



**SUMMARY OF RESPONSES RECEIVED FROM THE PUBLIC CONSULTATION REGARDING
THE POSSIBLE INTRODUCTION OF STAGE II PETROL VAPOUR RECOVERY DURING THE
REFUELLING OF PASSENGER CARS IN THE EU**

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1. INTRODUCTION

Where a petrol vehicle refuels at a service station not equipped with Stage II petrol vapour recovery (PVR) equipment, petrol vapour is displaced from the vehicle's tank and emitted to the atmosphere. Stage II PVR equipment captures this vapour and either returns it directly to the petrol dispenser to be resold or to the station's underground storage tank where it is ultimately returned to the refinery. Stage I petrol vapour recovery concerns the capture of petrol vapour which otherwise would be emitted during the refilling of service stations' underground storage tanks.

The Commission is assessing whether to propose Community legislation that would oblige all Member States to install Stage II equipment at service stations in the EU. As part of this assessment, the Commission invited public comment on certain issues¹ in an 8 week period ending on 25 April 2008. The questions posed by the Commission in its consultation were the following:

- (1) Do you consider that the current lack of harmonisation of requirements for Stage 2 PVR controls across the EU has prevented the development of a single market for stage 2 PVR products and services?
- (2) Would minimum/harmonised technical requirements at the EU level, improve the functioning of the single market for products and services related to stage 2 PVR equipment?
- (3) Should Stage 2 PVR controls only be applied to new stations and those which are substantially refurbished?
- (4) Should there be a minimum size/throughput of petrol below which there is no need to fit Stage 2 PVR controls to new and refurbished service stations?
- (5) Should Stage 2 PVR controls also be applied to existing stations? If so, what is the minimum throughput/size of existing service station which should be covered by any new legislation?
- (6) Should service stations be required to install automatic monitoring of stage 2 equipment to ensure that the equipment functions and the environmental benefits are delivered?
- (7) As part of ensuring good air quality for benzene in ambient air, should Stage 2 PVR equipment be fitted to all service stations built underneath or as part of residential dwellings irrespective of how much petrol they sell?

The following is a summary of the responses received which will be considered by the Commission when preparing its proposal.

¹ http://ec.europa.eu/environment/air/pdf/stage2_consultation.pdf

2. CLEANAIR

CleanAir is a manufacturer of Stage II equipment which captures and recycles petrol vapour back to the dispenser to be resold. Their equipment is approved and used in Norway, France and the United Kingdom. They stated that:

- Cost efficient Stage II equipment is available and that there is no reason not to insist on its installation.
- The economic value of recovered petrol vapour will pay for the costs of installing the necessary equipment over time.
- The CleanAir system can be installed without having to close the service station with associated loss of revenue.
- Remote sensing of in-use performance is possible.

3. GENERAL ITALIAN CONFEDERATION OF TRADE, TOURISM, AND SERVICES FOR SMES

The Confederation stated that all petrol stations in Italy must install Stage II PVR equipment irrespective of their size.

4. COMMITTEE OF EUROPEAN MANUFACTURERS OF PETROLEUM MEASURING AND DISTRIBUTION EQUIPMENT (CECOD)

CECOD commented as follows:

- Variable implementation of Stage II controls across the EU had affected the functioning of the internal market. Minimum harmonised technical standards for essential elements complemented by appropriate European Norms would address this problem in line with the "New Approach and Global Approach" to harmonizing directives.
- Stage II controls should be applied to new and existing stations with a throughput greater than 3000 m³ per annum but not to stations with a throughput less than 500 m³ per annum. Stage II controls should however apply to service stations located in residential dwellings.
- Automatic monitoring of Stage II equipment was necessary to ensure in-service operation and effective protection of the environment.

5. FLEMISH REGION OF BELGIUM

Flanders responded as follows:

- Stage II PVR represents a "Best Available Technique" for the prevention of petrol vapour emissions to the atmosphere and should be applied across the EU because of the transboundary nature of air pollution problems and the presumption of enhancing the functioning of the internal market.

