

EN

D5 95728
Executive Summary

EN

EN



EUROPEAN COMMISSION

Brussels, 13.1.2011
SEC(2011) 44 final

COMMISSION STAFF WORKING DOCUMENT

Accompanying document to the

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

amending Directive 2000/25/EC as regards the application of emission stages to narrow-track tractors

EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT

SEC(2011) 43 final
COM(2011) 1 final

Disclaimer: This executive summary commits only the Commission's services involved in its preparation and does not prejudge the final form of any decision to be taken by the Commission.

1. PROBLEM DEFINITION

The problem to be assessed is the feasibility of meeting the currently enacted legislative pollutant emission requirements for the so-called narrow-track tractors (NTTs). With annual sales of around 26.000 units, they represent 16% of the EU market for new tractors. They are specially designed to meet the specific terrain and layout characteristics of vineyards and orchards in Europe, such as narrow vineyard rows. As a consequence, NTTs are almost solely produced and used in Europe. The problem is two-fold: the adequacy of the regulatory limits and the lack of technological feasibility.

When the new emission limits for tractors were introduced by the legislator in 2005, there was a limited amount of information available on the technology needed to meet those standards. In addition to the currently applicable Stage IIIA, also Stage IIIB and Stage IV were defined, requiring strong reductions in the emissions of particulate matter (PM) and nitrogen-oxides (NO_x). The implementation dates currently defined concerning the placing on the market of NTTs for the relevant engine categories (covering 75% of the market of new NTTs) are as follows:

Engine power	Implementation date (Stage IIIB)	Implementation date (Stage IV)
56-75 kW	1 January 2012	1 October 2014
37-56 kW	1 January 2013	-

The potential existence of difficulties for NTTs was acknowledged in the Tractor Emissions Directive 2000/25/EC and article 4 (8) was introduced requiring a further study of the feasibility of the foreseen emission limits for NTTs. Over time, it was confirmed that NTTs would have serious difficulties meeting the next stages of emission requirements. This is because contrary to normal/larger tractors, NTTs have only a limited space available for the fitment of the required new engine and pollutant after-treatment technologies. An increase in the vehicle size would compromise the essential user requirements, caused by a loss in manoeuvrability, loss in cultivable grounds and a general difficulty to operate in the current environment for which they are designed.

The emission requirements of Stage IIIB and IV would not be problematic if satisfactory technological solutions for NTTs were available in the appropriate timeframe. However, current market information shows that development of engine and after-treatment technologies to meet Stage IIIB has only recently delivered the first prototype solutions. For Stage IV, R&D on engine concepts is still ongoing. Further, additional efforts will be necessary to adapt these technologies for application in NTTs and integrate them in the limited available space. This process for Stage IIIB, according to standard industrial lead times, is expected to take between 3 and 6 years. For Stage IV, if a feasible technical concept can be demonstrated, the development of compliant NTTs may still require between 6 and 10 years.

The most affected parties are engine and tractor manufacturers, their workforce and the agricultural sector. First, new engines must be developed by engine manufacturers that can

meet the new limits and are suitable for use in NTTs. Secondly there is the technological challenge for NTT manufacturers to install the next generation of engines in their specific products and to maintain their ability to operate in narrow vineyard rows. The agricultural sector would be affected by the absence of new NTTs that would be compatible with the current row-width of vineyards and orchards and with their existing equipment/tools used for cultivation. The employees of these tractor manufacturers would be affected by possible factory downtimes due to the inability to meet the demand for new products.

This impact assessment sets out policy options to address this problem.

2. ANALYSIS OF SUBSIDIARITY

The Tractors Emissions Directive harmonises the laws of Member States relating to emission limits and the type-approval procedure for engines to be installed in tractors. Any modifications to the Directive can only be done at EU level. There is, however, a risk that if no action is taken, Member States might resort to national measures to address the problem that would lead to a fragmentation of the internal market and unlevel playing field between different Member States. Therefore EU action is justified and provides added value in maintaining the internal market for tractors.

