CER The Voice of European Railways

UNION INTERNATIONALE DES CHEMINS DE FER
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POSITION PAPER

# CONSULTATION DOCUMENT OF THE COMMISSION'S SERVICES

## Rail noise abatement measures addressing the existing fleet

**General**

Sector representatives are pleased by the activity of the DG TREN since they support lowering of environmental impacts of transport system, including those of rail vehicles.

It is worth to mention that railways already procure new vehicles with composite brake blocks and bear the risk on their own account.

The cost efficiency of freight rail transport is one of the key issues and any one sided additional financial burden imposed to rail sector will affect its competitiveness and result in a potential modal shift from rail to road with an adverse effect on the environment which would be inconsistent with the EU's transport and environmental policy objectives.
The retrofit process shall not create any new charges for wagon owners and consequently for their clients, in order to prevent any additional financial burden on the railway freight transportation market.

Our policy suggestion would be:
- to favour European and national subsidies for the short term retrofitting, providing those national subsidies do not distort competition between rail freight operators. A part of the financial means could be transferred from infrastructure measures, provided the overall effects for infrastructure managers in terms of costs and benefits are neutral. Differential track access charges could be used at a later date to maintain a silent freight fleet, however not before the end of the migration phase.
- not to impose legally binding measures on freight operators, especially since the type and cost of solutions vary considerably depending on the wagon-fleet considered and since important technological issues remain unsolved, Freight wagon owners shall be free to make the choice of technology for retrofitting.

More generally sector representatives consider a global cost-analysis should be performed taking into consideration the overall social efficiency of these measures, including their externalities and potential adverse effects on the modal shift between rail and road.

**Question 1: Should the number of vehicles retrofitted or the percentage of wagon-km run by low-noise wagons be used as an indicator? Is the target of 90 % of wagon -km realistic?**

The response to the question revolves around the practicality of getting the answer. Using wagon-km would give a better measure of the effect of the change to lower noise brake blocks. However, the required systems to know whether a wagon has been fitted and its km run may not be available, particularly for GCU wagons. In this case, the only practical measure may be number of vehicles fitted.

Thus the number of vehicles retrofitted should be used as indicator as this criterion allows a clear determination of the target; the mileage can serve as an additional parameter since it is not a fixed figure but varies daily and according to the contractual agreement. It is most efficient if all wagons of a wagon family are retrofitted, independent of their wagon-km. Also, the wagon km are very variable und difficult to predict for a specific wagon.

The proposed target of 90 % of wagon-km is rather theoretical.

Within a train with many silent wagons the few remaining noisy ones will cause annoyance. If a high percentage of vehicles are not retrofitted, because of their low mileage, there is a probability that some noisy vehicles will cause an inordinate amount of noise. Therefore it is necessary to reduce noise in as many vehicles as possible.

In order to retrofit the wagons in a cost-effective way, it is usually best to focus retrofitting on family of wagons with a similar braking technology. The mileage of an entire group should be considered when choosing wagon types to retrofit.

All in all, a target in terms of percentage of number of retrofitted wagons should be used.

However, to enhance the cost-benefit efficiency of this policy, exemptions should be granted when it can be demonstrated that the wagons are dedicated to a traffic operated in low inhabited zones.

**Question 2: What is a realistic and desirable deadline for completing the retrofitting exercise?**

The most efficient way to perform retrofitting is during the regular revision. On average revision cycle lasts about 4-6 years. The number of wagon families that

can be retrofitted during a revision cycle depends on the available financial resources and the workshop capacity.

A realistic deadline for completing the retrofitting of existing wagons is probably 10 – 12 years, meaning that about half of the wagons groups can be retrofitted in the first cycle and the other half in the second. It would be desirable to have a shorter interval (7 – 10 years), however. This would require funding and the necessary workshop capacity and sufficient supplies must be available.

Since the type and cost of solutions vary considerably depending on the wagon-fleet considered and since important technological issues remain unsolved, sector representatives consider no legally-binding measures should be imposed before both K and LL technology are available on the market.

Sector representatives encourage the European Commission to take measures in favour of innovative technologies.

Freight wagon owners shall be free to make the choice of technology for retrofitting.

Moreover there should be several brake shoes suppliers in order to preserve competitive practices and satisfactory prices.

