

Future Motorsport Trends (Turning Issues into Opportunities)

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Aerodynamics



The wing obviously works via the airflow over it, and this situation changes rapidly if you happen to follow another competitor; he has the full use of the wing and you yourself have to put up with the turbulence created by his car. This could mean that the man in front is actually going slower than you, but you cannot pass him because after getting near to him, your wings stop working and you cannot go so quickly. This fact spoils racing to quite a large extent. On the other hand the turbulence can be so great that your car starts behaving very strangely and completely unpredictably.

Jochen Rindt - An Open Letter to F1 (1969)

Aerodynamics



To explain the reason for my accident, I was happily driving round the fastest bend on the track when my wing broke and changed its downthrust into reverse. The back end of my car started flying, and I nearly flew over the double guardrail on the left side of the track. Fortunately I was flying about 10 inches too low and got bounced back into the road. I have got a picture to prove it. Can you imagine what would have happened if the car had flown into the crowd? By next year we will probably have wings big enough to do so, and all the owners of the circuits will have to think about new crowd protection. **You can also get lift instead of down-pressure if you spin the car at high enough speed and start going backwards.**

Altogether I have come to the conclusion that wings are very dangerous, and should therefore be banned.

JOCHEN RINDT.
Begins, SWITZERLAND.

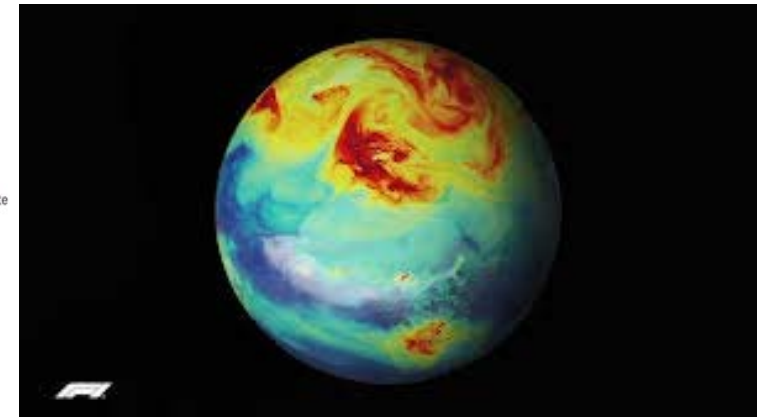
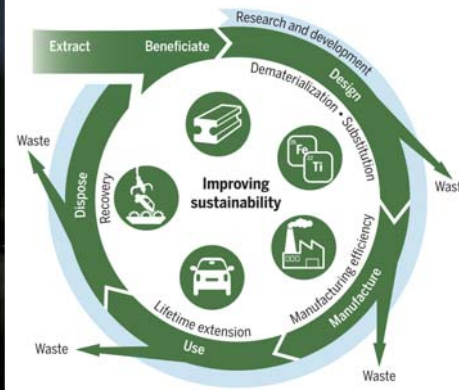
Aerodynamics



