



October 2010
AK Position Paper

Air quality: provisions for engines placed on
the market under the flexibility scheme
Non Road Mobile Machinery Directive

About us

The Federal Chamber of Labour is by law representing the interests of about 3.2 million employees and consumers in Austria. It acts for the interests of its members in fields of social-, educational-, economical-, and consumer issues both on the national and on the EU-level in Brussels. Furthermore the Austrian Federal Chamber of Labour is a part of the Austrian social partnership.

The AK EUROPA office in Brussels was established in 1991 to bring forward the interests of all its members directly vis-à-vis the European Institutions.

Organisation and Tasks of the Austrian Federal Chamber of Labour

The Austrian Federal Chamber of Labour is the umbrella organisation of the nine regional Chambers of Labour in Austria, which have together the statutory mandate to represent the interests of their members.

The Chambers of Labour provide their members a broad range of services, including for instance advice on matters of labour law, consumer rights, social insurance and educational matters.

Herbert Tumpel
President

More than three quarters of the 2 million member-consultations carried out each year concern labour-, social insurance- and insolvency law. Furthermore the Austrian Federal Chamber of Labour makes use of its vested right to state its opinion in the legislation process of the European Union and in Austria in order to shape the interests of the employees and consumers towards the legislator.

All Austrian employees are subject to compulsory membership. The member fee is determined by law and is amounting to 0.5% of the members' gross wages or salaries (up to the social security payroll tax cap maximum). 560.000 - amongst others unemployed, persons on maternity (paternity) leave, community- and military service - of the 3.2 million members are exempt from subscription payment, but are entitled to all services provided by the Austrian Federal Chambers of Labour.

Werner Muhm
Director

Executive Summary

The AK points out that for reasons of occupational health and safety and environmental concerns, fundamental changes have to be made.

The Directive proposal refers to Directive 97/68/EC, which determines the emission limits of air pollutants for non road mobile machinery for protecting human health and the environment within the internal market. The term "non road mobile machinery" applies to vehicles equipped with an internal combustion engine, which are not intended to transport persons and goods on the road (e.g. tracked vehicles, wheel loaders, excavators) as well as locomotives and inland waterway vessels. The manufacturers of this machinery, also referred to as "off road" or "non road" vehicles, have to comply with the type approval procedure and binding emission limits in form of exhaust gas classes (I, II, III A, III B, IV) for the air pollutants particulate matter (PM), nitrogen oxides (NOx), carbon monoxide (CO) and hydrocarbons (HC). In concrete terms, the proposal of the Commission facilitates the requirements for manufacturers in respect of the gradual transition of the emission limits for off road machinery and vehicles from class III A to III B. By introducing a "flexibility system", which even after the new limits coming into effect still allows 20% of engines that only comply with the earlier limit, the intention is now to raise the percentage of engines, which were registered according to the earlier, i.e. older

limit to 50%. Apart from that, it is also planned to extend this flexibility system to locomotives.

The AK as legal representation of interest for about 3.2 million employees and consumers in Austria points out that for reasons of occupational health and safety and environmental concerns, fundamental changes have to be made.

Exhaust gases from diesel engines cause cancer. TRGS 906 (Technical Rules for Hazardous Substances) in accordance with EU Directive 98/24/EC (=Chemical Agents at Work Directive) determines that "activities or procedures where employees work in areas where diesel engine emissions are released" are carcinogenic. Considering the risk potential for human health, impure carbon particles (soot) can definitely be compared with asbestos. That is why a general minimisation duty applies which requires the best available technical standard. This is only guaranteed by VERT¹ certified particle filters.

In spite of the importance for human health, the current and planned EU emission limits of mobile machinery do not in the least take account of this.

¹ VERT= Verminderung der Emissionen von Realmaschinen im Tunnelbau. A standard, which has been developed from a joint project of Swiss Accident Insurance Agency (Suva), Austrian Accident Insurance Agency (AUVA), German Association of Construction Professionals (TBG), Swiss Environmental Protection Agency (BUWAL) and German Federal Environment Agency (UBA) as well as a large monitoring group of the industry, with the aim to evaluate the possibility of curtailing emissions with after-treatment of exhaust-gases from existing engines (1994 – 1999).

