

## AGU – Automotive Grade Urea Sector Group

### AGU's Response to the Public Consultation on the Future Euro VI Emission Limits for Heavy Duty Vehicles

#### Introduction

The Automotive Grade Urea (AGU) sector group of the European Chemical Industry Council (CEFIC) welcomes the European Commission's efforts to further reduce harmful pollutants from heavy duty vehicles, and appreciates the opportunity to take part in this public consultation on the future Euro VI emission limits, launched on 11 July 2007. This paper presents the views of the following primary AdBlue producers, all members of AGU: ADP-Adubos de Portugal SA, AMI Agrolinz Melamine International GmbH, Fertiberia SA, SKW Piesteritz and Yara International ASA.

In response to the questions laid down by the European Commission in the consultation document, AGU supports a proposal that incorporates both Euro VI and Euro VII. CEFIC favours a two-step approach starting with a Euro VI according to scenario C with a NO<sub>x</sub> limit of 1.0 g/kWh, followed by a Euro VII according to scenario D with a NO<sub>x</sub> limit of 0.5 g/kWh. A time interval of three years should be envisioned between each step, so as to give the industry time to prepare for and adjust to the future standards.

#### Finding an optimal NO<sub>x</sub> limit value to prevent CO<sub>2</sub> trade-off

One of the key challenges for the Euro VI/VII standards is to establish a NO<sub>x</sub> limit value that is optimal, particularly with regards to a potential trade-off with CO<sub>2</sub> emissions and with a view to achieve global harmonization of NO<sub>x</sub> emissions standards in the near future.

Around 90% of the Euro IV and Euro V heavy-duty diesel vehicles (HDDV) found on European roads today are equipped with SCR (selective catalytic reduction) for NO<sub>x</sub> after-treatment. The key advantages of the SCR technology include a high conversion rate, allowing for low fuel consumption engine design and, consequently, low CO<sub>2</sub> emissions. The positive effects of an advantageous fuel economy and low CO<sub>2</sub> emissions are lost in scenarios A and B, due to the high rates of EGR (exhaust gas re-circulation) needed to achieve the required low engine-out NO<sub>x</sub> value.

A proposal as suggested above – with Euro VI according to scenario C and Euro VII according to scenario D – would be the most appropriate because it:

- Ensures a high level of environmental and human health protection by lowering the NO<sub>x</sub> limit value significantly while at the same time minimizing the increase in greenhouse gas emissions (CO<sub>2</sub> emissions);
- Brings, with the implementation of Euro VII, EU emissions standards in line with US standards and facilitates harmonization of NO<sub>x</sub> emissions levels on a global scale.



In addition to the above, AGU would like to point out some additional observations.

**Keep in mind the development AdBlue infrastructure for the success of Euro IV/V**

As nearly 90% of Euro IV and Euro V HDDV are equipped with SCR systems, these vehicles have to be fed with AdBlue. It is expected that as of 2007, approximately 200.000 new SCR vehicles enter the market in EU15 alone, and the availability of AdBlue distribution infrastructure will be essential on a wide geographical scale. A distribution infrastructure on the road and at home depots is now slowly developing. By setting Euro VI NOx limits that would require a high degree of EGR, i.e. scenarios A and B, the need for AdBlue at the Euro VI step would sharply decrease compared to Euro IV/V. This would in effect send a signal to stakeholders that could further hamper AdBlue infrastructure development, making AdBlue availability more difficult and possibly jeopardize the successful implementation of Euro IV and Euro V.

**Cost aspects are also essential**

There is also an important cost aspect, which should be considered when deciding on Euro VI/VII NOx limit values. A Euro VI vehicle produced to meet scenarios A or B would require heavy EGR and cooling modifications in addition to an after-treatment system. Such an engine would be technically more complex and costly to produce than an engine that uses after-treatment technology more extensively. In addition, the end user would experience higher costs due to increase in fuel consumption.

**Conclusion**

AGU supports a two-step approach, incorporating Euro VII into the Euro VI proposal, with an initial scenario C followed by a scenario D and with a three-year interval. These scenarios will significantly reduce NOx emissions without increasing CO<sub>2</sub> emissions and will contribute to global harmonization of NOx emissions standards. This approach will provide for a high level of environmental and health protection, while at the same time ensuring the well-functioning of the internal market.

*CEFIC (Conseil Européen des Industries Chimiques/European Council of Chemical Industry) is a Brussels based organisation representing the European chemical industry. Europe's primary urea producers have formed within CEFIC sector group, Automotive Grade Urea Sector Group, for AdBlue, dedicated to secure proper production and handling routines.*