## EU REGULATION ON EMISSION PERFORMANCE STANDARDS: EFOA encourages policymakers to strengthen proposal by recognising the CO2 emissions reduction potential of high quality/high octane fuels

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| **EFOA BELIEVES TWO KEY OBJECTIVES SHOULD BE ENSHRINED IN THE REGULATION:**   * Recognising the CO2 emissions reduction potential of high quality/high octane fuels. * Providing a further option to help the transport sector reaching EU CO2 and efficiency goals. |

Following the European Commission’s proposal for post-2020 Emissions Performance Standards for Light Duty Vehicles and the draft report on the file by Miriam Dalli, MEP, EFOA would like to bring to the attention of policymakers the role of clean, efficient and high quality fuels in the decarbonisation of transport. Harvesting the CO2 reduction potential offered by high quality fuels is a much needed, cost-effective and environmentally sustainable solution for car manufacturers. It will also benefit European consumers by offering them a more efficient product, as cars will run longer distances and/or have a higher performance with the same amount of fuel.

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| WE CALL FOR SUPPORT OF:  **TWO AMENDMENTS SUBMITTED IN THE ENVI COMMITTEE:**  Amendment 146 (Recital 20 a),  Amendment 319 (Article 5 a),  **AND AN AMENDMENT IN TRAN COMMITTEE:**  Amendment 190 (Article 5 a). |

EFOA believes that high quality, high octane[[1]](#footnote-1) fuels can play a key role in reducing emissions from European transport, and should be specifically recognised under this regulation. This is especially important in view of current attempts to electrify urban transport fleet. There are hardly any fully electric vehicles on the road in Europe. In fact, it is hybrid cars that account for most (96.8%[[2]](#footnote-2) to be precise) of the yearly fleet mileage of electric vehicles today. This makes it essential that the thermal part of the hybrid vehicles is efficient and clean burning. As higher octane/high density fuels help increase the fuel efficiency and emission reduction potential of hybrid engines, it makes them a more attractive choice and could boost consumer interest. In addition to GHG saving potential, petrol-fuelled vehicles are a cleaner option among internal combustion engines alternatives available today and would be even cleaner if their efficiency is improved.

1. **THE REGULATION SHOULD RECOGNISE THE CO2 EMISSIONS REDUCTION POTENTIAL OF HIGH QUALITY/HIGH OCTANE FUELS**

High compression engines are able to extract more energy from a given quantity of fuel, provided the fuel’s octane is high enough. Simply put, higher-octane fuel enables more efficient engines, which can go farther, and emit less, with the same amount of fuel. Unfortunately, the current testing regime does not adequately account for these advantages, **as engines are, today, generally tested on fuels with regular octane ratings.** As a result, the CO2 ratings for cars do no fully reflect the real world emissions of higher efficiency engines (i.e. higher compression ratio) running on higher-octane fuels.

The regulation on CO2 standards for cars provides a unique opportunity to incentivise the uptake of better performing higher compression engines and high octane/quality fuels, which today are an innovative, lower carbon technology solution available in the market, and to encourage consumers towards more environmentally sustainable choices.

EFOA calls upon the European policymakers to account CO2 reduction for vehicles equipped in higher compression engines calculated on the average emission reduction potential of higher-octane fuels.

1. **ENERGY SAVED BY USING HIGH QUALITY, EFFICIENT FUELS, SUCH AS HIGH OCTANE AND HIGH ENERGY DENSITY PETROL, SHOULD BE ACCOUNTED AS RENEWABLE ENERGY EQUIVALENT**

As high-octane petrol[[3]](#footnote-3) will enable the uptake of highly efficient engines, it will deliver substantial GHG emissions savings while contributing to less air pollution. As an example, a realistic 7% lower fuel consumption through higher octane would save 20 million tonnes of CO2 per year.Higher octane would also reduce emissions of benzene and Particulate Matter (PM), ensuring there is no trade-off between CO2 targets and air quality.

This solution will bring not only environmental advantages but will also benefit consumers, as vehicle owner will use less petrol and drive more kilometres with the same amount of fuel. In fact, for instance fuel ethers, blending components of petrol, when compared to other commonly used oxygenated octane improving blend-stocks, contribute up to 30% more fuel energy efficiency/mileage.

Higher quality and high-density fuels combined with higher efficient engines represent therefore a cost-effective solution for GHG abatement and provide an opportunity for Member States to decarbonise transport while contributing to reaching their renewable energy target. EFOA believes that this real saving potential should be recognised in the regulation on the CO2 standards for light-duty vehicles. One of the ways to do so is for the policymakers to count the energy saved from using higher quality petrol in transport as renewable energy equivalent.

1. **EFOA PROPOSAL FOR AMENDMENTS**

See p. 3-5

**ABOUT FUEL ETHERS**

Fuel ethers (MTBE, bio-MTBE, bio-ETBE, TAME, bio-TAME and bio-TAEE) are among the most efficient blending components of petrol. They enhance vehicles’ engine performance while reducing toxic exhaust emissions and improving air quality.

