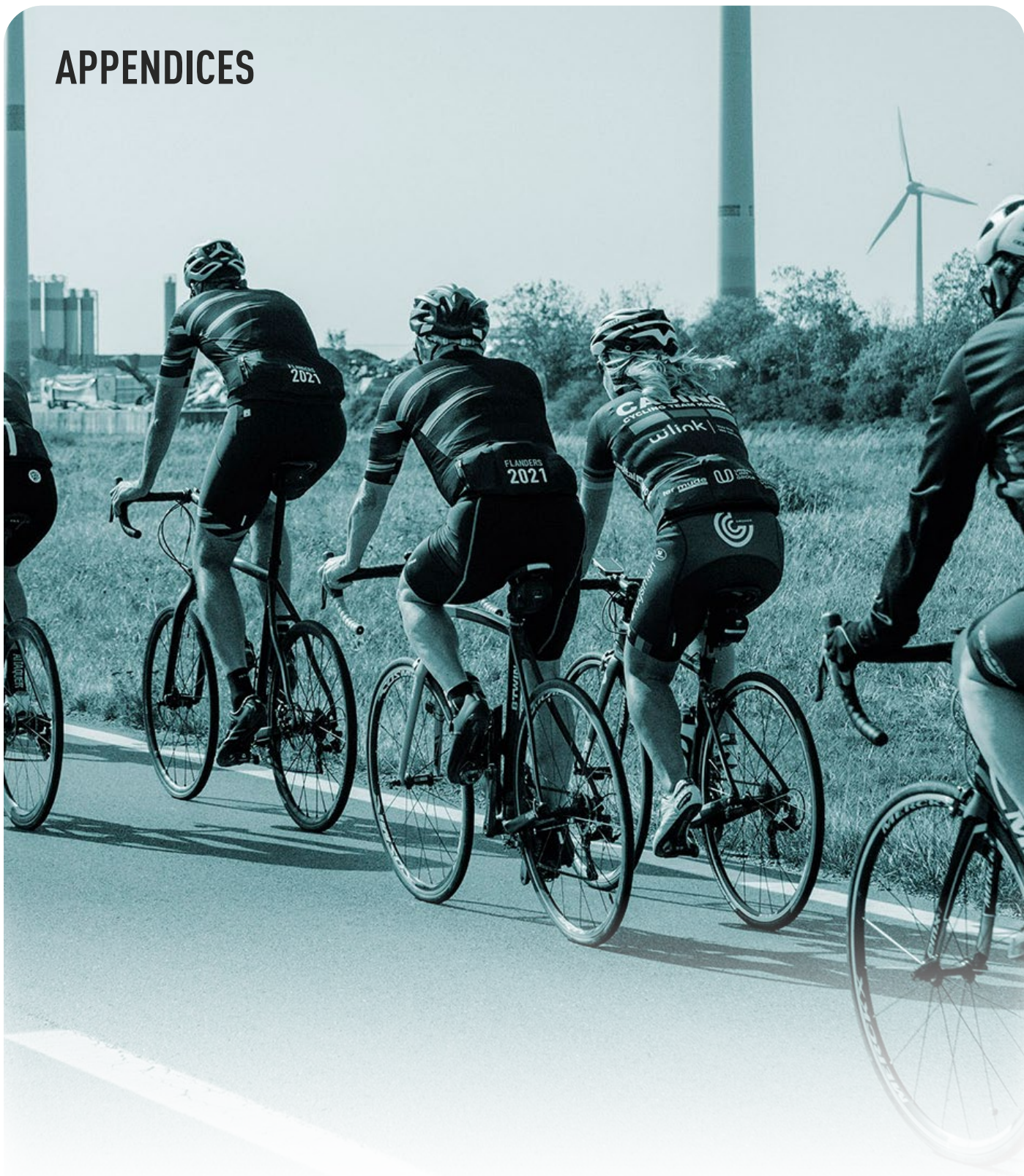
CONCLUSION: INTEGRATING SUSTAINABILITY AS A KEY ORGANISATIONAL PILLAR

The 2021 UCI Road World Championships in Flanders decided to take on the challenge of integrating sustainability as a key pillar within the organisation and its mindset. This was not an easy journey, whether it was through defining the ambitions, understanding what topics were essential for the organisation or, most importantly, where the organisation could have the strongest impact.

However, when looking back, the organisation can be proud of its achievements and efforts. It has been acknowledged that being sustainable does not happen overnight. However, the Flanders 2021 event has provided the first building blocks, and the baseline, to enable future editions to compare themselves, learn from past experiences, and innovate.

