

# Durham University Solar Car's Adventure at the Bridgestone World Solar Challenge

Durham University Solar Car team has finished the incredibly tough Bridgestone World Solar Challenge in under six days for the first time. We're proud to say that our newest solar car has made us the best placing British Team to complete the 3000 km challenge across the Australian outback, finishing in 11th place in the Challenger Class.



1: DUSC2023 driving through the outback..

The Challenger Class cars in the Bridgestone World Solar Challenge seeks to design and build a solar vehicle designed to complete the 3,000-kilometre journey within 50 hours in the most efficient way possible. Challenger Class vehicles are single seater and are visually stunning and slick. They are built for sustained endurance and total energy efficiency.



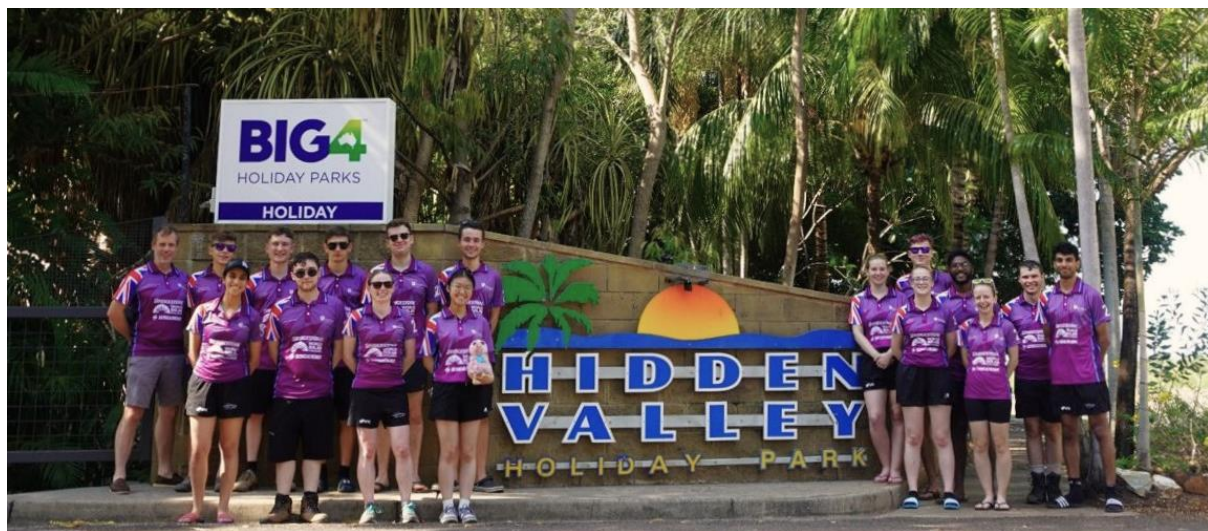
2: DUSC2023 Crossing the South Australia Border.

Durham University Solar Car have had an incredible experience crossing one of the most remote and sparsely inhabited continents on earth for the 2023 Bridgestone World Solar Challenge in Australia. It



*3: Evening charge to obtain as much energy from the sun as possible when camping overnight.*

is one of the longest journeys one will undertake in a car, from the ‘top end’ of Darwin with tropical rainforests, just 12° south of the equator, through the vast, arid deserts of the interior, to the cosmopolitan city of Adelaide. Regulations for the challenge are designed to foster innovation, encourage solutions to sustainable transport, incorporate lessons learned from previous event, and keep pace with international standards.



*4: Team photo outside out campsite, Big 4 Hidden Valley Holiday Park*

The team travelled to Darwin on the 29th of September to arrive at the Hidden Valley Racetrack to work on fine tuning the solar car! The atmosphere at Hidden Valley was one of a kind and Durham spent their time working alongside 38 other teams from across the globe. The level of skill and expertise gathered at Hidden Valley was invaluable and all the talented minds deserve applause. Seeing how other teams have approached the same design challenge and learning from each other is an experience you’d struggle to find anywhere else.