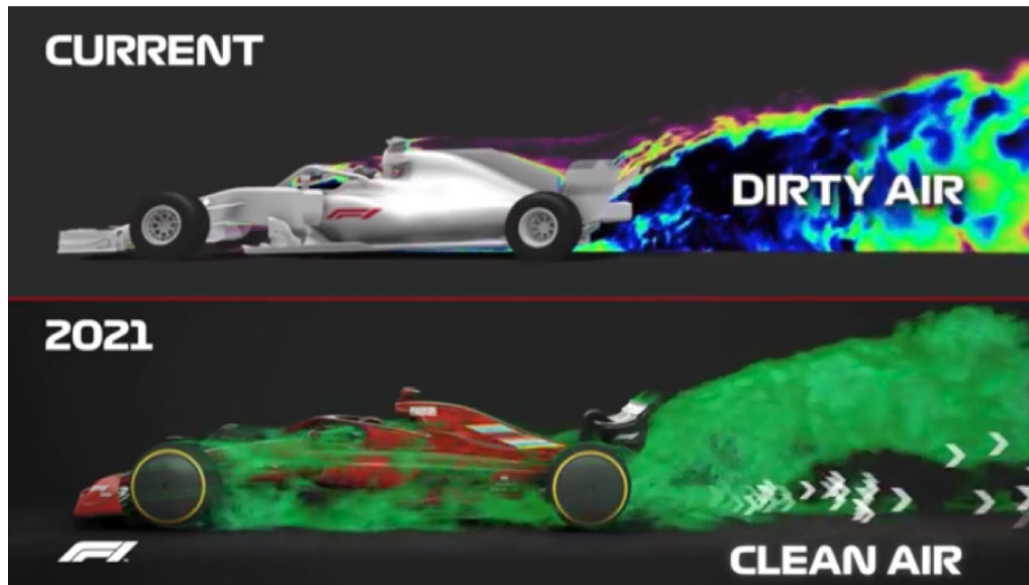
Learning from your tools & data



F1 2021 a whole new era



What does Motorsport leave behind?



Learning from Formula 3 (late 80's)



One make 'monopoly' racing (Dallara)



Today's last design/build category



750 Formula (750 MC)

Very low cost

Design & Regulation freedom

A training ground for future engineers*

*(Proof) 750 Formula's roll of honour:

Adrian Reynard (Reynard)

Arthur Mallock (Mallock)

Eric Broadley (Lola & Ford GT40)

Colin Chapman (Lotus)

Derek Bennet (Chevron)

John Miles (Lotus F1 driver and coach)

Tony Southgate (Multiple F1 and Le Mans cars)

Brian Hart (Hart F1/F2 Engines)

Gordan Murray (Brabham F1 & McLaren)

Jem Marsh (**Marcos**)

Frank Costin (**Marcos**, Vanwall)

Mike Pilbeam (Lotus, Surtees, BRM, Pilbeam)

Management & Political Pressure

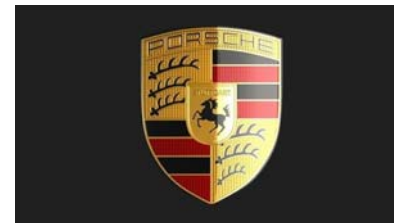


22 NOVEMBER 2019



VW Motorsport has announced plans to drop its factory-backed commitments using internal combustion engines and focus on fully electric racing cars. The first stage will involve different disciplines, platforms and vehicle types being examined and evaluated.