- All petrol stations with a throughput of more than 100 m³ per annum should within a given time frame install Stage II controls. And if the Commission proposes stricter measures than those existing in national law, Member States should be given sufficient time to adapt.
- There is an obligation to undertake periodic (unspecified) testing of in-service performance and to take remedial action but no obligation to install automatic monitoring of Stage II equipment.

6. BRUSSELS REGION OF BELGIUM

Brussels Region responded as follows:

- Stage II PVR controls are mandatory for all service stations (new and existing) with a throughput in excess of 500 m³ per annum. This also applies to stations built underneath the vertical projection of a building including residential accommodation. The timescale for application to existing service stations depended upon throughput.
- Automatic monitoring of Stage II equipment is not mandatory but systems must be checked and maintained annually.

7. CONCAWE

CONCAWE is the environmental and health & safety organisation of the European Oil industry and represents the views of the European Downstream oil industry in respect of this consultation.

- CONCAWE present data on fuel sales, Stage I and Stage II petrol vapour recovery controls from National Oil Industry Associations for the years 2006 and 2007. These surveys covered approximately 15 Member States and 80% of the petrol sold in the EU. CONCAWE estimate that some 60% of all petrol sold in the EU is via service stations fitted with Stage II controls.
- Harmonization of Stage II equipment would add little value given that the already degree of convergence in such equipment and the standardised neck/filler designs on petrol fuelled vehicles.
- It is 250 times more cost-effective to address new and substantially refurbished stations than to retrofit existing stations outside of their usual "knock down and rebuild" cycle. Thresholds for deciding which existing stations will be different according to whether one is tackling local air quality problems (benzene) or transboundary pollutants (ozone).
- There are simpler and substantially cheaper systems than automatic monitoring for ensuring the correct in-service operation of Stage II controls particularly for newer generation equipment where 90% remains within appropriate limits. CONCAWE state that best practice is a combination of the routine dry testing, regular visual inspection by service station personnel and the installation of a "fault code" system. These check that the vapour pump is operational and that vapour control valves are operating within defined limits.

- Based on research findings conducted by the European Oil Industry, and given the potential risks for workers and the public of higher exposures to benzene in ambient air, CONCAWE advises that all service stations below residential buildings should be fitted with Stage II controls irrespective of their size.

8. FRANCE

The Ministry of ecology, energy and sustainable development responded as follows:

- A greater degree of harmonisation in Stage II technical standards could have resulted in more effective Stage II PVR techniques.
- All new and substantially refurbished stations should be covered by new legislation whilst existing stations with a throughput in excess of 500 or 100 m³ per annum could be captured as well. Where the station is in the vicinity of residential accommodation (less than 100 metres) then no cut-off should apply.
- Automatic Monitoring should be applied routinely to new and substantially refurbished installations whereas less onerous "mechanical" controls should apply to the retrofitting of existing stations.

9. SWEDISH NGO SECRETARIAT ON ACID RAIN

The Swedish NGO Secretariat on Acid Rain responded as follows:

- Air pollution damage from ozone in the EU is significant with 21000 cases of premature mortality annually and 800 000 km² of forest at risk from excessive ozone levels. On the basis of current measures, premature mortality will improve by only 17% by 2020.
- Stage II equipment should have a minimum collection efficiency of 95% for new stations from 1 January 2010 and to be achieved by existing stations with a throughput greater than 100 m³ by 1 January 2015.

10. SCOTTISH ENVIRONMENTAL PROTECTION AGENCY (SEPA)

The views of the SEPA are as follows:

- Maximum environmental benefits can be achieved by applying Stage II controls at both new and existing service stations which would assist the attainment of objectives of the national emissions ceilings directive and the 6th Environmental Action Programme.
- Controls should not be applied to service stations with a throughput less than 500m³ per annum due to poor cost-effectiveness and because such stations are more likely to be in rural areas where the impacts of emissions is less. In addition, this threshold would maintain consistency with Stage I legislation as implemented in Scotland (where stations below this threshold are exempt).