3. OBJECTIVES

The policy objectives are related to competitiveness and environmental issues. The general objectives are to safeguard the competitiveness and viability of the tractor industry while maintaining a high level of environmental protection with reduced pollutant emissions from tractors when addressing the identified problem.

Faced with the impossibility of putting on the market compliant products as of 2012, NTT manufacturers are likely to suffer a large loss of revenue. This would represent a serious risk for the R&D investments needed to develop the technical solutions required to re-enter the market. This risk may jeopardise the existence of many of these specialised companies, which are generally industrial companies of a limited size and capital, including several SMEs.

In terms of environmental protection, the renewal of the tractor fleet is key to delivering reductions of PM and NO_x emissions. If new NTTs are not offered on the market, due to the technical difficulty in meeting regulatory requirements, users are expected to adapt by extending the use of the old NTTs and more polluting beyond their normal lifetime. In addition, an incentive to industry is required to continue the development of cleaner NTTs and deliver in the medium to long term the necessary reductions. The emissions of the current NTT fleet represent 0.2 and 0.5% of the total emissions in the EU of PM and NO_x respectively.

4. POLICY OPTIONS

Six policy options have been identified as possible means of meeting the policy objectives. These are:

- ***Option 1- No new action = Baseline scenario.***

The current implementation dates for NTTs to achieve compliance with the new Stage IIIB and Stage IV limits remain unchanged, meaning that Stage IIIB would be required for new NTTs starting from 1 January 2012 and Stage IV from 1 October 2014.

- ***Option 2 – Allowing 3 extra years for implementation of Stages IIIB and IV for NTTs.***

The implementation dates for NTTs for meeting Stage IIIB and Stage IV emission requirements would be delayed by 3 years. Stage IIIB would be required for new NTTs starting from 1 January 2015 and Stage IV from 1 October 2017.

- ***Option 3 – Allowing 5 extra years for implementation of Stages IIIB and IV for NTTs.***

The implementation dates for NTTs for meeting Stage IIIB and Stage IV emission requirements would be delayed by 5 years. Stage IIIB would be required for new NTTs starting from 1 January 2017 and Stage IV from 1 October 2019.

- ***Option 4 – Exempting from Stages IIIB and IV for NTTs.***

Given the specific design constraints of NTTs and their limited market share compared to the entire tractor market, an additional option could be to completely exempt NTTs from Stages IIIB and IV requirements. This would maintain the current Stage IIIA requirements for these special tractors for an unlimited period of time.

- ***Option 5 – Skipping Stage IIIB and introducing Stage IV at the dates originally foreseen***

This option foresees skipping Stage IIIB and introducing Stage IV emission limits at the dates originally foreseen in the tractors emissions legislation i.e. as of 1 October 2014.

- ***Option 6 – Extending the flexibility provisions for NTTs***

This option foresees a further extension of the flexibility provisions in the Tractor Emissions Directive for NTTs, so as to allow the manufacturers of NTTs to sell an additional number of non-compliant tractors without changing the emission requirements as such.

Option 5 has been discarded at an early stage because vehicle design complying with Stage IV will take much longer than the time available until the mandatory introduction of the limits foreseen by the legislation. Strong negative impacts (impossibility to sell compliant NTTs, loss of revenues, continued use of old tractors) can be expected as of 2014, probably in an even larger extent than under Option 1. Moreover, it would mean a waste of resources for the companies that have invested in technical solutions for Stage IIIB.

Also Option 6 has been discarded. The flexibility provisions for tractors allow manufacturers to continue sales of non-compliant tractors beyond the date of implementation of new emissions stages. Current provisions give a relief for a period of only a few months. In order

to bring these provisions more in line with the leadtime needed for developing compliant NTTs, one could imagine a further extension of the flexibility provisions for NTTs. In that case, the flexibility provisions would need to be around 300%. In practice, such an option would represent a delay of 3 years in the application of the new emissions stages, very similar to Option 2. However, the administrative burden for manufacturers and administrations to implement the flexibility scheme would be significantly higher.

