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## Formula Zero (carbon): Motor racing without the emissions

*The thrill of motor racing without the emissions? It's not just hot air, Michael McCarthy discovers*

It felt like a sudden glimpse of the future. Environmentally-friendly motor racing came to Britain with the first outing of a championship series with a difference - Formula Zero.

At a track in Surrey, teams from Britain, Belgium, the Netherlands and Spain competed in souped-up machines of an entirely new sort: they were all emissions-free.

While Formula One brings thrills, tension, high-speed cornering and nail-biting competitiveness, Formula Zero bids to do all that without the biggest drawback of every motor vehicle - the carbon dioxide coming out of the tailpipe and helping to cause climate change.

Its cars run on electric motors powered by hydrogen fuel cells, and all that comes out of their exhausts is water vapour.

It is the vision of two Dutchmen, Godert van Hardenbroek and Eelco Rietveld, who may well be the Bernie Ecclestone and Max Mosley of the future, although at the moment they are starting small: rather than putting out 200mph monsters they are using go-karts which reach about 45mph on a track that would comfortably fit inside half a football field (but is difficult to master because of its tight corners).

However, they are single-mindedly ambitious, and hope to be racing full-sized cars by 2011 and, perhaps, eventually to replace Formula One itself as automotive technology becomes less and less dependent on the petrol engine. They own the Formula Zero brand.

"Carbon-free motor racing is just as entertaining, I have no doubt about it," Mr van Hardenbroek, a 40-year-old former designer from Utrecht, said yesterday at Britain's first Formula Zero meeting at Mytchett in Surrey. "My ambition is to become the dominant force in all of motor racing and eventually replace Formula One, although how quickly that happens depends on the market [for carbon-free cars]."

It may sound a bit over the top until you start to think about how quickly electric vehicle development is now moving, with high-performance sports cars such as the Tesla Roadster (0 - 60 in 3.9 seconds) already in production - then it doesn't seem nearly so much of a fantasy. Mr van Hardenbroek said nobody knew if electric machines could eventually match fully the high speeds and endurance of present Formula One supercars, but he thought it was possible.

Besides the lack of end-of-pipe pollution, another striking difference with Formula Zero is that the cars' engines are virtually silent, their only sound being the noise of the tyres on the track - the screaming whine which is one of Formula One's trademarks is missing completely. Mr van Hardenbroek said: "Sure, some people may miss the sound of screaming engines, but a new generation will be completely thrilled with the sound our cars make. I would compare it to pop music. There's always a generation which rejects the sounds of their parents."

He and Mr Rietveld had the idea for Formula Zero a decade ago when they attended a conference on sustainable entrepreneurship and saw a delegate buy a Maserati. "It didn't seem very sustainable, but then Eelco and I said to each other, 'This is the future we want to live in. We want to have a nice car and drive fast, but do it in a more

intelligent way that is compatible with nature and the ecosystem."

He went on: "We want to change something in the way we live - we have to change because of climate change - but also have fun. It's not just being Calvinistic and righteous and trying to make other people feel bad. It's about doing something which is worthwhile and fun at the same time. It's really about making a symbol of the change which is required."

The four teams competing this week in knock-out time trials were all based around élite technological universities, mainly consisting of engineering students and more senior advisers. Britain's team was from Imperial College, London; the Belgian team was from the University of Leuven, the Dutch from the University of Delft and the Spanish from the University of Zaragoza. In the sprint race, the Belgian team came first, the Spanish second, the Dutch third and the British team fourth.

### **F1's attempts to clean up its image**


\*Formula One itself, and the FIA, the governing body in charge of motor racing, are both waking up to the fact that in a world increasingly preoccupied with climate change, their sport can be seen as the very epitome of gas-guzzling.

They are aware that, notwithstanding the to-hell-with-global-warming attitude of certain motoring commentators, they have a growing image problem. Recently, the FIA set up an Environmentally Sustainable Motor Sport Commission to explore the possibility of a greener version of screaming round a circuit, and two months ago it held its first policy meeting, attended by major motor manufacturers from Ferrari to Ford.

The commission is now drawing up a series of environmental policies, which, according to the commission's president, Peter Wright, "will not only reduce the environmental impact of motor sport, but also help it act as a catalyst for environmental changes in the wider motoring sector." They are understood to be focusing on energy efficiency and changes such as the use of biofuels - in the US, the IndyCar series is already running on ethanol, a fuel produced from crops.

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