The key topic to remember is collaboration. Given the complexity and multitude of suppliers and partners, it is key during such one-time events to collaborate — and especially to align all stakeholders on the ambitions, priorities and efforts required. This is what has enabled the UCI Road World Championships 2021 to achieve its goal: to raise the bar in terms of sustainability for this edition and for future championships to come.

APPENDICES



APPENDIX 1: CARBON FOOTPRINT METHODOLOGY

Detailed information on the methodology to understand the specifics of how the carbon footprint has been built.

Introduction

Flanders 2021 is aiming to set a precedent through the calculation and disclosure of its the carbon footprint. Next to the various measures undertaken to reduce the footprint as much as possible, the disclosure of the remaining emissions will act as an informative benchmark for future events (be it World Championships as part of the UCI, or other sports, where recurring world championships take place). Flanders 2021 entrusted Deloitte with establishing the carbon footprint of the 2021 UCI Road World Championships.

As an appendix to the sustainability report, this report forms the guidance to the carbon footprint calculation and reflects the CO₂-emissions from Flanders 2021 as a result of organising the various events with relation to the 2021 Road World Championships. The carbon footprint fits within the sustainability strategy of Flanders 2021 that aimed to organise the world championships in the most sustainable possible way.

Flanders 2021 makes use of the most precise calculation method to measure the carbon footprint. This allows for setting an accurate benchmark for future sporting events.

Method

The leading, internationally acknowledged accounting and reporting standards as defined by the Greenhouse Gas Protocol (GHG Protocol) form the basis of the carbon footprint. This methodology is applied by 92% of the Fortune 500 companies that report to the CDP (Climate Disclosure Project).

The GHG Protocol is distinguished between three scopes of emissions. To which scope an emission pertains, depends on the source from which it arises:

- **Scope 1:** covers all direct emissions, generated by sources that are directly controlled by Flanders 2021, or are under the direct ownership of Flanders 2021. For example, the fuels used by its owned or controlled vehicles
- **Scope 2:** covers indirect emissions that relate to generated or purchased electricity, heating and cooling
- **Scope 3:** covers all other indirect emissions. These are emissions that are the result of the activities organised by Flanders 2021, but which are not controlled or owned by Flanders 2021. For example, the transportation of rented goods (for example, portable toilets) to the various event locations

Emission factors

In most cases it is not feasible to measure directly the emissions as they occur in situ. The concentration of greenhouse gases in the atmosphere can be easily measured, but it is exceptional to measure emissions directly as they take place. The only way to have a representative estimation, is by adopting a set of harmonised emission factors, which are applicable and directly linked to certain activity data. The factors that ensure that observable data can be converted to greenhouse gases are called emission factors. The applied emission factors are those from DEFRA (UK Department for Environment, Food and Rural Affairs), except for emission factors related to electricity. DEFRA does not disclose such emission factors, and instead refers to adopt those from the IEA (the International Energy Agency). As such, the IEA factors have been applied.

Greenhouse gases

Seven main greenhouse gases exist that have a contribution to climate change. These main ones, as covered by the Kyoto Protocol, are:

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF₆)
- Nitrogen trifluoride (NF₃)

Emission factors are expressed in units of 'kilograms of carbon dioxide equivalent (CO₂e) per X', where X is the unit of activity. CO₂e is the universal unit of measurement to indicate global warming potential (GWP) of GHGs, expressed in terms of the GWP of one unit of carbon dioxide. The CO₂e emission factor can be used to calculate the emissions of all relevant GHGs combined (kg CO₂e per unit activity).

Emission streams in scope

The scope of the carbon footprint, with the relevant emission streams, was established by Deloitte, in consultation with Flanders 2021.

The UCI is the International Cycling Union, or the world governing body for sports cycling which oversees international competitive cycling events. For the organisation of the 2021 Road World Championships, Flanders Classics and Golazo have been appointed as the main organisations to execute the events under the name Flanders 2021.

To capture the carbon footprint in a meaningful way, the relevant and representative emission streams needed to be mapped out. This would be the activities which fell under

the operational control of Flanders 2021 when hosting a Road World Championships. The activities in scope were grouped under three main themes:

1. **Races:** time trials and road races, including training rounds, but also the VIP/public/fan/organisation and journalist zones along the race courses
2. **Events:** preliminary activities (roadshow) and congresses/conferences
3. **Organisation:** role of Flanders 2021/UCI before and during the events.

