



# MAKE CARS GREEN

FIA declaration on air quality,  
climate change, and automotive fuel economy

**FIA General Assembly Declaration**

26 October 2007

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# On the proposal of the World Council for Mobility and the Automobile

## Whereas

1. Automobiles today are cleaner and more fuel efficient than ever before as a result of improvements in technology and fuels that are reducing both toxic emissions and the quantity of CO<sub>2</sub> emitted per vehicle; Nevertheless rapidly increasing levels of motorisation and fuel consumption worldwide, combined with rising concerns about climate change, air quality, and energy security make essential even more progress in improving fuel economy and the environmental performance of motor vehicles; As demand for automobile use rises around the world, the development and deployment of cleaner and more fuel efficient technologies is the key to our future mobility; The challenge now is to use the public's growing demand for 'greener motoring' to promote new automotive technologies and the modernisation of transport systems worldwide to make them less carbon intensive;
2. The leaders of the G8 leading industrial countries meeting at Heiligendamm, Germany in June 2007 described climate change as "one of the major challenges of mankind" with the potential "to seriously damage our natural environment and global economy" and agreed to take "strong and early action to tackle climate change in order to stabilize greenhouse gases concentrations at levels that would prevent dangerous anthropogenic interference with the climate system"<sup>1</sup>; The G8 leaders recognised that "as climate change is a global problem the response needs to be international" and confirmed their commitment to negotiate with all major GHG emitters within the United Nations Framework Convention on Climate Change (UNFCCC) for a successor to the Kyoto Protocol of 1997 which committed 35 industrial nations to reduce their emissions from 1990 levels by 5.2 per cent by 2012; The G8 also agreed to seriously consider the decisions of the European Union, Canada and Japan to halve global GHG emissions by 2050;
3. According to the latest assessment of the Intergovernmental Panel on Climate Change (IPCC)<sup>2</sup> greenhouse gas emissions (GHG) have increased 70% between 1970 and 2004 and that carbon dioxide levels have increased from pre-industrial levels of 280 ppm (parts per million) to 379 ppm in 2005; The IPCC confirms that "unequivocal" warming of the climate system is occurring and that it is "very likely" that this is being caused by human activity; 'Business as usual' trends imply concentrations levels above 500 ppm by 2050 which suggests a base case scenario for the Earth's temperature to rise by 2-50C by 2100;
4. About 10% of total greenhouse gas emissions (GHG) are attributable to road transport; Other GHG sources such as energy and agriculture account for larger shares of global emissions; For example, livestock are estimated to account for 18% of GHG emissions measured in CO<sub>2</sub> equivalent which is even larger than the 14% share of the entire transport sector (aviation, road and maritime combined)<sup>3</sup>. Nevertheless transport's share of GHG emissions is gradually increasing in all regions of the world; Currently there are 600 million motor vehicles in use around the world and this number is forecast to double by 2020 with the fastest growth of motorisation occurring in emerging economies;
5. Global demand for oil is expected to increase from currently 84 mb/d (million barrels per day) to 116 mb/d by 2030. The IEA<sup>4</sup> is warning of shrinking oil capacity and slowing production, at the same time as demand for oil in fast growing regions such as Asia and the Middle East is expected to rise 3 times more than in the OECD area, causing a tightening of supply and likely high oil price levels post 2010; make the risk of an oil price/supply

<sup>1</sup> G8 Summit Declaration, Growth and Responsibility in the World Economy, pages 13-14

<sup>2</sup> Fourth Assessment Report of the Intergovernmental Panel on Climate Change, February 2007

<sup>3</sup> Food and Agriculture Organisation of the United Nations Report 'Livestock's Long Shadow' 2006

<sup>4</sup> IEA Mid Term Oil Market Report July 2007

shock more serious; Geopolitical concerns about energy security and the longer term availability of remaining exploitable global oil reserves. These trends give new significance to the importance of improving automotive fuel economy;

