

## Summary

The aim of the European legislation on pollutant emissions from Non-Road Mobile Machinery (NRMM) is to protect human health and the environment. This can only be achieved by strict emissions limits aligned with Euro VI emissions limits for trucks and buses. The Commission draft proposal for NRMM legislation must be reinforced to achieve its objectives and be coherent with the emissions legislation for road sources.

## Context

90% of the EU's city dwellers are exposed to damaging levels of air pollution, notably particles (PM). As many as 400,000 Europeans die prematurely from the effects of air pollution every year, the health costs of which are estimated at €766 billion per year. The World Health Organisation (WHO) has classified diesel engine exhaust as carcinogenic and recent research has shown increased exposure to fine particulate matter leads to an increase in deaths and heart attacks in Europe. Diesel exhaust particles also accelerate climate change.

Diesel exhaust from NRMM is a significant source of pollution in urban areas. It accounts for 15% and 5% of NO<sub>x</sub> and PM emissions respectively but its importance is growing because legislation on these emissions is more lax than equivalent standards for cars and trucks.

The European Commission is reviewing the NRMM emissions legislation in order to reduce emissions from these machines. Unfortunately, as it stands, the draft proposal on NRMM emissions is incoherent and worryingly weak, and will fail to adequately address the burden on health caused by the diesel exhaust from these machines.

## Incoherent approach

There are three main machine categories in the proposal: land based (land), inland water vessels (IWW), and rail cars and locomotives (rail). The Commission draft proposal is incoherent in its approach to setting limits for emissions from different machine categories.

The proposal does not set particulate number (PN) limits for land machines above 560kW. However, it sets PN limits for the bigger IWW machines – between 300 and 1000 kW and above 1000 kW. The land machines between 56-130kW and 130-560kW have a PN limit while the rail machines above 130 kW do not.

Particulate matter (PM) is classified according to its diameter. Ultrafine particles are the most dangerous for health as they can penetrate deep into the lungs, enter the bloodstream and even reach the brain. The only way to adequately address the ultrafine and most dangerous ones is to set particulate number (PN) limits. These already exist for road vehicles, but not for NRMM.

In order to protect the health of EU citizens, the Commission should set PN limits for all NRMM. PN limits should be aligned with Euro VI ( $6.0 \times 10^{11}$ ).

Regarding gaseous pollutants, the draft proposal excludes land-based machines above 560kW from the strict 0.4 grammes of NOx per kilowatt hour (kWh), equivalent to Euro VI emissions limits. However, when it comes to IWV, it sets a 0.4 g/kWh NOx emissions limit (equivalent to Euro VI) for engines above 1000 kW, proving that it is feasible. NOx emissions limits should be aligned with Euro VI limits for trucks.

### **Weak standards and long delays**

The proposed NOx limits of 3.5 g/kWh for land machines over 560 kW is so high that it can be met without using an after-treatment. Weak limits for IWV below 300 kW are also not justified on a technical basis as the after-treatment technology to meet stricter limits exists. A number of funding possibilities such as the Connecting Europe Facility or Regulation 718/1999 (on a Community-fleet capacity policy to promote inland waterway transport, currently being revised) exist and would allow the IWV sector to improve its environmental performance.

Emissions limits for all engine uses and categories should be aligned with Euro VI limits. The state-of-the-art technology allows for setting stricter limits, and these stricter limits are needed to protect human health and the environment – the aim of the NRMM legislation.

The draft proposal foresees a very late entry into force – five years – of the legislation, further delayed by the granted derogations of one year. The legislation should enter into force two years after its adoption and no derogation should be allowed.

### **High methane limits**

Methane is a powerful greenhouse gas more than 100 times more potent than carbon dioxide (CO<sub>2</sub>). The methane (CH<sub>4</sub>) emissions limits proposed for NRMM are 1.1 g/kWh for land-based engines smaller than 560kW and 6 g/kWh for land-based engines bigger than 560kW, for rail and inland water vessels engines. Methane emissions limits for trucks and buses are 0.5 g/kWh. Therefore, proposed CH<sub>4</sub> emissions limits for NRMM are between 2.2 and 12 times higher than in Euro VI. Methane emissions limits for NRMM should be aligned with Euro VI emissions limits.

### **Conclusions**

In order to adequately protect human health and the environment, the NRMM proposal should be adapted as follows:

- Include particulate numbers (PN) for all machines
- Align emissions limits with emissions limits for trucks (Euro VI)
- Introduce a delay of entry into force of 2 years for all machines
- Remove all derogations

### **Further information**

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