As such, the following emission streams have been mapped:

Scope 1 – Direct emissions

- 1.1 Fuel consumption of own vehicles (owned or controlled)
- 1.2 Fuel consumption of generators
- 1.3 Fugitive emissions of air conditioner refrigerants

Scope 2 – Indirect emissions

- 2.1 Electricity consumption of events
- 2.2 Electricity consumption of (full or partially) electric vehicles

Scope 3 – Other indirect emissions

- 3.1 Fuel consumption of third-party vehicles
- 3.2 Volunteer commuting
- 3.3 Water withdrawal and wastewater
- 3.4 Waste
- 3.5 Use of third-party buildings
- 3.6 Purchased materials
- 3.7 Freighting of goods (rented or purchased)
- 3.8 Hotel stays
- 3.9 Business travel
- 3.10 Other fuel-and energy-related activities

Out of scope

It is also important to note where the boundaries are to the carbon footprint calculation for the Flanders 2021 carbon footprint. Some activities may be out of scope because they are outside the scope of the assignment (i.e. the activities are not directly attributable to the WC Cycling 2021); or they are outside of scope because they are outside of the operational scope of Flanders 2021; or they are out of scope because there's a lack of reliable, quality data. The following streams/actors/activities are out of scope of the disclosed carbon footprint:

- **Visitors/spectators:** as the events and races took place in public space and is freely accessible, it is unknown how many visitors were physically present. In addition, it was unknown or impossible to determine from how far these visitors have come to see the races. For example, whether an individual is a domestic or international visitor, and how far they have travelled or by which means. As such, there was no reliable data on their travel distances or the mode of travel used to get to the event.
- **Racing teams' and press outlets' equipment, and independently booked hotel nights:** Due to lack of overview on specific travel data of the racing teams and the press, some of the travel emissions have been excluded of the scope of the analysis, such as the transportation of equipment and the hotel nights booked independently. In both cases, too little information was at the disposal of Flanders 2021 to estimate the related emissions.
- **Utilities of the local organisation's venues:** these emissions have not been taken into account because the organisation behind Flanders 2021 WC Cycling itself consisted of a multitude of parties. In particular, Flanders Classics and Golazo were the two parties that executed most of the operational work. However, these organisations are entities of their own, with their own business models and carbon footprints. Throughout a

given year, they are also involved in tasks other than the organisation of the Flanders 2021 WC Cycling. In addition, the aim of the carbon footprint was to understand the emissions that are directly linked to the organisation of the WC Cycling and its official events. Only the employee commuting has been captured in order to assess the impact of Flanders Classics and Golazo employee displacements for the sake of the Flanders 2021 WC Cycling as they visited local sites.

- **WK Dorpen ('World Championships Villages'):** Five municipalities in Flanders have taken the initiative to organise bottom-up their own events linked to the Flanders 2021 WC Cycling. These locally organised initiatives were the initiative of the local municipalities, and fall outside of the operational scope of Flanders 2021 and the official events that it organises. Hence, these local, bottom-up events inspired by the Flanders 2021 WC Cycling are out of scope.

Data collection

Deloitte Belgium was in the lead to organise the data collection. Depending on the carbon emission stream, one or multiple internal or external stakeholders were contacted with regards to data availability, expected quality and final reporting to Deloitte for review and consolidation.

For certain carbon streams, data could be collected ahead of the actual events, whereby the estimations were made of the expected impact. The expected impact could also be finally verified after the actual events had taken place. Examples include the use of third-party venues or hotel bookings.

Other carbon streams' data could only be collected after the actual events had taken place. These include, for example, the consumptions linked to generators, electricity, water, waste, and so on.