5. ASSESSMENT OF IMPACTS

As this Impact Assessment concerns a 'narrow' legislative action, it will assess the options essentially in a qualitative way with quantifications for those impacts for which sufficient data was available. The analysis is based on the data available from different sources, including the supporting studies by JRC and Arcadis and the industry itself (in particular engine, after-treatment and tractor manufacturers), who delivered information on R&D results and the state-of-the-art technology related to the introduction of the new stages for NTTs.

- ***Option 1- No new action = Baseline scenario.***

This policy option represents a serious risk of disrupting the NTT industry and market, as industry would not have compliant tractors ready in time for Stage IIIB or for Stage IV. Users will not be able to replace old polluting tractors with modern equipment and are likely to continue to use old tractors with high pollution and deteriorated worker safety. Some compliant tractors (in the lower engine category) may come some years later to the market, but the prolonged loss of revenue from NTT could lead several manufacturers to close business, resulting in a significant proportion of jobs lost, which is estimated to amount to 3000 over a period of three years. Further, due to the lack of replacement of the existing fleet, it can be estimated that around 80.000 workers using NTTs will be exposed to higher safety risks, at least for a period of 3 coming years. In fact recent legislation improved safety requirements for new tractors, particularly against rollover accidents, and renewal of the fleet is essential to improve worker safety.

The overall emissions of PM and NO_x under this option are higher than originally expected from the new emission limits. This is due to the continued use of old tractors, caused by the inavailability of compliant new NTTs.

Stakeholders (mainly from industry) have for many years criticised this option and warned against its negative consequences.

- ***Option 2 – Allow 3 extra years for implementation of Stages IIIB and IV for NTTs.***

This policy option, by allowing NTTs three extra years to comply, would be very effective in mitigating the economic impacts on the industry to challenging but feasible proportions, without serious social drawbacks. Industry would remain under continuous pressure to find technical solutions to meet the new emission limits introduced by the Directive, so innovation is fostered. It is estimated that manufacturers would have to increase their R&D spending from 3% to more than 6% of turnover over the coming 4 years in order to meet Stage IIIB as of 2015. Total R&D investment from NTT manufacturers is expected to be around €50m. Worker

safety will improve as expected, due to the replacement of older NTTs with new, safer ones.

Compared to the baseline scenario (option 1) the environmental impacts are positive. This is due to the fact that, while Stage IIIB NTTs are not available, new NTTs complying with Stage IIIA will be able to enter the market and reduce pollutant emissions, through the replacement of old and polluting NTTs. The overall environmental benefits of this option are estimated at €122m (lower PM emissions are monetized at €31m, NOx emissions at €91m).

Some industrial companies have indicated that this might be feasible, while others think it is not.

- ***Option 3 – Allow 5 extra years for implementation of Stages IIIB and IV for NTTs.***

This option, allowing NTTs five extra years to comply, would be very effective in avoiding job losses in the sector. Industry would still remain under pressure to find technical solutions to meet the Directive, although all relevant industrial actors should have sufficient time to develop technical solutions for NTTs. The credibility of legislation may, however, be somewhat questionable, if it is perceived that the industry did not try to meet the limits in time. This option corresponds to the current requests from NTT manufacturers. Worker safety will improve as expected, due to the replacement of older NTTs with new, safer ones.

Again, there will be an improvement for the environment compared to the baseline scenario due to the replacement of old NTTs by cleaner ones, complying with Stage IIIA. The overall environmental benefits of this option are estimated at €74m (lower PM emissions are monetized at €12m, NOx emissions at 62 M€). These values are somewhat lower than those for option 2, as Stage IIIB will be applicable 2 years later.

This option corresponds to the current requests from NTT manufacturers.