- Retrofitting of existing stations not undergoing a major refurbishment should only apply to stations with a throughput in excess of 3500 m³ per annum in order to minimise additional financial burdens.
- Automatic monitoring should be used where it can be demonstrated to maximise the performance and environmental benefits of Stage II controls and achieve a better cost-effectiveness. Automatic monitoring may also reduce the need for periodic testing.
- A 2020 deadline for retrofitting existing stations seems reasonable as it will improve cost-effectiveness by allowing more stations to be converted as part of the normal refurbishment cycle.

11. EUROPEAN ENVIRONMENT BUREAU (EEB) & EUROPEAN FEDERATION FOR TRANSPORT & ENVIRONMENT (T&E)

The EEB and T & E responded jointly to the consultation:

- The Thematic Strategy on air pollution described the significant health and environmental impacts of air pollution (ozone) which will persist even in 2020.
- Stage II controls should be applied to all new and substantially refurbished stations from 1 January 2010 and to all existing stations by 1 January 2015 where they have a throughput greater than 100m³ per annum.
- All stations situated underneath residential accommodation should be fitted with Stage II controls irrespective of size.

12. UMWELTBUNDESAMT (GERMANY)

The German Federal Environment Agency responded as follows:

- Citation of the efficiency of Stage II controls in Germany as 85% is misleading because the official test also takes account of an unfavourable 45° filler nozzle position (rather than just the more favourable normal position).
- The return rate is important in determining the overall efficiency of a vapour recovery system. Whilst efficiency improves as a function of a return rate, so do emissions of petrol vapour from the ventilation shaft at the service station. So a balance has to be struck and in Germany, a return rate of 95 to 105% is mandated.
- The UBA welcomes the introduction of harmonised technical standards for Stage II PVR to apply to all new service stations from a given date followed by the phased conversion of existing stations according to throughput.
- Retrofitting in Germany was not required for stations that did not have Stage I VOC controls installed, that had not been substantially refurbished and which had a throughput less than 1000 m³. Larger service stations were given the least time whilst small existing stations were given up to five years.

- Stage II PVR controls apply to all service stations irrespective of size i.e. there is no lower throughput cut-off. This was to address benzene in ambient air and so captures service stations in residential accommodation.
- Automatic monitoring of Stage II equipment was found to be necessary in Germany because of the high level of defective equipment that was found in surveys. In measurement programmes conducted in North Rhine Westphalia, Bavaria, Lower Saxony, Hamburg and Saxony in 1998 and 1999 up to 30% of vapour return systems were found to fail completely and up to 50% were found to be faulty. Some faults went undetected for up to a year.

13. PETROL RETAILERS ASSOCIATION (UK)

The UK PRA represents some 6000 independent retailers including small rural stations, large retail groups, motorway services and small supermarkets). Their response is as follows:

- Local air quality (benzene) does not contribute to observed incidence of myeloid leukaemia.
- Controls on VOC emissions from vehicle exhausts would be more effective than Stage II controls at service stations.
- New legislation should not discriminate against those conscientious station operators that have already invested in Stage II equipment.
- Underground storage tanks in the UK are not normally replaced until they are 30 years of age and the associated pipe work not disturbed unless problems occur or relocation of dispensers is desired. Independent retailers frequently install second-hand (used) dispensers which may have already been in service for between 10 to 15 years.
- An alternative Stage II technique called the "Petroman venturi" cannot deliver 85% recovery efficiency but only costs 100 pounds per hose to install and so is more cost-effective.
- The technical standards required by those Member States where Stage II controls have been implemented are similar and so there is limited value introducing harmonised specifications.
- Any new legislation should only address new and substantially refurbished service stations and the same exemptions should apply as those in the VOC Stage I directive 94/63/EC.
- Retrofitting of existing stations should only be required if their throughput is greater than 3500 m³ per annum and adaptation periods longer than 3 years should be permitted (as was the case in the UK).
- Automatic monitoring should not be mandated as it is costly to install and maintain. However, where automatic monitoring is installed, the requirement for periodic inspections should be waived.