**Question 3: What should be the minimum remaining lifetime of freight wagons to be retrofitted?**

The minimum remaining lifetime of freight wagons should be at least one revision cycle 4 - 6 years, realistically around 10 years – two revision cycles that would consider budgetary and capacity issues. The baseline is the beginning of the funding period.

**Question 4: What should be the minimum annual mileage for freight wagons to be retrofitted?**

The majority of the wagons runs between 10'000 and 30'000 km/a. The minimum annual mileage should be 10'000 km. The retrofitting should start with those wagons families where a high mileage can be assumed first. Again, there may be valid reasons to depart from this rule in specific cases. It must be noted, however, that there are probably insufficient statistics available to answer this question fully. This decision could be refined, as soon as more statistics become available to determine if low mileage vehicles are used in densely populated areas.

**Question 5: Assessment criteria: Effectiveness, Suitability for wagons from other Member States, Implementation time, Impact on transport policy. Do you agree with these assessment criteria? Is the list of assessment criteria complete? If not, please describe additional criteria.**

*Effectiveness:*

- Add savings in reduced noise barriers[1]
- Consider block train circulation and dedicated freight corridors.
- Set up dedicated freight corridors for priority implementation of retrofitting

*Suitability for wagons from other Member States*

- A common EU wide approach is necessary to prevent separate policies.

*Implementation time*

- Tangible benefits will be seen when about 70 % of the wagons passing by have been modified. Locally a noticeable noise reduction will be achieved with fewer vehicles undergoing retrofit. There may be an argument for looking at the impact on major freight corridors. This must be considered when considering effectiveness in time.

*Impact on transport policy*

- Track access charge questions could influence the competition between road and rail.
- They could lead to a situation in which trains will be directed on other routes than today, shifting the noise problem to other areas, or pushing rail freight to road
- In case of only national subsidies, discrimination among keepers and railway undertakings settled in different countries. This could create flows of wagons fleet between Member States for registration, and anti-competition barriers.
- Administrative feasibility and cost needs to be considered
- Administrative costs can be held low if a direct subsidy is implemented. Depending on the monitoring used for differential track access charges the administrative and monitoring costs could be quite high.

*Additional criteria:*

- Economic impact on the trail freight sector and the transport market (modal split) in case the sector has to bear partly or fully the retrofitting costs.
- The policy and the instruments should provide for innovative measures

[1] The modification of the wagons fleet will be necessarily long, moreover several noise barriers will remain necessary

The administrative feasibility and cost needs to be considered, because other costs will occur like

- additional monitoring of the wagon fleet,
- the recertification of retrofitted wagons, in particular on one hand when a change in the brake system is necessary (depending on the types of wagons) and on the other hand if emitted noise were to be measured according the TSI,
- finding replacement wagons for those undergoing retrofitting in the workshops (limited impact if retrofitting in normal maintenance),
- getting the necessary calculations and designs for the modifications on the wagons,

The collateral 'administrative' costs are expected to exceed 30 % of the costs for the retrofitting itself (depending on the number of wagons of the same type) The risk of high costs increases if a general approval cannot be reached with the authorities.

**Question 6: Is the list of policy options and instruments complete? If not, please indicate additional options/ instruments.**

It should be noted that most options do not seem to be realistic. In general the option "subsidies for retrofitting" under the heading "financial incentives for retrofitting" is the only feasible.

The subsidies should be provided directly to wagon owners. The Commission should set up harmonized rules explicitly allowing financial support for retrofitting.

Differential track access charges could be considered but only in a later stage when most of wagons are retrofitted, towards the end of the funding period, in order to maintain silent freight vehicles in the long run. Differential track access charges should lower transport costs for 'noise-friendly' freight transport, i.e. a bonus for companies that give societal benefits. Due to the multitude of stakeholders involved, differential track access charges are too complicated to introduce in the short term. If track access charges become an issue, it would be preferential to have a bonus for silent trains rather than a malus for noisy trains. This will however consequently lead to a need to subsidise infrastructure managers to cover their losses.

At the STAIRRS second consensus workshop it was agreed by all parties that financing should be made available where it is most effective. It has been

demonstrated that the retrofitting programme has the highest cost-effectiveness of all the measures assessed. Therefore a method should be found in which a part of money used for infrastructure based noise control is transferred to the retrofitting process.