Scope 1: Emission streams

1.1 Fuel consumption of own vehicles

Brief description	Carbon emissions related to the primary fuel sources combusted by assets owned or controlled by Flanders 2021. More specifically, "own vehicles" are those passenger vehicles linked to: <ul style="list-style-type: none"> • Golazo (vehicles through operative leasing that are part of employee salaries) • Flanders Classics (vehicles through operative leasing that are part of employee salaries) • Skoda vehicles donated by the sponsor Skoda for this event
Data origin	Main points of contact from Golazo and Flanders Classics were able to gather data from their respective mobility departments. Flanders Classics also oversaw the management of Skoda vehicles that were provided by the sponsor Skoda.
Required data	<ul style="list-style-type: none"> • Mileage (in kilometres) per type of vehicle (diesel, petrol, hybrid, fully electric)
Data clarification	<p>The mileage is used to approximate the carbon emissions from the own vehicles. For the vehicles from Golazo and Flanders Classics, the odometer readings at the end of the event would not be reliable, as it is unknown what the odometer readings were at back at the start of 2021. For these vehicles, mileages were estimated. Such estimations were based on fuel type (petrol, diesel, hybrid, etc.) as well as a general mobility pattern was constructed per car. Namely, as these cars were part of employees' salaries, distances between employees' homes and specific locations (e.g., Golazo or Flanders 2021 HQ's or particular places related to the races) could be ascertained. Per car (i.e., employee) a mobility pattern was mapped out (e.g. average number of days working from home (due to COVID-19 lockdowns being in place for a great part of 2021 with homeworking being the norm), and average days visiting the race sites, etc.). Such mobility patterns were made per car, going back to the start of January 2021.</p> <p>The Skoda vehicles provided to Flanders 2021 were new models. At the moment of handing in the vehicles (after the WC Cycling events), the odometer readings were recorded by Flanders 2021.</p>

1.2 Fuel consumption of generators

Brief description	Carbon emissions related to the primary fuel sources combusted at sites or assets owned or controlled by Flanders 2021 (diesel or biodiesel HVO generators for powering the outdoor sites).
Data origin	Powershop is the official partner tasked with setting up the energy plan per location. As part of this, they also foresaw the infrastructure for the deployment of generators.
Required data	<ul style="list-style-type: none"> • Diesel consumptions in l • Biodiesel HVO consumptions in l
Data clarification	<p>Per deployed generator (be it regular diesel or biodiesel HVO), Powershop tracks the initial volumes of fuel contents, any refills, and the final volume at the end of the events. The total consumption was provided to Deloitte in l per generator.</p> <p>Note that the use of HVO (Hydrotreated Vegetable Oil) biodiesel has a much lower carbon footprint due to the GHG sequestration of the plants used for the biodiesel (biogenic emissions). The emissions sequestered by the plants are reported within the "outside of scopes" emissions, as required by the GHG protocol accounting standard.</p>

1.3 Fugitive emissions of air conditioner refrigerants

Brief description	Air conditioners' use refrigerants for their cooling function. In their use, some of the refrigerants leak into the atmosphere. Refrigerant and other conversion factors should be used for the purpose of reporting leakage from air conditioning, refrigeration units or the release to the atmosphere of other gases that have global warming potential (GWP).
Data origin	Golazo orders the installation of any air conditioning for the outdoor zones (e.g. fan zones, public zones, partner zones and organisation zones). Through their subcontractor, information can be gathered about any required refills.
Required data	<ul style="list-style-type: none"> HFC 32 in kg
Data clarification	N/A – no air conditioning was used for Flanders 2021.

Scope 2: Emission streams

2.1 Electricity consumption of events

Brief description	Carbon emissions related to the electricity consumption from the outdoors events (primarily the fan zones, public zones, partner zones, and organisation zones around the start and finish zones of each race course). The electricity is tapped from the national grid through municipal outlets.
Data origin	Powershop is the official partner tasked with setting up the energy plan per location. As part of this, they foresaw the infrastructure for allowing for the extraction of the electricity for Antwerp. For the other cities namely Leuven, Bruges and Knokke-Heist, the municipalities have been contacted to provide the readings of the electricity meters.
Required data	<ul style="list-style-type: none"> Electricity consumption in kWh
Data clarification	When readily available, such as in Antwerp, the meter readings of the electricity sources for the event's locations (fan zones, partner zones, etc) have been provided. When not directly available, municipalities have provided an estimation using the difference between September 2021's monthly electricity consumption, with the average monthly electricity consumption for those meters.

2.2 Electricity consumption of own vehicles

Brief description	Carbon emissions related to the electricity consumption from (partially or fully) electric vehicles owned or controlled by Flanders 2021. Since the car's electricity is extracted from the national grid, there are carbon emissions attributable linked to the generation of that electricity.
Data origin	Flanders Classics
Required data	<ul style="list-style-type: none"> Mileage (in kilometres) per type of vehicle (fully electric or electric hybrid)
Data clarification	The Skoda vehicles provided to Flanders 2021 were new models. At the moment of handing in the vehicles (after the WC Cycling events), the odometer readings were recorded by Flanders 2021.

