

## F1 and the World (Part 6) – The Future

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This is the sixth episode in the Sidepodcast mini series F1 and the World. We've already looked at how F1 is affecting the world around it and what the relevant people are trying to do about it. Now it's time to gaze ahead to the future and think about what can still be done.

It's easy to see how Formula 1 has helped in the past. It was fundamental to a lot of safety improvements and innovations that transferred over to road car technologies. It's harder to see how Formula 1 is helping right now in this decade, but that looks set to change.

The FIA are planning many new rules and regulations that will introduce some energy saving techniques to racing. Things like the Kinetic Energy Recovery System, the idea of reusing the energy that would normally be lost from braking, are pushing the sport forward. The amount of investment in researching and developing these ideas would be nowhere near as high if it was left to the road car industry themselves. Things happen a lot quicker in Formula 1, as well. Whereas a car manufacturer could think about developing a technology over a couple of years, F1 teams need the updates tomorrow, today, or preferably yesterday, so they can remain one step ahead. The competition ensures that development is always moving forward and is always at a rapid pace.

So, this KERS system. It's designed to extract the wasted energy from the braking system and recycle it. Thoughts at the moment are that the energy would go towards an overtaking button – a burst of speed allowing for more excitement out on the track. This technology would translate well to road cars, although probably without the overtaking button. That would make driving on the motorway more exciting, of course.

Biofuel technology becomes more of an issue. Research is still ongoing over how to get the best from it. Some series have already made the switch and are committed to the idea. Others, such as F1, are more reserved. Obviously, using less oil and more biofuel is a good thing, but there are problems with this system. Although biofuels are renewable, the land used to grow the crops for the process is being taken away from land normally used to grow food. Developing nations can earn more from fuel than food, and thus shortages begin to occur. It's something that needs looking at in much further detail by the FIA, not only to invest in a renewable fuel, but a renewable source that is not depriving countries of other sustainable crops.

I mentioned briefly in the FIA Efforts show, the constant desire from the FIA to cut costs. This results in long life component rules. In 2005, a rule was brought in to force that saw teams only using one set of tyres in a race. It was retracted, because it left the drivers in a pretty dangerous situation by the time they'd completed race distance. But this just led to more ideas. In 2006, the rules changed and decreed an engine had to last two races, or else the teams faced a penalty. This year sees the introduction of four-race gearboxes. Long life components mean less parts are produced, which obviously saves time and money, but also raw materials, resources, and most importantly, energy.

The final proposal I want to mention is the budget caps idea. Up until now, teams can spend as much money as they have on research and development. They can test out any number of ideas and chase down as many dead ends as they like. With budget capping, this will be limited. Even if teams continued to push forward into new technologies, there would be a limit on the time and energy used in this process. Of course, on the flip side, this could delay progress on developments that will actually be beneficial to the sport and the world around it. The full impact of the budget caps proposal is still an unknown quantity, and both sides of the coin have yet to be investigated fully.



That's a look to the future of F1 and how it may or may not affect road technologies. We've covered pretty much everything now, from the economy to the environment and all that's in between, so all that's left to do is to make our conclusions. Join me on the next show when we evaluate what we've discovered.

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