**Question 7: What components should a voluntary commitment by the rail sector include?**

Only voluntary commitments, which will not increase the cost of transport in order not to jeopardise the rail competitiveness, could be agreed on. The railways are concerned a lot by any reduction of their competitiveness, which would have as a consequence a modal transfer from rail to road (with influence also related to noise!) and inland waterway.

The wagon keepers will have to bear already the increased operational costs (e.g. wear and tear of wheelsets); they would be shifted from the operators to the customers / shippers. It would have a reverse effect on the growth of the entire rail freight market.

For new built wagons additional operating costs are already imposed by TSI Noise.

Therefore subsidies at a European and national level should be chosen as an immediate measure, within a European scheme to ensure a fair allocation and to prevent any distortion of competition between rail operators.

A voluntary commitment in isolation does not seem to provide the answer to achieving the retrofitting programme in the shortest possible time.

**Question 8: What are the preferred instruments to provide financial incentives? Should these instruments be used at national or European level?**

Subsidies for retrofitting the wagons should be considered as the only acceptable option. If subsidies could find their origin in European or national funds, the scheme for subsidies should be defined at the European level to ensure a fair allocation to wagons selected for retrofitting and to prevent any distortion of competition between rail operators on the European market.

The financial incentives shall be directed to wagon owners and they need to be transparent as what regards their schedule – they have to allow appropriate, economically based decision of wagon owners.

Rail freight traffic cannot survive if the retrofitting will need to be financed by the sector.

**Question 9: Are legal instruments desirable? If yes, what are the preferred instruments? Is there a need for harmonisation at European level?**

A harmonized approach of spending and using European subsidies for the retrofitting process would be desirable. After a successful retrofit legal instruments might be considered for interoperable freight wagons, for instance by adapting the TSI Noise after a period of time. Legal instruments restricting the use of not yet retrofitted wagons will endanger the retrofitting process as in this case the conditions for freight wagons within the EU would be distorted.

In general therefore legal instruments are not desirable; a funding mechanism must be found to the retrofitting to occur in as short a timescale as possible. Regulative measures discouraging noisy vehicles after the funding period may be helpful however, e.g. a legal framework to withdraw the interoperable status of not retrofitted wagons from a certain date.

**Question 10: Is there a need for additional measures and action in the short term?**

As an additional measure R & D efforts for LL brake blocks should be supported in order to avoid a unilateral fixation on the retrofitting with K blocks.

The technology should be developed further, both for K- and for LL-shoes. Ideally the wagons specific engineering required for each wagon type would receive financial support. This would quicken the retrofitting process.

The funding question remains the outstanding issue. Some way of diverting funds for noise barriers to the brake block replacement has to be found.

**Summary**

We must carefully manage risks, composed different subsidies policy by Member States, distortion of competitiveness through track access charging and potential legal limitation of wagon use.

Europe-wide retrofitting needs to consider both K and LL blocks technologies.

The retrofitting of existing wagons with K blocks is expensive, in particular in case of fleets not equipped with self-adjusting load-proportional brake, and as the homologation of LL blocks cannot be ensured today, either for the whole fleet or for some types of wagons and research on LL blocks should continue with EU funds.
In any case no legal obligation to retrofit should be taken before the LL-technology is available on the market on an industrial basis. That should not prevent the Commission from subsidising the retrofitting with an existing technology in an earlier stage.

Support of pilot projects demonstrating overall company and societal benefits is highly recommended.
In any case the serial retrofitting will demand European and national financing.

There is a clear need to emphasise and publicise positive side of retrofitting i.e. "Impact on Transport Policy – consistency with White Paper." STAIRRS showed that the retrofitting programme was the correct first step towards a low noise European rail network.

In general however it must not be possible for noise to be added to the list of aspects which can make infrastructure "scarce", as it is already the case in some countries, either where there is a dominant player which has the ability to cause expense for other players e.g. by buying up the noise permits, or by imposing operating restrictions.

Given that infrastructure capacity is already at a premium in many Member States, causing the cost of access for freight to rise when there is little passenger traffic on a network will cause either the freight to move to a busier time of day (which may not be possible), or the freight to be lost from the rail mode. This does not fit with the Commission's stated objective of modal shift to rail. Incentives therefore seem more appropriate than a penalty.