Scope 3: Emission streams

3.1 Fuel consumption of third-party vehicles

Brief description	Carbon emissions related to the primary fuel sources combusted by assets not owned or controlled by Flanders 2021. More specifically, these “third-party vehicles” are linked to the following main parties driving along the race courses: <ul style="list-style-type: none"> • Peloton signage motor bikes • Medical vehicles (from the Belgian Red Cross – Flanders) • Maintenance vehicles (from Shimano) • Official press vehicles, planes and helicopters (VRT) • VIP vehicles • Flanders 2021 organisation rented vehicles: trucks, vans, shuttles and refrigerated transport In addition, this stream also takes into account the fuel consumption of vehicles involved in the run-up activity roadshow that went on tour across Flanders in the months ahead of the WC Cycling.
Data origin	Flanders 2021
Required data	<ul style="list-style-type: none"> • Mileage (in kilometres)
Data clarification	As these are third-party vehicles, there is little-to-no direct control of these vehicles. As such, the fuel consumption was estimated via an approximation of the mileage of the vehicles. For the peloton signage motor bikes, the press vehicles, the VIP vehicles and the Flanders 2021 organisation vehicles, this was based on the length of each race course. For the rented trucks, vans and refrigerated transport, this was based on the forecasted kilometres agreed on with the supplier. For the medical and maintenance vehicles and the rented shuttles, this was based on the length of the race course as well as the displacement from the respective location (local Red Cross branch, Shimano HQs, etc) where they were mobilised from.

3.2 Volunteer commuting

Brief description	Carbon emissions related to the displacement of volunteers as they travel to the event sites during the WC Cycling (18 to 26 September)
Data origin	Flanders 2021 (staffing)
Required data	<ul style="list-style-type: none"> • Mileage (in kilometres) per mode of transportation (car, train, tram, metro, bus, (motor)bike)
Data clarification	The event mobilised a great number of volunteers. For this community, information has been gathered such as (i) the number of shifts done by the volunteers per location, (ii), the province from which each volunteer came and (iii) the average distance between the province of the volunteer and the location of the shift. The information provided the number of kilometres travelled by the volunteers, to which average Belgian modal shift figures (from FOD Mobiliteit/SPF Mobilité) were applied to get the amount of kilometres per type of transport.

3.3 Water withdrawal and wastewater

Brief description	When withdrawing water from the public waterworks, carbon emissions can be attributed to the collection and transportation of water. In addition, after water use, it ends up as wastewater, where emissions can be attributed to the transportation and treatment of wastewater.
Data origin	Golazo
Required data	<ul style="list-style-type: none"> Water consumption (in million L)
Data clarification	When extracting any water from the public networks, the extraction points are always fitted with meters that record the consumptions. These meter readings are mandatory in order to be able to tap from the public waterworks. The total metered water volumes were used to calculate water withdrawal as well as what ended up as wastewater for treatment. For the locations that, for whatever reason, were unable to share any data, estimations were made, using number of expected visitors at that location.

3.4 Waste

Brief description	Carbon emissions related to the waste treatment of the waste generated at the sites related to the race tracks (e.g., at the start and finish zones and official zones).
Data origin	Suez and Vanheede
Required data	<ul style="list-style-type: none"> Residual waste (in kg) Plastic, metallic or drink carton waste (in kg) Paper and cardboard waste (in kg) Glass waste (in kg)
Data clarification	Information was requested to be tracked either per individual day, or for the total time period where official events were organised by Flanders 2021. Information was to be provided per waste category (if possible): i.e., residual waste; plastic, metallic and drink cartons; paper and cardboard; and glass. The amounts were either provided as real data (total net waste weight per waste type), or estimated by looking at the amount of waste bags or trash containers multiplied by an average net weight.

3.5 Use of third party buildings

Brief description	Carbon emissions related to the scope 1 and 2 emissions of venues that were used for side events of the WC Cycling.
Data origin	Various stakeholders (more than a dozen venues are used for one or more days)
Required data	<ul style="list-style-type: none"> Gas consumption (in kWh) Electricity consumption (in kWh) Water consumption (in kWh)
Data clarification	For the third-party venues, the emissions were estimated with regards to the electricity, gas and water utilities. These estimations were based on the different venues' own historic data. Due to COVID-19, the annual consumptions of both 2019 and 2020 were requested beforehand. In addition, estimations were based on the number of days that venues were rented, as well as the relative size of the building being utilised (as mostly only a portion of the building was actually utilised). For the sites that, for whatever reason, were unable to share any data, estimations were made, using the average consumptions from the other sites per m ² . One site was able to track real time consumptions, by logging the meters the day before the event, as well as the day after the event.