6. The automobile's impact on ambient air quality continues to improve as emissions of carbon monoxide (CO), nitrogen oxide (NOx), hydrocarbons (HC) volatile organic compounds (VOCs) and particulate matter (PM) from new passenger cars are dramatically reduced by emission control technologies such as the catalyst and filters; £ Today's passenger cars (meeting Euro 4 standards<sup>5</sup>) produce on average 95% less NOx and other pollutants compared to their 1970s counterparts; In highly motorised countries we have experienced a decoupling of toxic emissions from the growth of the vehicle fleet and very significant improvements in levels of urban air quality; The challenge now is to encourage global application of these emission control technologies especially in newly motorising countries where urban air quality issues remain a substantial risk to public health;
7. The FIA and its member clubs have for many years supported responsible mobility and played a leading role in promoting, cleaner, less carbon intensive, and more fuel efficient motoring, through a range of initiatives including consumer testing, driver training and campaigns for legislative action, both national and international, for improved automotive emission and fuel quality standards; The public is becoming more aware of the environmental impact of their mobility needs and increasingly responding positively to incentives and information that enable them to choose 'greener' automotive products which will also help to reduce their motoring costs;

#### Recommends that

8. Despite the inevitable uncertainty of predicting the negative impacts of future climate change, early action to reduce CO<sub>2</sub> emissions is fully justified as an insurance against these risks and may also provide valuable co-benefits such as more fuel efficient, safe and affordable mobility; Policies and measures to improve air quality, mitigate climate change, and promote fuel economy, must always be cost effective and shared by all energy users and emission sources; It would be both unfair and ineffective to concentrate policy action on a single sector such as road transport whilst ignoring other sources of toxic or GHG emissions; To ensure equitable burden sharing policy measures across all sectors need to be capable of transparent cost comparison; Therefore, action to reduce global CO<sub>2</sub> emissions should be based on a common assessment of the cost per tonne of reducing carbon<sup>6</sup>; This will ensure that global CO<sub>2</sub> emissions are reduced across all sectors cost effectively;
9. Measures to achieve further progress in improving air quality, avoiding dangerous climate change, and promoting fuel economy require action in three main areas; Firstly promoting new vehicle, fuel, & component technologies; Secondly improved road network design and management; Thirdly incentives and information to promote greener automotive technologies, driving and mobility choices by the consumer;
10. Continued investment by industry, in partnership with government, is made in cost effective low carbon and cleaner automotive technologies across a range of vehicle characteristics, including aerodynamics, combustion efficiency, drive trains, driver information devices, energy

<sup>5</sup> The Euro 4 Standard applies to all new passenger cars in the European Union since 1st January 2006

<sup>6</sup> See 'The Business of Climate Change, Challenges & Opportunities' by Dr John Llewellyn, Lehman Brothers, February 2007

recovery and hybrids, rolling resistance and weight.<sup>7</sup> In improved quality and alternative fuels is required including parallel mutually supportive product development in natural gas and bio-fuels (provided that the latter can become more cost effective and not harmful to biodiversity and global food production); As these technology innovations come to market, governments should adopt policies that encourage the use of a wider mix of power and fuel systems to enhance consumer choice and gradually reduce excessive dependence on fossil fuels;