3: The Durham Team working in the pit garage at Hidden Valley Raceway

The days leading up to qualifying involved a series of intense track testing as well as hot weather shakedown testing on the 30km Gunn Point Road just outside of Darwin. The team gained valuable testing data and allowed race strategies to be optimised for the 3000 km challenge across the Australian Outback.



6: Our first public road testing at Gunn Point Road, Northern Territory



7: Team working on the car at Gunn Point Road.



8: The solar car and convoy getting ready for a media shoot with Reuters

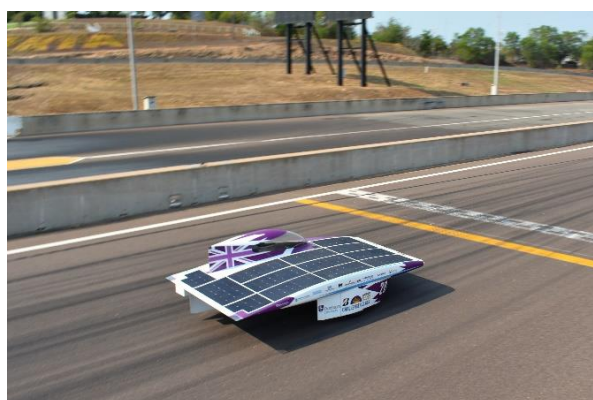
Durham's solar car passed static scrutineering with flying colours and became road legal following, the application of our Electric Vehicle license plate SUN20. The final step of reaching the start line was to officially complete the Dynamic Scrutineering process and the qualifying hot lap at the Hidden Valley Raceway. We are glad to say we completed the lap in 2.24 minutes and started at grid position 14 out of 38 on Sunday morning.



9: Scrutineers inspecting all the mechanical systems on the car to ensure we've followed all the rules and that the car is safe for the public roads.



10: DUSC2023 at the start line for the 'hot' lap.



11: DUSC2023 crossing the finish line in 14th place.

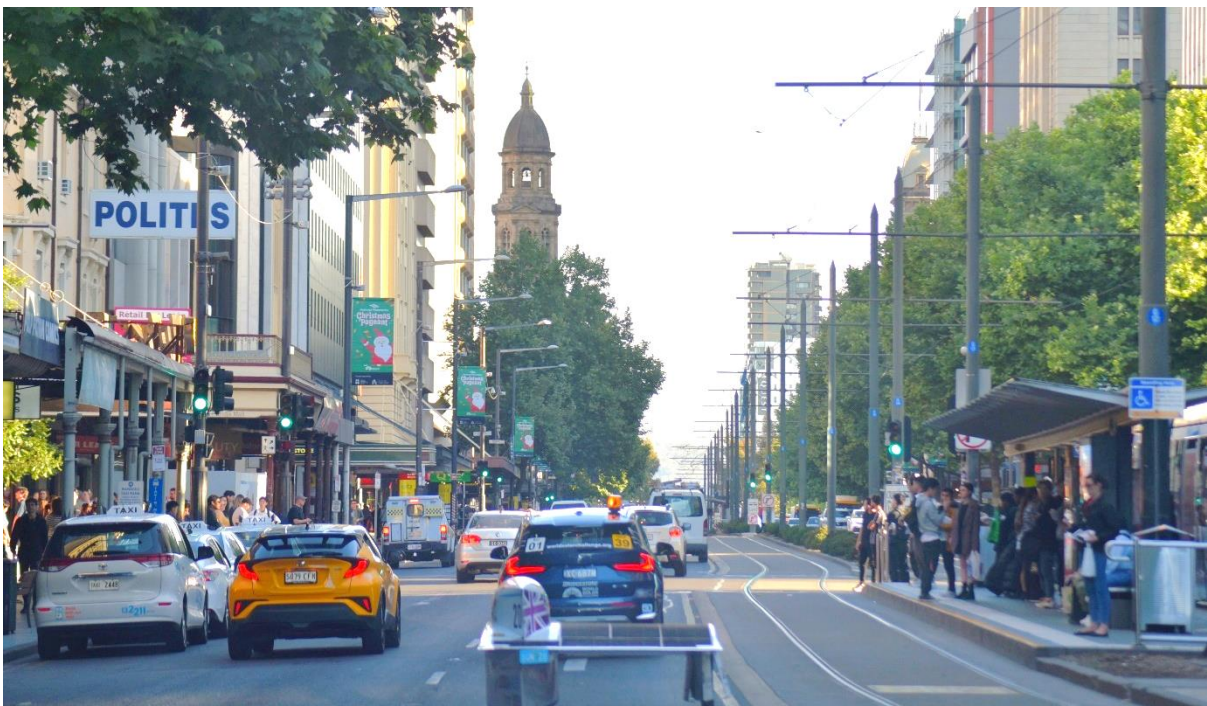
Each team travels as far as it can each day up from 8am until 5pm and camp in the desert each night. The exact progress is of course subject to the intensity of the sun, the condition of the road and whether there is any prospect of cloud. Strategic planning and energy management are essential for success. The outback was a challenge indeed and difficulties were presented along the 3000km route.