Motorsport Leading The Charge



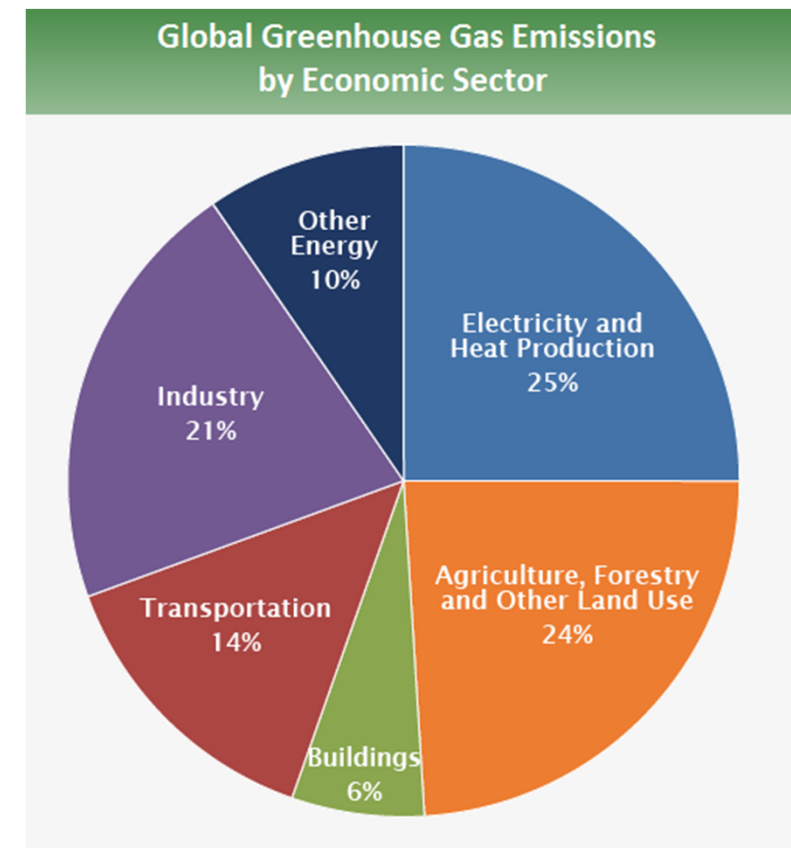
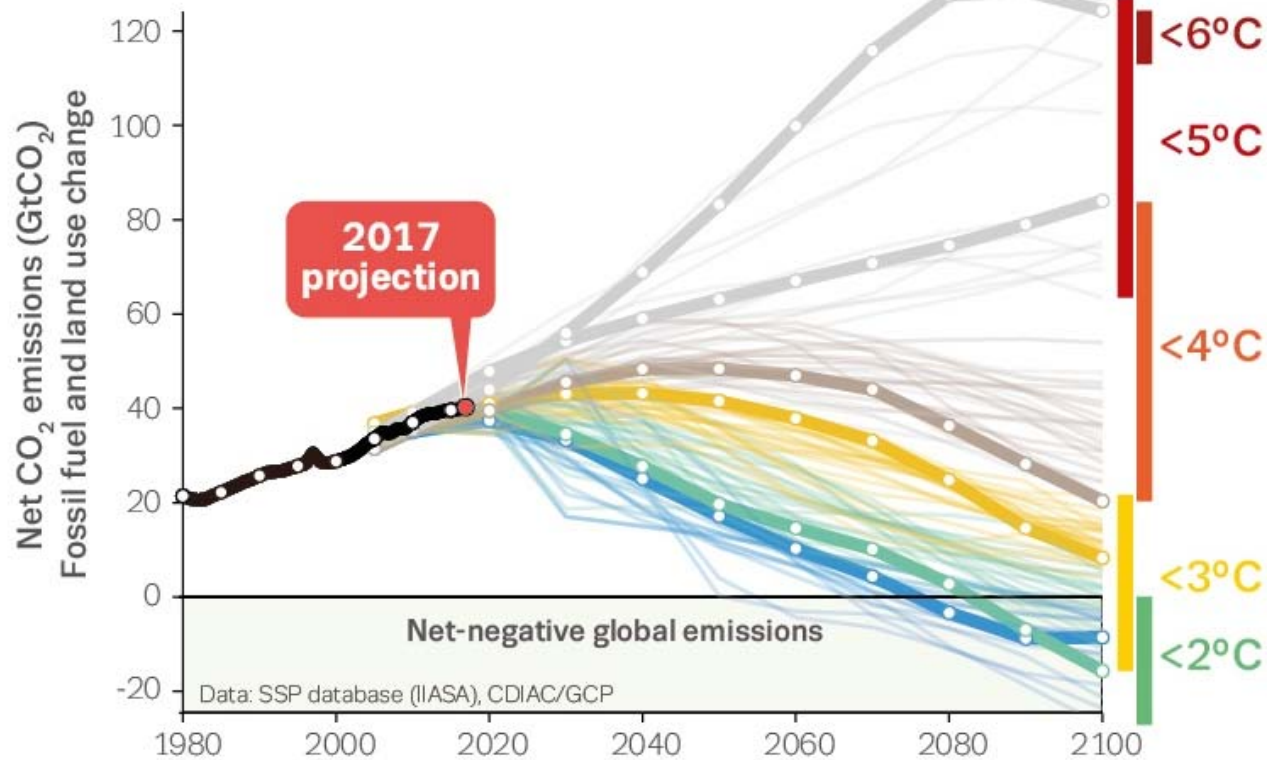
Mercedes-Benz



What is the powertrain of the future?