11. A comprehensive global framework for automotive emission control, fuel quality, and fuel economy based on harmonised standards be developed through the United Nations World Forum for Harmonization of Vehicle Regulations (UNECE WP29) to provide the basis for a coherent international strategy to reduce both the toxic emissions and the carbon intensity of the automotive sector worldwide; Wherever possible emission standards, and taxation systems based upon them, should be technology neutral and set performance standards that are the same for both petrol, diesel or other fuels and propulsion systems;
12. Whilst China, the European Union, Japan and the USA (and several US States lead by California) have fuel economy rules or agreements of varying stringency, the progressive upward convergence of these standards is desirable<sup>8</sup>; A non mandatory global automotive fuel economy target of 140 gCO<sub>2</sub>/km for passenger cars should be adopted; Such a global fuel economy target could be used as an international benchmark to assess progress in the fuel efficiency of the global fleet of new motor vehicles; The proposed target should be based on a new international test cycle that better reflects real world driving conditions;
13. To promote timely and effective maintenance and inspection, which is vital to sustain in use compliance with automobile emission requirements, a global standard for passenger car On Board Diagnostic systems should be developed under the auspices of the UNECE WP29 which should also include open access to repair information to all legitimate vehicle repairers;
14. Since some 20% of the energy required to drive a car is used to overcome the rolling resistance of tyres, measures to improve tyre design without, of course, diminishing safety performance, to avoid under inflation should be given a high priority; International test procedures for safe tyres with improved rolling resistance (like the international ADAC tyre test), consumer information labelling, and on board monitoring systems for tyre pressure should be developed within the framework of the UNECE WP29<sup>9</sup>.
15. Since unleaded and sulphur free fuel is essential for the early use of advanced emission control technologies (e.g. catalytic converters/filters etc.) which can remove most of the toxic exhaust emissions from today's petrol and diesel engines, full support be given to the United Nations Environment Programme's Partnership for Clean Fuels and Vehicles (PCFV) global campaigns to eliminate leaded fuels by 2008 and to encourage global use of low and sulphur free fuels<sup>10</sup>.
16. Governments can promote on-road fuel efficiency by actively using urban planning, road infrastructure and network design to avoid congestion and improve traffic flow; Investment in improved road capacity and the use of environmentally friendly road surfacing can significantly help to reduce both emissions and levels of noise from motor vehicles. Intelligent transport systems can also

<sup>7</sup> ECMT/IEA Report, 'Making Cars More Fuel Efficient' 2005

<sup>8</sup> ECMT/OECD Report, 'Cutting Transport CO<sub>2</sub> Emissions – What Progress?' 2007 page 73.

<sup>9</sup> IEA 12 Recommendations to the 2007 G8 Summit.

<sup>10</sup> PCFV Report - Opening the Door to Cleaner Vehicles in Developing and Transition Countries: The Role of Lower Sulphur Fuels, UNEP February 2007.

significantly contribute to improve the efficiency and interoperability of transport modes to enhance consumer choice;

17. Governments use 'green taxation' to give positive incentives to consumers to use cleaner and more fuel efficient automotive products. Fiscal incentives, for example, should be used to accelerate market penetration of new environmental technologies to encourage consumers to buy vehicles, fuels, or components that can reduce CO<sub>2</sub>, and toxic emissions, promote fuel economy and which will reduce their motoring costs;
18. Motoring taxation be reformed with a bias towards charging for use rather than ownership but that such reform remain transparent, revenue neutral and hypothecated to improvements in road transport infrastructure and services; Governments and policymakers must recognize that the scope for shift from road to other transport modes is limited and the gains in CO<sub>2</sub> reduction low due, in particular, to the capacity constraints and limited territorial coverage of rail and waterway networks<sup>11</sup>; If governments wish to encourage the public to use cars less then they must ensure the availability of affordable alternative transport modes that are safe, secure and efficient;
19. Governments worldwide should adopt active policies to accelerate modernisation of vehicle fleets and, in particular, encourage early retirement of pre-catalyst vehicles, a policy which can achieve very substantial reductions in toxic emissions as shown by a recent study<sup>12</sup> in France where a simulation on the hypothesis that all current vehicles were compliant with the 2005 Euro 4 Standards showed reductions of around 70% for nitrogen oxides and 80% for particles. In low and middle income countries
20. Governments, working together with automobile clubs, should support a comprehensive programme of consumer information to encourage responsible mobility and the purchase of clean, less carbon intensive vehicles, fuels, and components which will not just benefit the environment but also reduce the cost of motoring; Eco-labelling and Eco-testing should be used to provide accurate and independent information about the environmental performance of automotive related products;
21. Training programmes be developed to encourage fuel efficient driving for both private and professional users and that such courses be integrated into driver licensing and safety training schemes. Efforts to promote 'Ecodriving' be supported by the introduction of on-board driver information devices such as econometers and gear shift indicators to assist the driver in sustaining more fuel efficient behaviour and reduce their motoring costs;
22. Consumers in their choices for travel and destination, take into consideration their impact on the environment and where possible reduce their carbon footprint, or offset their emissions. As called for in the recent United Nations World Tourism Organisation (UNWTO) Davos Declaration, 3rd October 2007;
23. To continue its longstanding support for the global effort to reduce toxic emissions, to combat dangerous climate

#### Hereby decides

<sup>11</sup> ECMT/OECD Report, 'Cutting Transport CO<sub>2</sub> Emissions – What Progress?' 2007 pages 46-47.

