

# Voluntary CO<sub>2</sub> Cancellation Vattenfall Solar Team

Race participation Bridgestone World Solar  
Challenge 2019  
Brand Experience (Patrick Harms)

Confidentiality class: None (C1)

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**VATTENFALL**

## A climate neutral race participation

*Solar car NunaX, built by the Vattenfall Solar Team, shows us the possibilities of fossil free transportation powered by the sun. The sixteen students will defend their current world title solar racing in Australia during the Bridgestone World Solar Challenge 2019 from October 13 – October 20.*

*However, a lot of shipping, air- and ground transportation between Europe and Australia is needed to participate in the Challenge. Vattenfall committed itself to making the 2019 race participation of the Vattenfall Solar Team as climate neutral as possible. Usage of non-fossil based forms of transportation between Europe and Australia, and the use of electrical support vehicles in Australia was unfortunately not feasible.*

*We then turned to the EU Emissions Trading System. Based on a calculation drafted by independent agency Atmosfair in Germany we bought a corresponding amount of European carbon emission rights (EUA) covering 101% of CO<sub>2</sub> emissions caused. This way we take CO<sub>2</sub> emission rights out of the carbon emission market, preventing others from emitting CO<sub>2</sub>. Together with the Vattenfall Solar Team we will look into the deployment of fossil free support vehicles during next races in which the team participates.*

*In this document we list all items included in the calculations made by Atmosfair and the result of the calculations. The subsequent CO<sub>2</sub> trading deal is registered under transactionID EU531078.*

# Overview of items included in the calculations

## 1. Flights<sup>1</sup>

### Outbound flights crew and support team Amsterdam to Australia:

- 8x routing Amsterdam > Singapore > Sydney > Darwin in economy class
- 8x routing Amsterdam > Singapore > Sydney > Adelaide in economy class
- 2x routing Amsterdam > Frankfurt > Singapore > Darwin in economy class
- 20x routing Amsterdam > Singapore > Darwin in economy class
- 1x routing Amsterdam > Singapore > Darwin in business class

### Outbound flights crew and support team Australia to Amsterdam:

- 2x routing Darwin > Singapore > Amsterdam in economy class
- 17x routing Adelaide > Singapore > Amsterdam in economy class
- 5x routing Adelaide > Sydney > Jakarta > Amsterdam in economy class
- 2x routing Adelaide > Guangzhou > Amsterdam in economy class
- 1x routing Adelaide > Sydney > Abu Dhabi > Amsterdam in economy class
- 1x routing Sydney > Singapore > Amsterdam in economy class
- 6x routing Adelaide > Kuala Lumpur > Amsterdam in economy class
- 3x routing Adelaide > Sydney > Kuala Lumpur > Amsterdam in economy class
- 2x routing Adelaide > Cairns > Singapore > Amsterdam in economy class
- 1x routing Adelaide > HongKong > Amsterdam in business class

## 2. Freight transport (battery and car)

- 1x 5,500kg consignment routing Amsterdam > Hongkong > Sydney with Cathay Pacific Cargo
- 1x 5,500kg consignment Sydney > Darwin on board of a triple road train (pulled by a Volvo NH15 prime mover).
- 1x 2,500kg consignment on board of container ship Al Bahia (IMO: 9349514, MMSI: 636017669) routing: Rotterdam > Le Havre > Genova > Dumyat > Fremantle > Melbourne
- 1x 2,500kg consignment Melbourne > Darwin on board of a triple road train (pulled by a Volvo NH15 prime mover).

## 3. Ground transport

- 2x people mover Kia Carnival minivan, diesel fuel, estimated mileage per car is 8000 km
- 1x people mover Kia Carnival minivan, diesel fuel, estimated mileage is 5000 km
- 2x people mover Kia Carnival minivan, diesel fuel, estimated mileage per car is 4000 km
- 1x people mover Toyota Kluger SUV, diesel, estimated mileage is 4000 km
- 1x people mover Toyota Camry sedan, diesel, estimated mileage is 4000 km
- 1x people mover Toyota Commuter minivan, diesel, estimated mileage is 4000 km
- 1x truck (Scania R360 with two hauls), estimated mileage is 6750 km

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<sup>1</sup> The flights made by Vattenfall's media crew (3 persons) are compensated via Vattenfall's established method of compensation all company travel. These specific flights are therefore not included in this calculation in order to prevent double offsetting.

## 4. Lodgings

### 4.1. August 29<sup>th</sup> > October 13<sup>th</sup> Alatai Apartments in Darwin\*

- 5x 40 nights in 3 bedroom apartment in 1 star complex (per room six persons)
- 6x 6 nights in 2 bedroom apartment in 1 star complex
- Standard breakfast, lunch, dinners meals

### 4.2. Camping October 13<sup>th</sup> > October 17<sup>th</sup>

- 42 persons are camping along the road side (tents are from storage, not new)
- Standard breakfast, lunch, dinners meals (breakfast and dinner are prepared on two gas fired outdoor bbq kitchens)
- 1 diesel generator 10kva

### 4.3. Stay October 17<sup>th</sup> > October 21<sup>st</sup> Miller Apartments in Adelaide

- 5x 5 in 3 bedroom apartment in 2 star complex (per room six persons)
- 6x 5 nights in 2 bedroom apartment in 2 star complex
- Standard breakfast, lunch, dinners meals 42 persons

# Calculations results by Atmosfair

## atmosfair CO<sub>2</sub>-event report

Event Vattenfall Sponsorship World Solar Challenge 2019  
 Organiser / Host World Solar Challenge  
 Event dates 13.10.19 - 20.10.2019



21.08.2019

Position	Value	Unit	Emissions
<b>General</b>			
Duration of the event	8	days	
Number of participants	39	people	
Overnight stays	501	nights	7,297 kg CO <sub>2</sub> e
<b>Nutrition</b>			
Number of meals	501	units	1,303 kg CO <sub>2</sub> e
<b>Arrival / Departure and local mobility</b>			
Flight			302,855 kg CO <sub>2</sub> e
Car			5,834 kg CO <sub>2</sub> e
Truck			7,628 kg CO <sub>2</sub> e
<b>Goods transport</b>			
Container ship	22,875 km	2,500 kg	1,435 kg CO <sub>2</sub> e
Road Train	4,000 km	5,500 kg	2,480 kg CO <sub>2</sub> e
Road Train	3,750 km	2,500 kg	1,059 kg CO <sub>2</sub> e
Airplane	16,758 km	5,500 kg	160,384 kg CO <sub>2</sub> e
<b>Total emissions of the event</b>			<b>487,795 kg CO<sub>2</sub></b>