**ABOUT EFOA**

EFOA, the association of the European fuel ethers industry, is dedicated to the responsible production, usage and promotion of clean, high quality, high-efficiency petrol components. EFOA works to ensure that a wide range of technology options for decarbonising and increasing efficiency in transport are kept on the table, with fuel ethers being an essential part of the solution. For more information visit our website [www.efoa.eu](http://www.efoa.eu).

**ENVI AMENDMENTS SUPPORTED BY EFOA AND ACEA[[4]](#footnote-4)**

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| **Commission proposal** | **Amendment 146, Elisabetta Gardini (EPP, Italy)** |
| **Recital 20 a (new)** | *A new Recital 20 a is inserted, as follows:*  ‘(20 a) **95 research octane number (RON) petrol is presently the main petrol grade available throughout the European Union. Today, around 10% of petrol in the EU has a grade higher than 95 RON. It is well known that higher-octane petrol can be utilised in engines specifically designed to take advantage of the higher octane and achieve better operational efficiency that leads to lower CO2 emissions. It is therefore appropriate to provide the necessary measures to ensure that petrol with a minimum octane rating of 102 is added into a new Annex of the Directive 98/70/EC (1) and into an EN standard to give the clear signal that such a high-octane petrol is available across the European Union, according to a phase-in roadmap so that vehicle manufacturers can start to prepare and introduce new engine designs to take advantage of the octane as part of their overall future CO2 reduction strategies. Depending on the engine, high-octane petrol is suitable for use in existing petrol engines without need for adaptation and without consequences for material compatibility, thereby increasing the environmental / efficiency potential use of high-octane petrol. In this respect, Member States should consider incentives to encourage the widespread use of such high-octane petrol. The Commission shall prepare amendments to Directive 98/70/EC to introduce the specifications for high-octane petrol and also to Regulations 715/2008, 692/2009 and 2017/1151 (Euro 6) to introduce high-octane reference petrol for the measurement of official pollutant emission and CO2 values.**  \_\_\_\_\_\_  (1) Directive 98/70/EC of the European Parliament and of the Council relating to the quality of petrol and diesel fuels, OJ L350, 28.12.1998, p.58. |
| ***Justification:***  *The* ***phase-in of*** *high-octane petrol will be a key signal to vehicle manufacturers to develop and introduce new generation petrol engines with high-compression ratio. Such engines will run more efficiently when using high-octane petrol and thereby help reduce tailpipe CO2 emissions and air pollutants, benefiting consumers, as they will be able to run more miles on the same tank of petrol. Additionally, the Euro 6 emission regulations need to be updated with high-octane reference petrol so that official emission and CO2 values can be measured using such petrol and recorded on the vehicle’s certificate of conformity for monitoring against manufacturer-specific CO2 targets. To encourage its use Member States could consider for instance incentives (for example excise duty advantages) to ensure high-octane petrol would become the main petrol grade in time.* | |

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| **Commission proposal** | **Amendment 319, Elisabetta Gardini (EPP, Italy)** |
| **Article 5** | *The title of Article 5 is replaced by the following:*  *‘Article 5a*  **Super-credits for 95 g CO2/km target’** |
| **Article 5 b (new)** | *A new Article 5 b is inserted, as follows:*  *‘Article 5b*  **Credit for using higher octane petrol in vehicles with positive-ignition engines**  **For the monitoring of manufacturer compliance with its specific CO2 emissions target, the specific emissions of CO2 of each new passenger car determined according to Part A.1 of Annex I or of each light commercial vehicle determined according to Part B.1 of Annex I shall be reduced by 5% in cases where the new vehicle engine has a higher compression ratio that will be more efficient when using a high-octane petrol. This reduction shall apply only where at least 5% of the public refuelling stations offer for sale high-octane petrol in the Member State in which the new vehicle is registered. That percentage availability of high-octane petrol shall be increased by 5% on 1 January each year and such adjustment of the new vehicle specific emissions of CO2 shall remain applicable until a type-approval reference petrol specification with a minimum octane of 102 is implemented through the relevant EU legislation and official new vehicle specific emissions of CO2 can be measured using high-octane petrol. The Commission shall, as soon as possible, bring forward proposals to amend fuel quality parameters in Directive 98/70/EC and to ensure sufficient availability in the European Union of petrol with a minimum octane of RON 102. This will, as far as possible, be in line with the rate of introduction of new vehicles with high compression ratio petrol engines. This should include a request CEN to prepare the relevant EN standard for minimum 102 octane petrol. The Commission shall also bring forward an amendment to Regulations 715/2008, 692/2009 and 2017/1151 to introduce a reference petrol with a minimum 102 RON for the measurement of official pollutant emission and CO2 values.’** |
| ***Justification:***  *Regulated pollutant and CO2 emissions are currently measured using petrol with an octane rating between 95 and 98 RON. Engines capable of running more efficiently with a higher-octane petrol are therefore penalised from not being able to demonstrate better engine efficiency and lower CO2 emissions. The amendment shall recognise that existing new engine designs with high compression ratio that are capable of running on higher-octane petrol should get a CO2 credit by using such a fuel in the market and the legislation should encourage manufacturers to develop and introduce new engine designs to take more benefit from higher octane-petrol. The reference to the percentage of the filling stations needs to be specifically mentioned in this amendment a) to encourage vehicle manufacturers to develop and introduce more efficient engines that can run more efficiently on such high-octane petrol b) to enable existing cars and light-commercial vehicles to have access to the fuel, who can already use it and thus reduce CO2 emissions.* | |