<sup>12</sup> Air Quality & Road Transport's Contribution, CCFR Briefing, May 2006 page 15.

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change to promote automotive fuel economy and responsible motoring;

24. To promote an awareness campaign 'Make Cars Green' among the clubs and global membership of the FIA in support of the recommendations set out in this Declaration and to promote a ten point guide to 'greener motoring';
25. To promote the recommendations set out in this Declaration as appropriate to the UNFCCC, the G8, UNWTO, UNECE WP29, the IEA, UNEP, the International Transport Forum (ITF) and other relevant international bodies;
26. To encourage participation by the FIA regions and member clubs in consumer information initiatives to encourage the purchase of cleaner and more fuel efficient vehicles and components through initiatives such as the ECOTEST programme of the ADAC/FIA Foundation and to promote fuel efficient motoring through ECODRIVING driver training programmes;
27. To review progress on the Environment, Climate Change, and Automotive Fuel Economy and the recommendations contained in this declaration at the FIA General Assembly in 2010.

## Annex:

# Ten points for greener motoring

- 1. Buy Green**  
Check environmental performance (emission standards/ fuel economy) before you buy a new car, fuel and components.
- 2. Plan your journey**  
Planning your route can avoid delay and diversion. Ten minutes of unnecessary driving in a 1-hour trip results in a 14% decrease in fuel efficiency. For short journeys consider cycling, public transport or walking.
- 3. Check tyre pressures frequently**  
Driving on tyres whose air pressure is 50kPA (0.5kg/cm<sup>2</sup>) lower than it should be decreases fuel efficiency by 2% and 4% respectively in urban and suburban areas.
- 4. Reduce loads and avoid the need for roof racks**  
Driving with unnecessary onboard weight leads to a significant decrease in fuel efficiency and luggage on the roof will add to aerodynamic drag.
- 5. Don't warm up your engine before starting off**  
Today's passenger cars don't require warming up, except in cold climates and after long periods of non-use. Slow running is enough to warm up the engine.
- 6. Use air conditioning only when necessary**  
Avoid setting the AC too low. AC when the outdoor temperature is 25C decreases fuel efficiency by 12%.
- 7. Accelerate gently and keep your speed constant**  
Start off gently (20km/h in 5 seconds, for an 11% increase in fuel economy) and avoid abrupt, heavy accelerations while driving. Avoid tailgating causing unnecessary acceleration/deceleration which costs 2% and 6% less fuel efficiency respectively in urban and suburban areas. Use higher gears as soon as traffic allows.
- 8. Use engine braking**  
Releasing the accelerator when recognising the need to slow down stops the fuel supply leading to a 2% increase in fuel efficiency.
- 9. Don't idle your engine**  
Ten minutes of engine idling (in neutral, with the AC off) wastes 130cc of fuel. Turn your engine off instead of letting it idle when it is safe to do so.
- 10. Offset your CO<sub>2</sub> emissions**  
If you are driving economically and can't reduce your car use then consider buying carbon offsets equivalent to your annual mileage.

## Explanatory note

### **FIA declaration on air quality, climate change, and automotive fuel economy**

The draft Declaration provides an overall framework for FIA policy at a global level on Air Quality, Climate Change and Automotive Fuel Economy. It provides the FIA and member clubs with a range of policy principles, proposals and actions with which to launch a general awareness campaign 'Make Cars Green'. The Declaration is supplemented by a ten point Guide for Greener Motoring that clubs could promote to their members. It is envisaged that a longer report based on this Declaration would be published next year perhaps timed to coincide with World Environment Day.