3.6 Purchased materials

Brief description	Carbon emissions related to the production of purchased materials. The most significant emission streams were selected in scope. These were: (i) clothing, (ii) catering, (iii) digital printing, (iv) copy-service, (v) visibility materials, and (vi) printed screens/fabric.
Data origin	Various stakeholders
Required data	<ul style="list-style-type: none"> • Materials produced (in kg) per type of material • Or budget per supplier (in €)
Data clarification	For the materials, suppliers were asked to provide the quantity of materials delivered wither this was clothing; food, printed fabrics, etc. Suppliers either gave their best estimation (for example: in terms of quantity of food served), either calculated based on the products delivered (for example using the weight of each unit, multiplied by the number of products ordered). For the suppliers that, for whatever reason, were unable to share any data, estimations were made, using a monetary ratio based on their peer suppliers (measured in kgCO ₂ e per k€). For the suppliers where no budget data was available either, the emissions for these suppliers were excluded from the scope of the analysis to avoid taking any erroneous assumptions (these suppliers represented only 20% of the suppliers in this category).

3.7 Freighting of goods

Brief description	Carbon emissions related to the freighting of rented goods. The most significant emission streams were selected in scope, namely: (i) fence barriers, (ii) generators, (iii) forklifts, gator utility vehicles and cranes, (iv) tents, (v) office and depot containers, (vi) toilet units/boxes, (vii) podiums and scaffolding, (viii) LED walls, (ix) TV screens and sound systems, and (x) decorative furniture.
Data origin	Various stakeholders (even multiple stakeholders per product type such as fences)
Required data	<ul style="list-style-type: none"> • Freightied goods (in ton.km) per type of shipment (rail/road/sea) • Or budget per supplier (in €)
Data clarification	For the freighting of goods, suppliers were asked to provide the distance between their warehouse and the event location, as well as the type of truck used and the weight of the load/product transported. Suppliers either gave their best estimation for the load (for example high-level figure based on average load per truck), either calculated based on the transported goods (for example, using the weight of each unit, multiplied by the number of transported goods). For the suppliers that, for whatever reason, were unable to share any data, estimations were made, using a monetary ratio based on their peer suppliers (measured in kgCO ₂ e per k€). For the suppliers where no budget data was available, the emissions for these suppliers were excluded from the scope of the analysis to avoid taking any erroneous assumptions (these suppliers represented only 20% of the suppliers in this category).

3.8 Hotel stays

Brief description	Carbon emissions associated with overnight hotel stays booked by Flanders 2021 for teams, the organisation, UCI, VIPs, press, etc.
Data origin	Flanders 2021
Required data	<ul style="list-style-type: none"> Number of rooms and number of nights per rooms (room/nights)
Data clarification	Flanders 2021 booked hotel stays for many of its direct stakeholders, such as for teams, the organisation, UCI, VIPs, press, and others. Data used came from the invoice data on rooms booked. Some teams opted not to utilise the hotels proposed by Flanders 2021. Due to lack of overview on these "other reservations" and lack of control of Flanders 2021 on these reservations, these have been removed from the scope of this analysis.

3.9 Business travel

Brief description	Carbon emissions related to emissions for individuals travelling for work or competition purposes. These relate mostly to the business travel of the UCI organisation, the racing teams and the press in order to travel down to Flanders, before and during the WC Cycling.
Data origin	The UCI and Flanders 2021
Required data	<ul style="list-style-type: none"> Passenger kilometres per flight (in passenger/km)
Data clarification	For the UCI, data was obtained by focusing on flights from the UCI management and staff that travelled to Flanders leading up to the events, as well as their flights to Flanders for the WC Cycling. For this last category (i.e., flights for the WC Cycling), also the Commissaires' flights were taken into account, as they were flown in by the UCI as observers to the races. For the racing teams and the press, the organisation provided a list of people who were accredited for the event per country. Based on this, an estimation was done using average travel statistics data to estimate the type of transport used (car, train, plane) based on the distance between the country of the accredited team and Belgium. The emission factors that were selected also include the indirect effects of non-CO ₂ emissions (e.g., water vapour, contrails, NO _x).