The emission regulations for mobile machinery must in respect of particulate matter not only focus on the mass criterion, but also on the count criterion.

Whilst the EU emission regulations for passenger cars (Euro V/2009) and heavy-duty vehicles (Euro VI/2013) can only be complied with via particle filters, the emission limits for mobile machinery have still a long way to go. In comparison: currently these engines (III A) must have a value of 0.3 g/KWh. This is roughly equivalent to the HGV emission values (Euro II) laid down in 1992.

Although by transferring to stricter emission limits (e.g. from III A to III B), improved combustion may result in the reduction of particulate matter in the emitted mass, particularly small particles, which are created during this procedure, can be, in spite of currently stricter standards, emitted unhindered. Based on scientific evidence, in particular these nanoparticles (PM 0.1) pose the greatest danger to human health as they infiltrate the lung and via blood cells even the brain and the foetus, apart from being mutagenic. Increased mortality and morbidity is epidemiologically proven. That is why the emission regulations for mobile machinery, similar to passenger cars and HGV, must in respect of particulate matter not only focus on the mass criterion, but also on the count criterion, which de facto can only be ensured by efficient particle filters.

AK notes that in Switzerland and other countries construction machinery, HGV and diesel locomotives have already

been retrofitted with particle filters and that technical feasibility has been proven. The costs, caused by this are justified, as otherwise healthcare expenditure has to be borne by the workers affected and by the general public. The Swiss Federal Office for the Environment has calculated that for each Swiss Franc, which is invested in acquiring a particle filter, almost 3 Francs less has to be spent on healthcare costs.² A study, commissioned by AK, also calculated the economic cost-benefit effect of such a measure for construction machinery.³

The facilitations for off road manufacturers, proposed by the Commission, are viewed with great criticism. From our point of view, in doing so the Commission calls the long planned improvements of emission limits into question and generally undermines the credibility of EU legislation. In general, "flexibility" should only be used in a very restrictive manner and coupled to achieving a new, ambitious emission standard.

However, exhaust gases from mobile machinery cause great air pollution control problems for Member States, in particular in conurbations. Many Member States are unable to comply with the immission limits for particulate matter (PM 10) and nitrogen dioxide (NO₂), required under EU law. Driving bans for passenger cars and HGV are planned or have already

² Nachrüstung von Baumaschinen mit Partikelfiltern. Kosten-Nutzen Betrachtung. UM-148-D. 52 Seiten. Schweizer Bundesamt für Umwelt (BAFU), 2003. <http://www.bafu.admin.ch/publikationen/publikation/00220/index.html?lang=de>

³ Feinstaubproblem Baumaschine: Emissionen und Kosten einer Partikelfilternachsrüstung in Österreich. Wien, 2009. (=Informationen zur Umweltpolitik, 179). Siehe: <http://wien.arbeiterkammer.at/online/page.php?P=68&IP=52882&AD=0&REFP=1412>

Any elimination of diesel soot particles through particle filters does not only contribute to protect human health, but helps to slow down climate change.

been implemented in particularly affected areas ("environmental zones"). Nonetheless, low-cost emission control measures for highly emitting mobile machinery fail because of the individual provisions of the Directive 97/68/EC and the rigid interpretation of the Directorate General for Competitiveness, Industry and Services as the competent department of the European Commission. Whilst in respect of manufacturers a "flexibility mechanism" for - due to the economic crisis - in any case less demanding emission limits has been endorsed, it is denied in respect of environmental and health policy aspects. AK points out that the long lifecycle of his machinery (10-25 years, for locomotives even 40 years) coupled with high emission values has to enable national measures, which in particular sensible areas permit a ban on using old machinery or the subsequent fitting with particle filters.

Diesel soot is also a contributor to climate change. Proven scientific evidence gathered in the last decade shows that soot particles absorb but do not reflect sunlight; hence they contribute to warming the atmosphere and to the melting of the polar ice caps. Although not covered by the Kyoto Protocol, any elimination of diesel soot particles through particle filters does therefore not only contribute to protect human health, but helps to slow down climate change.