**ADDITIONAL AMENDMENT PROPOSED BY EFOA TO ARTICLE 7 - PARAGRAPH 9 D (NEW)**

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| Proposal for a regulation  Article 7 - paragraph 9 d (new)  Text proposed by the European Commission | Amendment 344, Elisabetta Gardini (EPP, Italy) |
| Article 7 - paragraph 9 d (new) | **Member States can account towards the renewable energy target, the energy efficiency improvement percentage, and correlated CO2 savings, in the transport sector, enabled by higher quality fuels, including higher-octane petrol, when used in highly efficient engines equipped with higher compression ratio.** |
| *Justification: Higher-octane fuels offer substantial GHG emissions savings, improve the efficiency of fuels and lower air pollution. As such, blending higher-octane fuels reduces the amount of petrol needed in transport. This brings a societal benefit for consumers, who will be able to drive longer on the same tank of petrol. This is a real saving potential, which should be recognised in this regulation.* | |

**TRAN AMEDNEMTS SUPPORTED BY EFOA AND ACEA**

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| **Commission proposal** | **Amendement 190 (Marian-Jean Marinescu, EPP)** |
| **Article 5** | *‘Article 5a*  **Super-credits for 95 g CO2/km target’** |
| **Article 5 b (new)** | *‘Article 5b*  **Credit for using higher octane petrol in vehicles with positive-ignition engines**   |  | | --- | | ***Article 5b Credit for using higher octane petrol in vehicles with positive-ignition engines.*** | | ***For the monitoring of manufacturer compliance with its specific CO2 emissions target, the specific emissions of CO2 of each new passenger car determined according to Part A.1 of Annex I or of each light commercial vehicle determined according to Part B.1 of Annex I shall be reduced by 5% in cases where the new vehicle engine has a higher compression ratio that will be more efficient when using a high-octane petrol. This reduction shall apply only where at least 5% of the public refuelling stations offer for sale high-octane petrol in the Member State in which the new vehicle is registered. That percentage availability of high-octane petrol shall be increased by 5% on 1 January each year and such adjustment of the new vehicle specific emissions of CO2 shall remain applicable until a type-approval reference petrol specification with a minimum octane of 102 is implemented through the relevant EU legislation and official new vehicle specific emissions of CO2 can be measured using high-octane petrol. The Commission shall, as soon as possible,***  ***bring forward a proposal to amend Directive 98/70/EC to establish the quality parameters and roadmap for the sale across the European Union of petrol with a minimum octane of 102 that will, as far as possible, be concurrent with the rate of introduction of new vehicles with high compression ratio petrol engines and request CEN to prepare the relevant EN standard for minimum 102 octane petrol. The Commission shall also bring forward an amendment to Regulations 715/2008, 692/2009 and 2017/1151 to introduce a reference petrol with a minimum 102 RON for the measurement of official pollutant emission and CO2 values.’*** | |
| ***Justification:***  *This AM ensures technology neutrality -which is a key pillar of the EU legislation- of the proposal. It therefore ensures overall consistency of EU legislation. The AM is directly linked to Part IA of Annex I. Regulated pollutant and CO2 emissions are currently measured using petrol with an octane rating between 95 and 98 RON. Engines capable of running more efficiently with a higher-octane petrol are penalised from not being able to demonstrate better engine efficiency and lower CO2 emissions. The AM encourages vehicle manufacturers to put on the market more efficient engines.* | |

1. Octane is the measure of the ability of a fuel to properly perform in a higher efficient internal combustion engine, in turn enabling the engine to extract more kilometres or/and more power out the fuel. [↑](#footnote-ref-1)
2. Source: Fraunhofer Institute “Real-world fuel economy and CO2 emissions of plug-in hybrid electric vehicles” [↑](#footnote-ref-2)
3. This position paper refers to high-octane petrol, which also has high energy density. Energy density is the amount of energy stored in a given system or region of space per unit volume. High Octane Fuels (and blend-stocks) contribute to efficiency both directly, via their energy content and indirectly, enabling the engine to extract more useful mechanical work out of the available energy. [↑](#footnote-ref-3)
4. ACEA – The European Car Manufacturers Association [↑](#footnote-ref-4)