**Annex – responses to the questionnaire**

## *1. TARGET POPULATION AND DATE*

*1.1. Which indicator should be used?*

☒ **Number of vehicles retrofitted** ☐ **Percentage of wagon-km performed by low-noise wagons** ☐ **Other**

Other

*1.2. Are the retrofitting targets "retrofitting of all wagons running more than 10,000 km/ year" resp. "retrofitting of 90% of the wagon-km" realistic?*

☒ **Targets are realistic** ☐ **Targets are too ambitious** ☐ **Target should be more ambitious** ☐ **No opinion**

*1.3. What is a realistic and desirable deadline for completing the retrofitting exercise?*

☐ **Before 2014** ☐ **2014** ☐ **2017** ☒ **2020** ☐ **After 2020** ☐ **No opinion**

## *2. LIFE TIME AND PERFORMANCE OF WAGONS*

*2.1. What should be the minimum remaining lifetime of freight wagons to be retrofitted? (at the end of the retrofitting programme)?*

☐ **No minimum remaining lifetime** ☐ **5 years** ☒ **10 years** ☐ **More than 10 years** ☐ **No opinion**

*2.2. What should be the minimum annual mileage for freight wagons to be retrofitted?*

☐ **No minimum mileage** ☐ **5 000 km** ☒ **10 000 km** ☐ **15 000 km** ☐ **More than 15 000 km** ☐ **No opinion**

## 3. ASSESSMENT CRITERIA

*3.1. Do you agree with the suggested assessment criteria?*

| | Strongly agree | (Somewhat) agree | (Somewhat) disagree | Strongly disagree | No opinion |
|---|---|---|---|---|---|
| *Effectiveness: Is the instrument suited to achieving the objective of the retrofitting exercise?* | ☉ | ☐ | ☐ | ☐ | ☐ |
| *Suitability for wagons from other Member States: If measures are to be taken at national level, do they address foreign vehicles as well?* | ☉ | ☐ | ☐ | ☐ | ☐ |
| *Implementation time: How long will it take before the instrument will deliver tangible benefits?* | ☐ | ☉ | ☐ | ☐ | ☐ |
| *Impact on transport policy: Does the instrument create obstacles to the use of rail freight transport?* | ☉ | ☐ | ☐ | ☐ | ☐ |
| *Efficiency: How high is the ratio of noise reduction to the cost?* | ☉ | ☐ | ☐ | ☐ | ☐ |
| *Administrative feasibility and cost: Does the instrument create an additional administrative burden and what are the costs?* | ☉ | ☐ | ☐ | ☐ | ☐ |
| *Consistency with the legal framework: Does the instrument fit into the existing European and national legal framework?* | ☉ | ☐ | ☐ | ☐ | ☐ |
| *Traceability of the results: Does the instrument easily allow its effects and costs to be monitored?* | ☉ | ☐ | ☐ | ☐ | ☐ |
| *Complementary nature: Is it possible to combine two or more instruments without negative impact on their effectiveness and efficiency?* | ☐ | ☉ | ☐ | ☐ | ☐ |

*3.2. In case you think that the list of assessment criteria is not complete, please describe additional criteria.*

- Availability of spare parts through several suppliers
- Capability of maintenance workshops to retrofit wagons without limiting traffic

## 4. VOLUNTARY COMMITMENT BY THE RAIL SECTOR

**4.1. What components should a voluntary commitment by the rail sector include?**

| | Yes | No | No opinion |
|---|---|---|---|
| *Commitment to individual objectives* | ☉ | ☐ | ☐ |
| *Commitment to set up and implement retrofitting programmes* | ☉ | ☐ | ☐ |
| *Definition of priorities (e.g. starting with wagons with high mileage, using retrofitted rolling stock on certain corridors, using regular maintenance intervals for retrofitting to minimise costs)* | ☉ | ☐ | ☐ |
| *Financial contributions from the sector* | ☐ | ☉ | ☐ |

*4.2. In case you think that the list of components is not complete, please describe additional components*