- Service stations built within residential accommodation should not have to install Stage II equipment if they are above the Stage I derogation throughput level.

14. FINNISH OIL & GAS FEDERATION

The Finnish Oil & Gas Federation which represents the major oil companies in Finland commented as follows:

- There is no need for new harmonised requirements because European Norms EN 13012 (*construction and performance of automatic nozzles for use on fuel dispensers*) and EN-13617-1 (*petrol filling stations*) exist already.
- Stage II controls are not required everywhere but should be required where service stations are cited in the vicinity of densely populated areas or near to nursing homes or other similar institutions.
- Stage II equipment can be unreliable particularly in cold Nordic climates and this can diminish the cost-effectiveness.
- Arbitrary thresholds to decide which existing stations should be retrofitted affects fair competition in the retail sector. It is better to decide on siting criteria as discussed above.
- The costs for retrofitting an existing station will be about €8000 per dispenser where vapour recovery pipelines already exist to underground storage tanks. Otherwise the costs are far higher and between €60-100 000 depending on size. New dispensers will also cost ca. €10 000 each.
- The USA has decided to require new vehicles to have on-board refuelling vapour recovery which gradually negate the need for Stage II controls at service stations.

15. UK SOCIETY OF MOTOR MANUFACTURERS AND TRADERS (SMMT)

The SMMT which represents the UK automotive industry commented as follows:

- Any new legislation should not apply to minor refuelling operations associated with the construction and delivery of new passenger cars.
- Stage II controls should be applied to new and substantially refurbished service stations so long as their throughput is less than 500 m³ per annum. Any controls to existing stations should only apply to stations with a throughput greater than 3500 m³ per annum.

16. FEDERATION OF PETROLEUM SUPPLIERS LIMITED

The Federation, which is a trade association for the oil distribution and independent forecourt sectors in the UK and Republic of Ireland, commented as follows:

- Small independent service station operators are struggling to survive because of competition from the oil majors and supermarkets which can cross-subsidise their activities from other areas of economic activity. These service stations serve

local communities and provide shop and other vital services in villages. Closure would mean greater distances being travelled to purchase petrol.

- The Federation is opposed to prescriptive legislation but in favour of performance targets that encourage innovation.
- There is no link between benzene in ambient air and myeloid leukaemia and no need for legislation therefore.
- Transboundary air pollution (ozone) is better tackled by reducing vehicle exhausts of VOCs.
- Underground storage tanks in the UK are not normally replaced until they are 30 years of age and the associated pipe work not disturbed unless problems occur or relocation of dispensers is desired.
- There has been no deleterious effect on the market by a lack of a harmonised specification for Stage II equipment. Voluntary phase-in has encouraged innovation. The technical standards required by those Member States where Stage II controls have been implemented are similar and so there is limited value in introducing harmonised specifications.
- Decisions on whether to implement Stage II controls on new or existing stations should be left to each Member State to decide. In any event, the same exemptions should apply as those in the VOC Stage I directive 94/63/EC.
- Automatic monitoring should not be mandated as it is costly to install and maintain. However, where automatic monitoring is installed, the requirement for periodic inspections should be waived.
- There is no need to address Stage II controls from service stations situated in residential accommodation as there is no link between benzene exposure and adverse health impacts.

17. FEDERATION INTERNATIONALE DE L'AUTOMOBILE (FIA)

After having consulted its European affiliates, FIA commented as follows:

- FIA recognises that differences exist between national Stage II controls and has assumed that a lack of harmonization has hindered the development in a single market in Stage II equipment.
- Both new and existing service stations ought to install Stage II equipment but there should be different lead times for new, refurbished and existing stations.