- ***Option 4 – Exemption from Stages IIIB and IV for NTTs.***

A permanent exemption does effectively mitigate the negative economic impacts for industry but does not give any certainty that pollutant emissions are reduced in the long term, as it is far from certain that NTTs meeting Stage IIIB or IV would be developed. As other sources of PM and NOx are expected to reduce their emissions over time, the relative share of NTTs in those emissions will therefore increase. The overall environmental costs of this option are estimated at €674m (higher PM emissions are monetized at €13m, NOx emissions at €61m). In the short term, however, it would be positive for the environment as at least new Stage IIIA tractors would be available to replace older, more polluting ones. An exemption would also largely remove any incentive to invest in R&D and innovation in environmental technologies for NTTs. Again, worker safety will improve as expected, due to the replacement of older NTTs with new, safer ones.

There would be no risk that companies are pushed out of business due to emissions requirements, as they would effectively stay as they are today. However, a small

number of jobs related to R&D in the tractor manufacturer and exhaust after-treatment supplier sector may be lost.

Initially, this was the solution requested by (industrial) stakeholders. More recently, they requested a 5-year delay.

6. COMPARISON OF OPTIONS

As a result of the above analysis, it is concluded that postponing the implementation dates for NTT with 3 years (Option 2) is the most appropriate measure to ensure that the policy objectives of ensuring a competitive industry and a better protecting the environment are met. As summarised in the table below, this option delivers the most favourable overall impacts with regard to the economic, environmental and social implications.

	Option 1 - Baseline	Option 2 – 3 year delay	Option 3 – 5 year delay	Option 4 - exemption
Direct economic impact (on industry)	0 No NTTs sold until technical solution is found, loss of revenue, serious risk of bankruptcies	+	+	+
Indirect economic impact (on consumers)	0 Cannot renew tools, higher maintenance costs	+	+	++
Impact on R&D	0 Wild race among some to innovate, without revenue to finance it	++	+	--
PM emissions¹	0 Use of old, polluting tractors is prolonged	++	+	--
NOx emissions	0 Use of old, polluting tractors is prolonged	++	+	--
Impact on employment	0	+	+	+

¹ The estimated pollutant emissions and monetized impacts are relative to the baseline scenario. The emissions correspond to the timeframe until 2050, the monetized environmental impacts to the 2012-2030 timeframe.

	Serious risk for job losses, up to 3000 over 3 years	Job losses limited, not structural, some additional jobs at suppliers	Job losses further limited, not structural, some additional jobs at suppliers	No risk of significant job losses, no additional jobs at suppliers
Impact on worker safety	0 Unsafe tractors are used longer, ca. 80.000 workers exposed	+	+	+
		Improvement of safety through fleet renewal	Improvement of safety through fleet renewal	Improvement of safety through fleet renewal

The 3-year delay would allow most of the manufacturers to transform the recent technological progress into NTTs complying with Stage IIIB limits and simultaneously meeting the essential customer requirements for their use in vineyards and orchards. Thereby, significant job losses of Option 1 are avoided and the environmental and worker safety impacts continue to be positive due to the continued renewal of the EU fleet. Compared to Option 3, the delay would be in line with the necessary technological development and continue to foster innovation. With a limited delay, the environmental benefits that were expected from the original legislation will therefore be realised, unlike Option 4.

7. MONITORING AND EVALUATION

It will be important to monitor over time the technical advancement in the industry, in order to track progress towards the transition towards Stage IIIB and Stage IV limits. Key indicators are the level of R&D investment in the sector, the level of sales and profitability of firms (in particular, SMEs) active in the sector and the number of NTTs which are successfully type-approved to the Stage IIIB and IV limit values over time. Also the monitoring of NOx and PM emissions attributed to NTT will be relevant.

Accordingly, constant dialogue with the industry, aimed at tracking of R&D investment by large and small firms in the sector and monitoring the competitiveness of the sector and its ability to develop suitable technological solutions within the next few years, will be of utmost importance. In view of the future implementation of the rules at hand, it will be essential to monitor the NTT market and the development of technologies, including the appearance of potential solutions for the transition to Stage IV. One suitable way of achieving this constant dialogue is to rely on the Working Group for Agricultural Tractors (WGAT).