The Draft Declaration consists of three sections as follows:

#### **Whereas clauses**

which summarise the latest policy developments relating to, in particular, climate change. These include the latest assessment of the IPCC and the most recent decisions of the G8 industrialised countries ahead of the UNFCCC Climate Change Conference to be held in Bali, Indonesia in December.

#### **Recommendation clauses**

which first set out some key policy principles such as cost effectiveness, equitable burden sharing etc. and then follows with specific proposals of to be addressed either by the FIA directly to relevant international institutions or to governments via member clubs should they wish to so.

Most of the recommendations reflect existing policy positions of the FIA expressed in previous policy statements on climate change, on emissions and fuel quality. A new proposal is to support a non mandatory global automotive fuel economy target of 140gCO<sub>2</sub>/km for passenger cars (and similar for light and heavy duty commercial vehicles). Such global fuel economy standards could be adopted by the UNECE WP29 and serve as a global target for the fuel efficiency of all new motor vehicles. At present China, the EU, Japan and the USA have various forms

of fuel economy standards but of widely different levels of stringency. Given that climate change and the imperative for greater fuel economy is a global challenge it would make sense to have an international benchmark that all can aspire to. Already manufacturers make cars that exceed 140gCO<sub>2</sub>/km and the target would provide a way of measuring progress of the entire automotive fleet worldwide. Possibly such a target could become the basis of a future automotive sector carbon trading system in which manufacturers that can exceed 140gCO<sub>2</sub>/km can trade permits with those that cannot. These proposed standards will also require new international test cycles that are under consideration in the UNECE WP29 and which if adopted should better reflect real world driving conditions. Other recommendations include OBD, Tyres, Fleet replacement, Unleaded and Sulphur free fuels, Eco-labels, Traffic Management, Fiscal incentives, Eco-driving.

#### **Decision clauses**

which outline the proposed action to be taken by the FIA and its member clubs in support of the Declaration and its policy recommendations.

To follow up these suggested actions the FIA Secretariat will prepare campaign material for use by clubs, a report based on the Declaration setting out the issues for policymakers and the public, and if possible club based opinion surveys. The following international events will be relevant to the issues addressed in the draft Declaration:

- UNWTO Minister's Summit on Tourism and Climate Change, London, 13th November 2007
- World Forum for Harmonisation of Vehicle Regulations (UNECE WP29) Round Table on Fuel Quality, Geneva, 15th November
- G8 Environmentally Friendly Vehicles Conference, Dresden, 19-20th November
- International Energy Agency, Ecodriving Workshop, Paris, 22nd-23rd November
- Conference of the Parties UNFCCC, Bali, 3rd – 14th December
- Ministerial Session of the International Transport Forum, 'Transport & Energy, the Challenge of Climate Change', Leipzig, May 28th – 30th 2008
- World Environment Day, 5th June 2008

## Sources

The primary information sources relevant to the draft Declaration are as follows:

- G8 Summit in Heiligendamm  
<http://www.g-8.de/Webs/G8/EN/Homepage/home.html>
- International Energy Agency (IEA)  
<http://www.iea.org/>
- United Nations Framework Convention on Climate Change (UNFCCC)  
<http://unfccc.int/2860.php>
- Intergovernmental Panel on Climate Change (IPCC)  
<http://www.ipcc.ch/>
- United Nations World Tourism Organization (UNWTO)  
<http://www.unwto.org/index.php>
- UNEP Partnership for Clean Fuels and Vehicles (PCFV)  
<http://www.unep.org/PCFV/>
- International Transport Forum (ITF)  
<http://www.internationaltransportforum.org/>
- Environmentally Friendly Vehicles Conference 2007 (EFV)  
<http://www.bmvbs.de/en/artikel-,1872.990665/3rd-International-Environmenta.htm>
- World Forum for Harmonisation of Vehicle Regulations  
<http://www.unece.org/trans/main/welcwp29.htm>

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