Action for Environment Presentation

Objective and process

The presentation, comprising 20 slides, is designed to be delivered by an ASN or FIA representative to:


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- Use internally for education and raise of awareness
- Local and National Governments
- Statutory authorities
- Potential sponsors
- Other motor sport stakeholders
- The general public via any suitable medium (e.g. talks at conferences, etc.).

It is of approximately 20 to 25 minutes duration depending on the experience of the presenter.


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The script should be followed at all times where possible.

We recommend to print this script on recycled cardboard paper, ideally in postcard format (15 cm wide by 10 cm high), and with the printing on both sides (the Action for Environment logo will go on the back of the cards).


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Cover slide – «A World in Motion»

[Introductory remarks tailored for the situation, thank hosts, etc.]

Our organization *[name of ASN]* is a proud member of the FIA, which is the governing body for world motor sport and the federation of the world's leading motoring organizations.

Slide 1


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Corporate Social Responsibilities

We take our corporate social responsibilities very seriously.

Our major initiative, led by our President Jean Todt, is the FIA Action for Road Safety campaign.

And as a signatory to the World Anti-Doping Code, we are committed to ensuring our sport is drug-free through our Race True programme.


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We also have a rigorous anti-corruption and anti-bribery regime, and through another initiative of President Todt, our Women in Motor Sport campaign has empowered many women to become active participants in our sport.

However, as we are an organization based on the automobile, which traditionally has been powered by fossil fuel, it was obvious that we should focus on a programme around sustainability and the environment.


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Time magazine and press covers

The environment and sustainability are now mainstream issues that attract significant media, public and political attention.


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Logos COP, Greens et NASA

Global conferences and political parties together with scientific organisations continue to draw attention to the issue of pollution and the environment.

The message is clear.

However, the FIA recognised, nearly two decades ago, that it had a duty and an opportunity to take action.


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« FIA Action for Environment »

There are two pillars to our strategy for sustainability.

The first is “Measure and Improve” and I will speak about that shortly.

The second is “Innovate and Promote”.


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Innovate and Promote

Our organisation recognised that, because of its popularity, particularly with automobile users, it has the ability to Drive Change!

The first mass-produced hybrid vehicle (the Toyota Prius) was launched 20 years ago. It would be fair to say that it was favoured by a very select group of individuals and certainly the younger generation did not find itself attracted to the concept.


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However now, with motor sport actively promoting the most sophisticated versions of hybrid in history, negative attitudes towards them have almost vanished.They are now seen, especially by the younger generation, as the way of the future, thanks to the fact that they see their motor racing heroes competing in them around the world.


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But this has not happened accidentally. The big advantage and opportunity that the FIA has had, is its power to regulate. It was courageous and controversial for the FIA to adopt regulations that required manufacturers to innovate for the design of power units that reduced the use of fossil fuels whilst at the same time maintaining the spectacle of the sport. It was, in reality, a case of "if you want to play in our game then you have to comply with our rules".


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And these rules, as we will see, have led to amazing technology that is finding its way into the cars that you and I can buy and drive on the public road. This is demonstrated through better efficiency, aerodynamics and hybrid – and electric solutions. The result is a significant drop in the vehicle's consumption of fossil fuels without any loss of power.


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WEC

A perfect example of the FIA regulating for innovation is the FIA World Endurance Championship. This championship features the famous Le Mans 24 Hour Race as well as 8 other long distance races around the globe.

The FIA, working with the promoter of the WEC, introduced several years ago a set of technical regulations for the cars in this championship that had, as one of its 5 principles, the reduction of fossil energy consumption.


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The regulations encourage innovation and flexibility with a system to ensure performance equalisation.

This resulted in the major manufacturers designing different energy recovery systems and different energy storage systems.


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WEC Power units

As we see in this slide, Toyota uses a petrol V6 internal combustion engine with Kinetic Energy Recovery (KERS, as we say) on the front and rear axle, to generate energy under braking, which is then stored in a lithium-ion battery.


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Porsche on the other hand uses a 2 litre V4 turbo petrol fuelled internal combustion engine, with both KERS (Kinetic Energy Recovery) and HERS (Heat Energy Recovery). Heat Energy Recovery is achieved by taking energy from the turbo chargers – energy that would otherwise have simply gone out of the exhaust and into the atmosphere – and converting it into electricity which in Porsche's case, is stored in a lithium-ion battery.


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F1

We now come to our premier motor sport category, Formula One.

The FIA first regulated for compulsory energy recovery in the 2009 season. It required that each car has a Kinetic Energy Recovery System (KERS) that operated by generating energy under braking, storing it then re-using it under acceleration. In 2009 it generated 81 brake horse power and was a valuable aid in overtaking.


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In 2014, the FIA introduced further energy recovery regulations requiring all cars to have both KERS and HERS (Heat Energy Recovery System).


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F1 Power Unit

This rather complicated slide is simply to demonstrate the amazing technology that is now the Formula One Power Unit.

In a conventional car, powered by an internal combustion engine, there is only one energy journey – one way from the engine, through the drive train to the wheels. In the two diagrams shown in this slide, that sole energy journey is represented by the black line running from the internal combustion engine (which is using fuel from the fuel tank) to the wheels (via a gearbox and differential) to drive the car.


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In Formula 1 there are no less than seven energy journeys. I won't describe them all to you but I would like to show you two in this diagram.

Look at the diagram with the green lines on it. These are energy recovery systems and as you can see, there are two.

Energy is recovered from the spinning turbo charger by the Heat Energy Recovery System (the MGU-H) and stored in the energy store (the battery) when the car is under full power. On the other hand, when the car is braking, energy is recovered from the MGU-K and again stored in the battery.