The AK position in detail

1. Option of introducing a ban on using particularly old mobile machinery in especially sensible areas

The application of the EU Ambient Air Quality Directive 2008/50/EC and the compliance with the immission limits for particulate matter (PM 10) and nitrogen dioxide (NO₂) contained therein, must among others enable Member to impose bans on using highly emitting mobile machinery and vehicles in particular sensible zones, if EU limits are exceeded. Although the European Commission recognised this measure indirectly as “causer-oriented” and “targeted” in line with the Treaty of the European Union⁴, it is denied by DG Enterprise and Industry for non-road vehicles. The aspect of more flexibility in favour of Member States and territorial authorities affected should therefore be clarified.

contracts, which wants to favour companies working with tools that conform to the environmentally best ecological state of technology.

In this respect, AK refers to Switzerland, where since 2000 already more than 22,000 off road vehicles have been fitted with particle filters, demonstrating technical feasibility. Due to the current EU regulations, this is extremely problematic. The tenth recital together with the interpretation of Art 8 Paragraph 1 of the Directive 97/68/EG by the Commission prevents this from happening. Apart that, owners of retrofitted machinery are running the risk of losing warranty claims against the manufacturer or the CE standard mark. Although EU law permits the prescription of a particle filter in respect of underground mining, in practice this is faced with problems. When designing mobile machinery and vehicles, manufacturers do not concern themselves with exhaust gas cleaning systems (e.g. lack of space in the engine compartment; their focus in respect of engine-related requirements is solely on the prescribed “minimum standards” for exhaust limits.

Therefore, a certification procedure should be included in the Directive 97/68/EC, which regulates the retrofitting of particle filters and which ensures legal certainty for all participants.

A retrofitting of already admitted off road vehicles with particle filters must be regulated.

2. EU-wide uniform rules for the retrofitting of “mobile machinery” with particle filters

A retrofitting of already admitted off road vehicles with particle filters must be regulated in Directive 97/68/EC, as the long lifecycle of machinery and vehicles seems to justify this for economic reasons. The question of a “recognised standard” is also often an issue in respect of the public awarding of

⁴ Case C-28/09 Action brought on 21 January 2009 - Commission of the European Communities v Republic of Austria („sectoral prohibition against driving lorries in Tyrol”) OJ C 69, 21.03.2009, p. 28

3. Longer-term determination of an emission limit with a “particle count criterion” for particulate matter or mobile Machinery in the Directive 97/68/EC

Ultra fine particles are created during combustion processes under high pressure. These nanoparticles (PM 0.1) are “weightless” and are not taken into account during gravimetric measurement of particulate matter. However, their toxicological impact on human health has resulted in the fact that a limit for the particle count and a suitable measuring method was added to the emission regulations for heavy-duty vehicles (Euro VI in Regulation 595/2009, Art 12) resp. for light-duty vehicles (Euro VI in Regulation (EC) No. 715/2007). There is no technical reason not to apply the count limit ($0,6 \times 10^{11}/\text{kWh}$), worked out for duty vehicles Euro VI or the one in Switzerland for all construction machinery engines with more than 18 kWh of 10^{12} kWh to mobile vehicles and machinery. This technology is available and its feasibility has been proven.

AK therefore requests the long-term determination of this limit, which gives manufacturers sufficient time to carry out their own developments and tests.

AK requests the long-term determination of this limit, which gives manufacturers sufficient time to carry out their own developments and tests.

Should you have any further questions
please do not hesitate to contact

Mr Franz Greil

T +43-(0)1-501 65 2262

e-mail: franz.greil@akwien.at

as well as

Mr Frank Ey

T +32 (0) 2 230 62 54

frank.ey@akeuropa.eu

at our BAK office in Brussels.

Austrian Federal Chamber of Labour

Prinz-Eugen-Straße 8-10

A-1040 Vienna, Austria

T +43 (0) 1 501 65-0

F +43 (0) 1 501 65-0

AK EUROPA

Permanent Representation of Austria
to the EU

Avenue de Cortenbergh, 30

B-1040 Brussels, Belgium

T +32 (0) 2 230 62 54

F +32 (0) 2 230 29 73