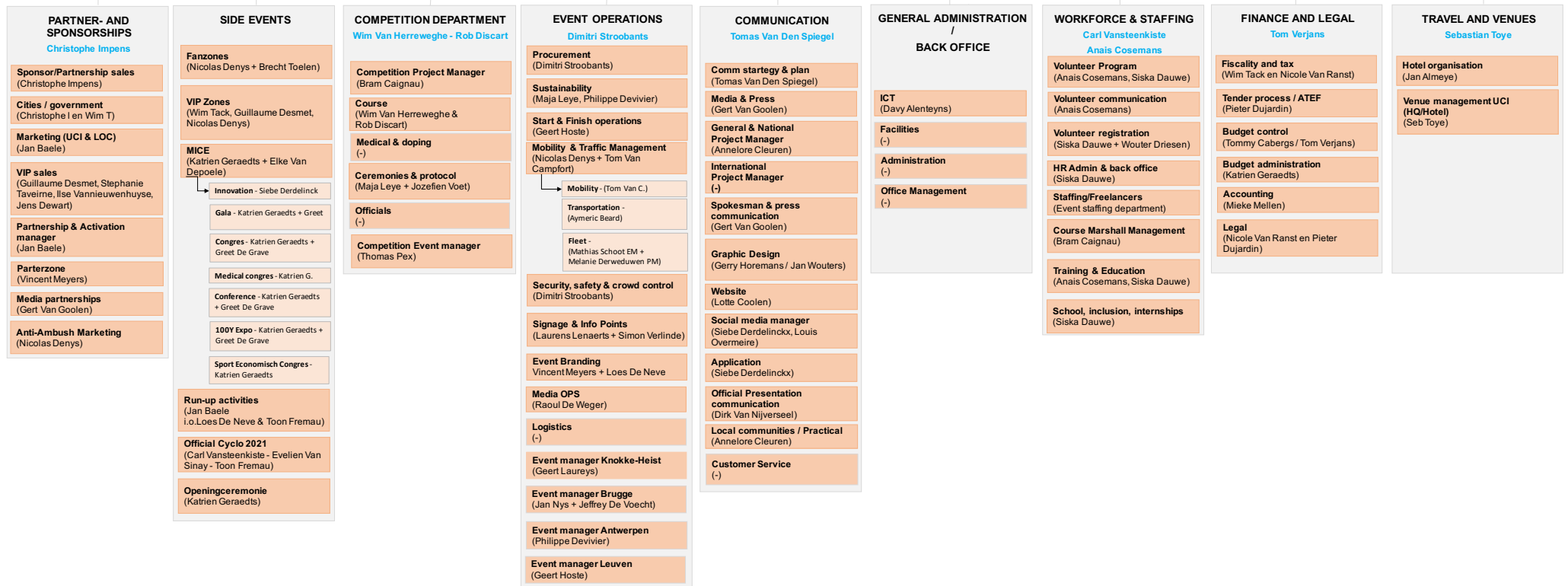
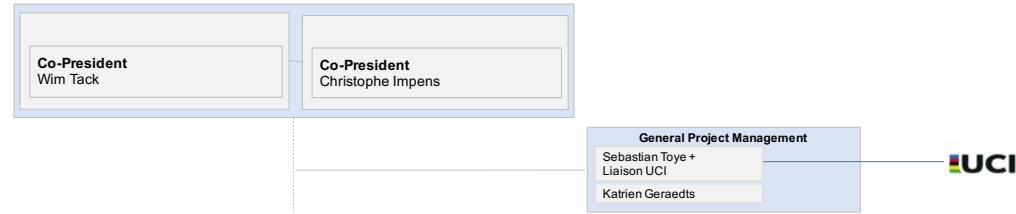
3.10 Other fuel-and energy-related activities

Brief description	Upstream emissions of purchased fuels (Well-to-Tank or "WTT") and electricity, transmission and distribution (T&D) losses, and emissions linked to the generation of purchased electricity that is sold to the end user.
Data origin	N/A – these emissions are related to the data captured in the previous emission streams but merely account for the upstream emissions related to (in)direct use of fuels and electricity.
Required data	<ul style="list-style-type: none"> Fuel consumptions (in litres) Mileage (in kilometres) Electricity consumption (in kWh) (for the T&D losses and generation of electricity)
Data clarification	These emissions were calculated based on the previous emission streams' activity data.

APPENDIX 2: ORGANISATIONAL STRUCTURE



LOC Flanders 2021



APPENDIX 3: SUSTAINABILITY CHARTER

Scope of activities

This Sustainability Charter applies to activities in the context of the 2021 Road World Championships.