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Now, when the driver accelerates, if you look at the other diagram with the red lines, you will see that this stored energy is released from the battery and drives the MGU-K (the Motor Generating Unit) which delivers extra power to be added to that coming from the Internal Combustion Engine. Recovered energy that would otherwise have been wasted into the atmosphere, now contributes 161 horse power towards the estimated total of 900 horse power from the power unit. All this from a 1.6 litre, petrol fuelled V6 internal combustion engine and its associated energy recovery systems.


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It is interesting to note that the recovered energy – this 161 horsepower – is similar to that produced by the engine of a medium size road car.

It also means that in Formula One we are now getting 30% more power from every drop of fuel!


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Mercedes statement

But nothing stands still in motor sport development, especially in Formula One where the engine manufacturers have hundreds of engineers constantly working on improving the efficiency and performance of the power unit in a bid to win this most prestigious championship. This means that there is an ongoing upgrade process throughout the year.

A lot of these developing technologies are applied to passenger cars, as you can see from the statement here from the Mercedes Formula 1 Team.

Slide 11


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Formula E

One of the FIA's major initiatives is the introduction of Formula E. These open wheeler race cars have no internal engine and are completely battery driven. This is electric car technology being pushed to a new level.


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Currently, each race requires the driver to use two cars. This is because battery weight is restricted under the regulations so there has been, so far, a need to change cars when the energy from the battery has been used up. However, from season 5 (2018-2019), because of the rapid developments in the area of battery storage, the drivers will use only one car for the whole race.


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Formula E has been responsible for major technology progress in all aspects of electric cars, and also, the whole value chain around future development of electric vehicle mobility.

Which brings us on to a very important point – the very significant contribution motor sport makes to sustainability and the environment…


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Technology Transfer from Track to Road

Technology transfer is seeing the benefits of motor sport development now flowing to the road car.

It was in 2009 that Formula One introduced energy recovery systems. That same year, Kimi Raikkonen used his KERS to achieve an overtaking move in the Belgium Grand Prix which he ultimately went on to win.


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Today, we see many manufacturers have, in their ranges of cars, hybrid vehicles which use a lot of the technology from Formula One and other motor sport. The Mercedes E350e is a typical example.

Even London's buses have benefitted! The Williams Formula One flywheel system for storage of recovered energy has been successfully deployed on London buses resulting in a very significant reduction in fuel consumption.


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The enormous progress by motor sport, in making batteries and energy storage smaller and lighter, with greater storage capacity, has now worked its way not only into road-going cars but into general industry, resulting in the ability to generate the same amount of power output but using less fossil fuel.

There are many other examples such as aerodynamics, improved lighting and improved brakes, to mention just a few.


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Smart Cities Initiative

As a logical extension of the 'Track to Road' elements, the FIA has initiated the FIA Smart Cities programme. FIA Smart Cities will endeavour to demonstrate how cities can grow in a more sustainable and inclusive way, making the best use of innovative technology and calling for effective policy-making.


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Environmental Management

The second pillar to our Sustainability Strategy is "Measure and Improve".

Key to this is our Environmental Accreditation and Management programme, which has been running for a number of years. It is available to all organisations involved in FIA activities and motor sport – from car clubs, motor sport teams, to component manufacturers, rally events and race circuits.


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We have 4 parts to this Programme:

First is the Best Practice Framework which details world best practice for sustainability as it applies to Motor Sport.

Second is a very detailed set of Accreditation Guidelines which outline what specifically has to be achieved to earn accreditation at each of three levels.

The third is a comprehensive checklist that takes each stakeholder through an extensive list of items and coaches them towards accreditation.


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The final part of the Programme is a Carbon Footprint Management programme where stakeholders can easily calculate their footprint. This is linked to award-winning offset suppliers so that offsetting can be done quickly, easily but in the knowledge that the offsetting is with one of a group of respected international organisations. It is one of the best tools in the market to offer our stakeholders the option to achieve Carbon Neutral status.


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WRC

Apart from the technical regulatory initiatives already discussed today, the FIA has begun to regulate for Championships and events to achieve Environmental Accreditation. This strategy not only defines our impact but also sets the clear objective of improvement.

The first of these is the FIA World Rally Championship where all events are required to have commenced a process that will see them fully accredited under the FIA's Environmental Accreditation Programme.

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Best Practice

We are very pleased with the number of key organisations in motor sport that have already achieved Accreditation. Included in the list you can see on the screen are race circuits, famous Formula One teams like McLaren Honda, motor sport federations and World Championship rallies.

The list continues to grow as more organisations realise the importance of the accreditation process and its outcomes, and the fact that it usually results in cost savings to the organisation concerned!

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Statements from Accredited Stakeholders

As you see on this slide, we have experienced positive feedback on our effort from a number of organisations, from F1 teams, rally organisers, circuits and our members.


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FIA independent Emission Testing Programme

Together with the New Car Assessment Programme (or "NCAP") green programme, the FIA has commenced independent testing of emissions from a number of car manufacturers.


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Share best practice

The final component of "Measure and Improve" is our objective of promoting and raising awareness in the sport, through our initiatives.

We regularly do this via our internal publications and at workshops and main platform sessions at our conferences.

Well-known drivers are very willing to assist us in promoting the message of sustainability and this has worked very well in raising its profile in our sport.

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Conclusion

So – ladies and gentlemen – we at the FIA feel that we have moved in a very proactive way to leverage the influence we, as a major sport federation, can have, in changing the mindset particularly of the younger generation towards vehicles that consume less fossil fuel, and to set an example to other sports for the conduct of sustainable events and venues.

Thank you