Global Emissions Forecast



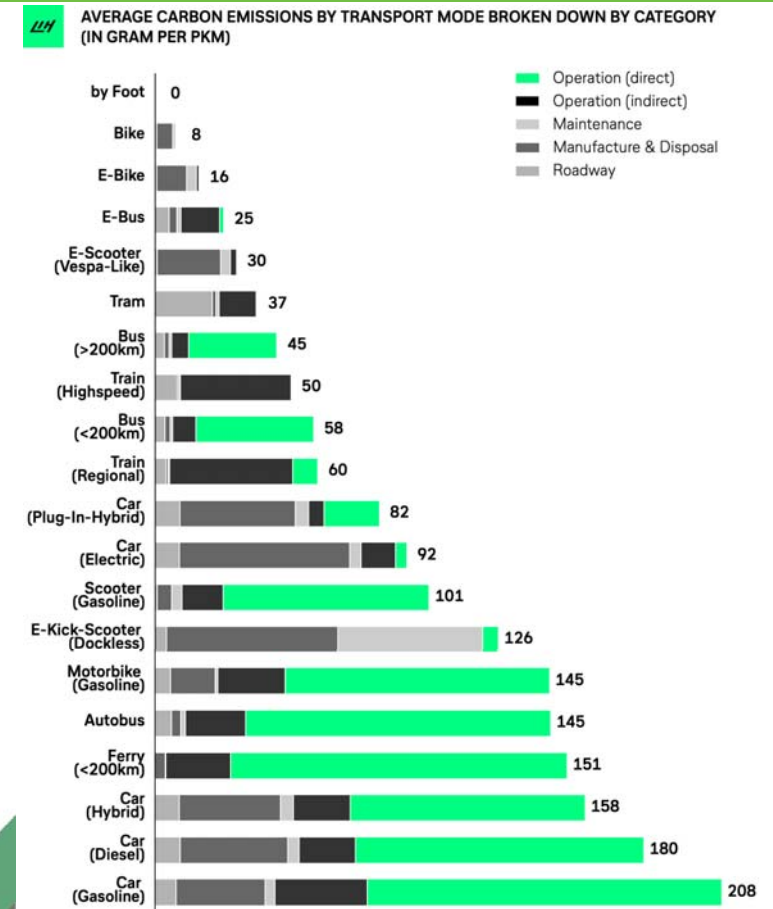
Carbon Footprints (gms/km/person)