The race was everything but also nothing to what we were expecting, whether it was the blistering heat of Katherine compared to the near-zero temperatures of Copper Pedy, or tranquil moments versus the intense ones. That's without even mentioning seeing DUSC 2023, a car the team has put their blood and sweat into finally on the road competing in the World Solar Challenge. The car performed magnificently in the exquisite yet wicked environment of the Australian outback. An absolute beauty complimenting the landscape perfectly.



12: First day on the road. The solar car is followed by a 'chase' car for safety.

Stability in the unpredictable winds of the outback was a big focus for us and the event this year. We were commended by numerous event officials for the impressive stability of our car even when passing the massive multi-trailer road trains that are commonplace in Australia. We were also thrilled with how reliable the car was throughout the entire race with only two technical faults that required us to pull over – something only a few teams could say. One of these faults could only be put down to fate.



13: DUSC2023 on her way to the ceremonial finish line at Victoria Square, Adelaide

Driving into Adelaide was a different sort of challenge compared to the rest of the race. The capital of South Australia is a bustling city with massive multi-lane traffic junctions marking the end to an epic journey. To add to that, there was rush hour traffic and range anxiety that left the solar car drivers on

the edge of their seat. The only thing that made us feel remotely comfortable was the fact that we still had over three hours to complete just 15 km. What could go wrong right? We couldn't be more wrong... Quite literally on the final straight, a mere 2 km from the end, the driver pulls over. The motor tyre had a puncture. Our only puncture of the entire race and it just so happened to be right at the end of the epic saga. We had to pull up on the side of the road into a parking bay outside of an Italian Delicatessen of all places to assess the situation. The only option was to install our back up motor. *Gerald* was its name and was a motor designed and built by Durham over the years. It was also the motor that was in our 2019 car *Ortus* that was so painfully close to the finish last time round having to stop 150 km from the end. *Gerald* was able to finish what it had started 4 years ago – finish the Bridgestone World Solar Challenge. Durham had just finished the Bridgestone World Solar Challenge in 6 days.



14: DUSC2023 in the solar car parade on the final day of the event.



15: DUSC2023 and the team crossing the finish line!

After twenty-one years, hundreds of students and a lot of carbon later, we were thrilled to carry a Durham University Solar Car across the ceremonial finish. That feeling of excitement, relief and everything in between was the perfect finish to the challenge. Seeing the tears of happiness on the team was not a surprise – all of us had worked incredibly hard to design and build a solar car, competitive enough to finish the challenge.



16: Celebratory pictures at the finish line with the car, the team and the Union Jack.

Now that we're back in the UK after a dream come true it is time for the team to turn to its next challenge in 2024 and beyond!

Stay tuned and up to date via our social media: Instagram: [du\\_solarcar](https://www.instagram.com/du_solarcar); LinkedIn: [du-solarcar](https://www.linkedin.com/company/du-solarcar);  
Website: <http://www.dusolarcar.org>.

If you have any questions or want access to any pictures please email [dusolarcar@durham.ac.uk](mailto:dusolarcar@durham.ac.uk).