MANDATORY CONDITIONS

You comply with at least the following provisions:

- **MATERIALS**
 - The distribution of gadgets is limited, and distributing flyers and all possible advertising leaflets is not allowed
 - When selling items such as sunglasses, t-shirts, and so on, the packaging is removed before giving (litter sensitive). Giving plastic bags is also not allowed
- **WASTE**
 - Exhibitors of food/drink stands provide at least one residual waste bin and one PMD bin at the front, clearly visible and easily accessible. Large stands must provide several garbage cans
 - Each exhibitor is responsible for waste from the products they offer
 - Waste produced by the exhibitor is selectively separated at the back of the stand in the bins provided, as described in the waste charter
- **CATERING**
 - Serving beverages in reusable cups is mandatory for all beverages (soft drinks, water, beer, cocktails, wine, and so on). Disposable packaging for drinks can only be used behind the counter
 - Food is organic, local and seasonal, as much as possible
 - Other products are as much as possible 'Fair Trade'
 - Each exhibitor offers at least one vegetarian or vegan alternative
 - Food waste is avoided. If there are food surpluses, please check with the city/municipality in question as to how best to deal with this

- **WATER**
 - Chemical products are avoided as much as possible. Cleaning agents (detergents, soaps and products) must be ecologically degradable and have the EU Ecolabel
- **HEALTHY LIFESTYLE**
 - The 2021 Road World Championships will be a smoke-free event for the first time. The LOC is taking on this challenge together with charity partner Kom op tegen Kanker. We therefore ask all participants not to smoke during the 2021 Road World Championships

OPTIONAL CONDITIONS:

The following provisions are highly recommended:

- **ENERGY**
 - Make maximum use of the main power sources available (make arrangements with the organiser, LOC or your local government)
 - Utilise LED or energy-saving lamps wherever possible
- **USE OF SPACE**
 - If you play music, please respect the noise standards and conditions that apply in your municipality
- **MATERIALS**
 - Limit printing. If unavoidable, choose recycled paper, FSC-labelled or chlorine-free paper and use an environmentally friendly printing ink (water-based)
 - Select flags and banners in PVC-free material that can be reused later
 - Furniture or materials such as signposts are rented to a maximum, or if nevertheless created, produced for reuse

- **CATERING**

- Serve drinks as much as possible via barrels, post-mix system, glass return bottles or large packaging of 2L minimum. Avoid small packages
- Make napkins available at the counter so that customers can decide for themselves if and how many they want — do not just hand them over
- Serve food where possible in reusable catering materials (porcelain, glass, metal cutlery, reusable hard plastic bowls and plates, and so on)
- Limit the serving of food in disposable containers
Alternatives are:
 - edible packaging: ice cream on a cone, fish or meat on a bun, salads from a cabbage leaf
 - napkin: hamburger, hot dog or sandwich in a napkin

- **ACCESSIBILITY AND INCLUSIVITY**

- Exhibitors must ensure that their stands are accessible to everyone

- **GOOD GOVERNANCE AND SUSTAINABLE PROCUREMENT**

- Exhibitors must make sustainable purchases as much as possible, and make maximum use of local suppliers
- Exhibitors must ensure they provide a safe and healthy working environment for their employees
- Exhibitors must ensure that they respect local laws in their activities

- **MOBILITY**

- Use public transport for individual movements
- Avoid driving with (half) empty (freight) cars; combine transports as much as possible
- Choose the most ecological transport modes: electric or hybrid cars, (electric) (cargo) bicycles

- **SUSTAINABILITY REPORT**

After the event, the organising committee, with the assistance of Deloitte, will prepare a sustainability report to report on the sustainability efforts and progress of the event.

Some data from the suppliers/exhibitors will be needed to measure the efforts of the suppliers/exhibitors/event. The suppliers/exhibitors agree to spend time on:

- the alignment of data needs before the event with Deloitte
- collecting required data during the event by setting up the necessary process

Feedback, new input or an evaluation of the provisions are always welcome; please submit them via email.

APPENDIX 4: WASTE BREAKDOWN PER CITY

Waste (tonnes)	Host cities			
	Knokke-Heist	Bruges	Antwerp	Leuven
Mixed	1.3	3.0	1.3	8.6
PMD	0.3	0.2	0.1	0.5
Paper	0.2	0.6	0.2	1.3
Glass		0.6		0.3
Food		0.3		1.2
Wood				0.3
Total	1.8	4.6	1.5	12.2

Waste (tonnes)	Official UCI Road World Championships Villages				
	Damme	Huldenberg	Keerbergen	Overijse	Tervuren
Mixed	-	-	-	-	-
PMD	-	-	-	-	-
Paper	-	-	-	-	-
Glass	-	-	-	-	-
Food	-	-	-	-	-
Wood	-	-	-	-	-
Total	0.4	3.2	1.3	n.a	n.a

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