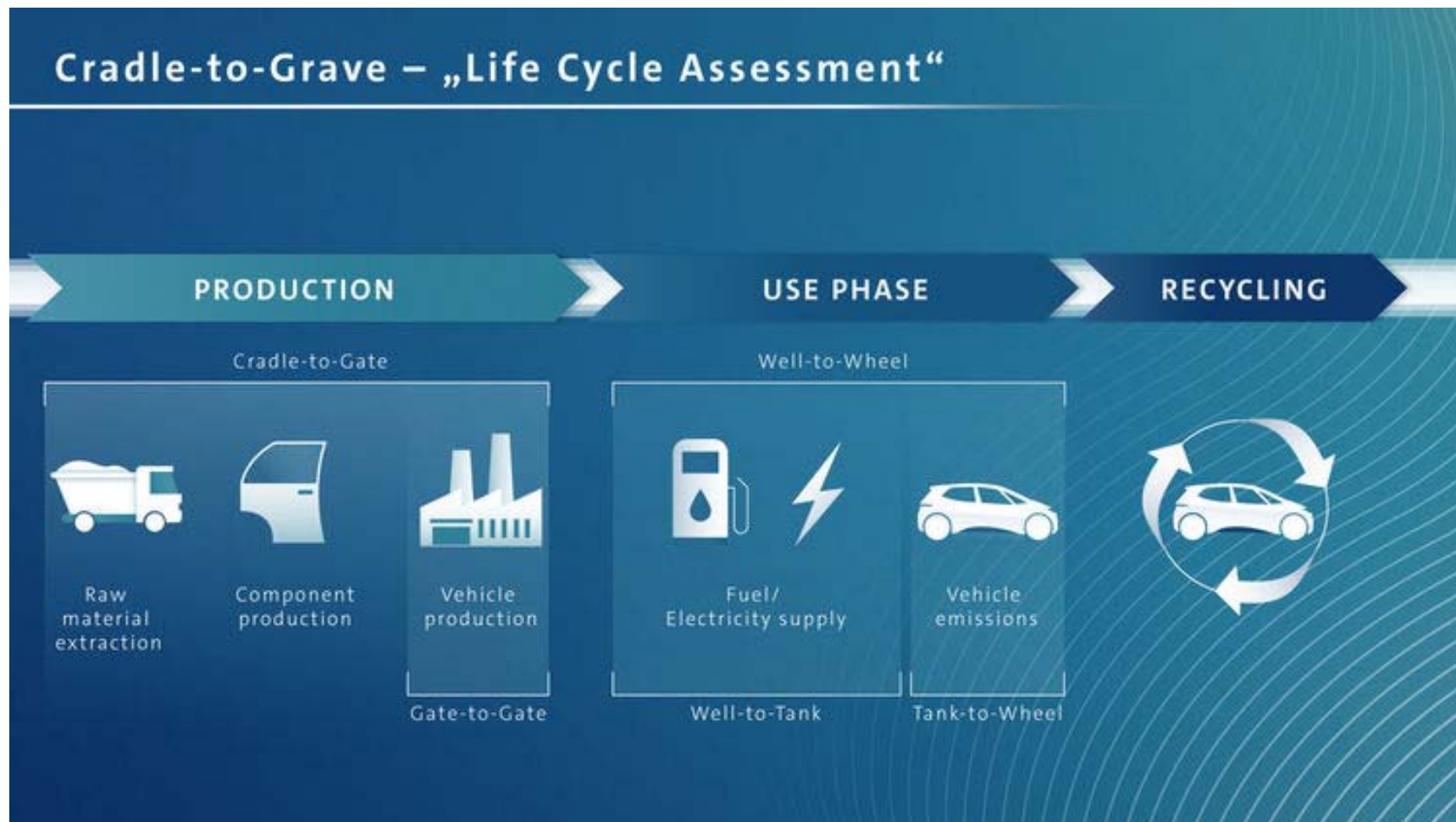
● equal to 100kg of CO₂ emissions
measured in weight of carbon

figures shown, show the average CO₂ emissions per person, the figures for public transport represent the average capacity of the transportation device. Bus has an average capacity of 9 people, aeroplane has a capacity of 80% and train and tram has a capacity of 55%

[carbon emissions from various transportation]



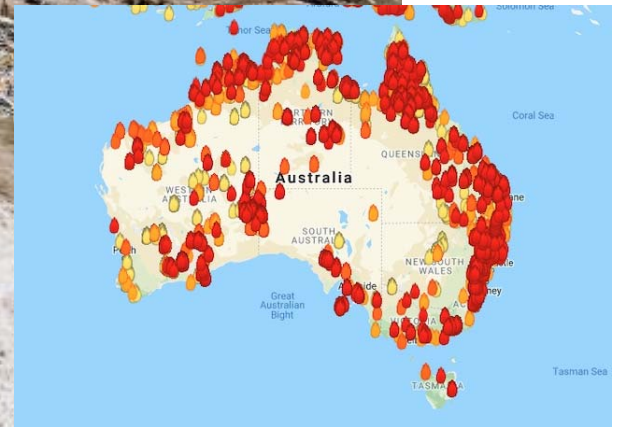
“Well to Wheel” – “Cradle to Grave”



Part of the Solution NOT the Problem



JOHNNY MILLARD / THE NEW YORK TIMES / REDUX



Future Motorsport Solutions



Future Motorsport Trends

Thank You & Any Questions

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