## 5. FINANCIAL INCENTIVES FOR RETROFITTING

*5.1. Do you agree with the use of these instruments to provide financial incentives?*

| | Strongly agree | (Somewhat) agree | (Somewhat) disagree | Strongly disagree | No opinion |
|---|---|---|---|---|---|
| *Differentiated track access charges* | ☐ | ☐ | ☒ | ☐ | ☐ |
| *Subsidies for the use of low-noise wagons* | ☐ | ☐ | ☒ | ☐ | ☐ |
| *Subsidies for retrofitting* | ☒ | ☐ | ☐ | ☐ | ☐ |
| *Loans at preferential terms* | ☐ | ☐ | ☒ | ☐ | ☐ |

*5.2. Should these instruments be used at national or European level?*

| | National level | European level | No opinion |
|---|---|---|---|
| *Subsidies for the use of low-noise wagons* | ☐ | ☒ | ☐ |
| *Subsidies for retrofitting* | ☐ | ☒ | ☐ |
| *Loans at preferential terms* | ☐ | ☒ | ☐ |

Both European and national subsidies should be available.

## 6. LEGAL MEASURES TO IMPOSE RETROFITTING

*6.1. Are legal instruments desirable?*

☐ **Yes** ☒ **No** ☐ **No opinion**

*6.2 Do you agree with the use of these legal instruments?*

| | Strongly agree | (Somewhat) agree | (Somewhat) disagree | Strongly disagree | No opinion |
|---|---|---|---|---|---|
| *Noise limit values for the existing fleet* | ☐ | ☐ | ☐ | ☒ | ☐ |
| *Operating restrictions for noisy freight wagons* | ☐ | ☐ | ☐ | ☒ | ☐ |
| *Noise emission ceiling* | ☐ | ☐ | ☐ | ☒ | ☐ |
| *Tradable permit system* | ☐ | ☐ | ☐ | ☒ | ☐ |

*6.3. Is there a need for harmonisation of legal instruments at European level?*

| | Yes | No | No opinion |
|---|---|---|---|
| *Noise limit values for the existing fleet* | ☐ | ☒ | ☐ |
| *Operating restrictions for noisy freight wagons* | ☐ | ☒ | ☐ |
| *Noise emission ceiling* | ☐ | ☒ | ☐ |
| *Tradable permit system* | ☐ | ☒ | ☐ |

## 7. COMPLETENESS OF POLICY OPTIONS

*7.1. Do you think that the proposed list of policy options and instruments is complete?*

☐ **Yes** ☒ **No** ☐ **No opinion**

The creation of a European public funding mechanism, taking into consideration all the final potential beneficiaries of such a noise reduction.
There shall also be a possibility to transfer a part of funds from infrastructure measures to the retrofitting of freight wagons without any discrimination between routes or actors.
We have to find some alternative legal measures, if these are required at all. It must not be possible for noise to be added to the list of things which can make infrastructure "scarce", either where there is a dominant player which has the ability to cause expense for other players e.g. by buying up the noise permits, or by imposing operating restrictions. Given that infrastructure capacity is already at a premium in many Member States, causing the cost of access for freight to rise when there is little passenger traffic on a network will cause either the freight to move to a busier time of day (which may not be possible), or the freight to be lost from the rail mode. This does not fit with the Commission's stated objective of modal shift to rail. An incentive would therefore seem more appropriate than a penalty.

## 8. COMPLEMENTARY MEASURES

*8.1. Is there a need for additional measures and actions in the short-term?*

☒ **Yes** ☐ **No** ☐ **No opinion**

- A continuation of a support provided for a research on K and LL blocks.
- Setting-up a larger scale demonstration and pilot projects for LL blocks

## *9. GENERAL COMMENTS*

*Other comments or suggestions*

Our policy suggestion would include:

National and European substantial subsidies for the short/mid term retrofitting keeping in mind that a scheme of the national funding must not distort any competition. Part of the financial means could be transferred from infrastructure measures, if without any discrimination between routes or actors and provided the overall effects for infrastructure managers in terms of costs and benefits are neutral.

Differential track access charges could be used at a later date to maintain a silent freight fleet, when all the necessary conditions explained here above would be fulfilled, and in particular would prevent anti-competition measures (e.g. discrimination between routes). Any track access charges lowering shall however be compensated to the infrastructure manager by state subsidies.

Many actors have already migrated to the use of composition brake blocks without financial assistance being provided. Any incentives to fit composition blocks should also benefit those actors which have already migrated at their own cost e.g. reduced levels of track access charge. Such a system should however be fair and take into account the actual cost supported by the actors, to prevent any discrimination among keepers and RUs.