

# Saving CO<sub>2</sub> by upgrading Europe's road network – Common Position Paper of Road Industry

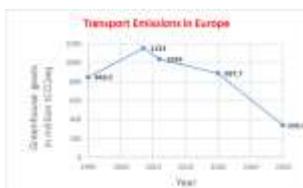
ROSANNE Final Event, Steerebeek, BBRC  
11<sup>th</sup> October 2016

Dr. Carsten Karcher – EAPA  
Karl Downey - EUPAVE

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## BACKGROUND

- White Book of Transport by EC (2011 and update 2015)
  - Reduction of CO<sub>2</sub> emissions of 60% from 1990 to 2050
  - Binding Targets on cars and commercial vehicles



- Various activities in this field in last months
  - COP21
  - e.g. ACEA “Reducing CO<sub>2</sub> together”
  - EU Communication on “A European Strategy for Low-Emission Mobility”



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## BACKGROUND

- Participation and Contributions for ACEA meetings of
  - FEHRL (Forum of European National Highway Research Laboratories)
  - EUPAVE (European Concrete Paving Association)
  - EAPA (European Asphalt Pavement Association)
- Later called *Road Group*



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## BACKGROUND

- Infrastructure and road condition (Rolling Resistance) of the pavements is linked to CO<sub>2</sub> emissions
- Modern and well-maintained road pavements are smooth and even:
  - Give best performance of vehicles to reduce CO<sub>2</sub> emissions and vice versa: Increase of CO<sub>2</sub> emissions is possible!
  - Overall emissions reduced (better air quality), Noise Reduction, Safer Roads and reduced Vehicle Maintenance Costs, and Comfort.



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## BACKGROUND

- This reduction potential is currently not exploited
- There is a deficit in road investment across Europe.

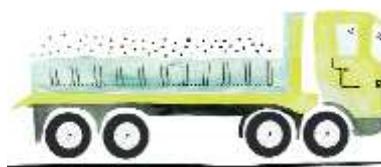
→ Condition of road pavement influences rolling resistance and is accordingly related to CO<sub>2</sub> emissions.

- Road Sector should work together to provide this information



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## WORKING TOGETHER



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## WORKING TOGETHER

- Creating a joint position and inform about CO<sub>2</sub> reduction of vehicles by addressing rolling resistance of road infrastructure
- Show **different scenarios and their consequences** for the CO<sub>2</sub> emission reduction of vehicles
- Make the link to other policies on CO<sub>2</sub>
- Provide data



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## PRESS RELEASE

- 20 July: joint press release on EC's Communication on low-emission mobility
- "Road pavement sector highlights role of road infrastructure"



### Communication on low-emission mobility: Road pavement sector highlights role of road infrastructure

**Brussels, 20 July 2016** – The European Commission has today released its Communication on "A European Strategy for Low-Emission Mobility" (COM(2016) 531) which covers all transport modes. Regarding road transport, the Communication includes proposals on optimising the transport system, low-emission alternative energy, and low- and zero-emission vehicles.

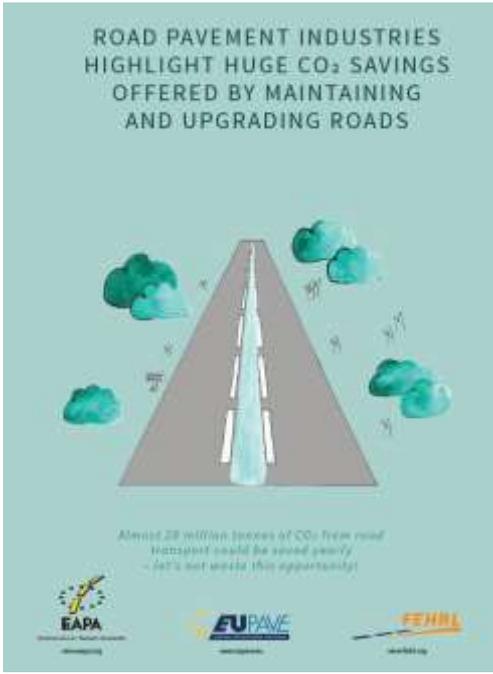
Three associations active in road construction – EUPAVE (the European Concrete Paving Association), EAPA (the European Asphalt Pavement Association) and FEHRL (the Forum of European National Highway Research Laboratories) – today jointly highlighted the opportunity offered by the road pavement itself to reduce CO<sub>2</sub> and other emissions from vehicles. The three associations noted that smooth, well-maintained road surfaces lead to lower rolling resistance, and thus lower emissions from vehicles, and so upgrading and maintaining roads should be part of any strategy to reduce road transport emissions. They called for increased investment in roads and greater alignment of policies on CO<sub>2</sub> with policies for upgrading and maintenance of roads.

"Research by FEHRL's members has shown that smoother roads can reduce CO<sub>2</sub> emissions from vehicles to the order of 1% - this adds up to huge savings across the whole network," said Thierry Cogez, Secretary General of FEHRL.

"There is a risk that a lack of sufficient investment in our road infrastructure will mean emissions go up instead of down. Authorities should not forget that degraded roads are not only unsafe, but they also waste energy, CO<sub>2</sub> reduction targets," said Carsten Karcher, Director of EAPA.

"It would be a shame to miss this opportunity, which requires no new technologies, to reduce emissions while also making gains in terms of safety, efficiency and durability," said Karl Downey, Secretary General of EUPAVE.

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**ROAD PAVEMENT INDUSTRIES  
HIGHLIGHT HUGE CO<sub>2</sub> SAVINGS  
OFFERED BY MAINTAINING  
AND UPGRADING ROADS**

*Almost 28 million tonnes of CO<sub>2</sub> from road  
transport could be saved yearly  
- let's not waste this opportunity!*





## **POSITION PAPER**

Available today!

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## **AIM OF POSITION PAPER**

- To quantify positive effects of upgrading the road pavement infrastructure.
- Show positive effects in terms of growth and jobs. Every Euro invested in construction generates €3 in total economic activity.
- Show positive effects on
  - Safety
  - Noise Reduction
  - Comfort

## CONTENT POSITION PAPER

- Contribution of Road Pavements to reduce CO<sub>2</sub> emissions
  - Technical background: Impact and Numbers
  - Road Pavement directly influences vehicle fuel consumption through the rolling losses experienced by a vehicle riding over it.
  - Rolling losses include
    - energy losses in the suspension system due to an uneven road
    - losses at the level of contact between the tyre and the pavement.
  - Rolling Resistance depends mainly on surface texture, MPD (Mean Profile Depth)
  - Model for calculating RR contains MPD, IRI



www.miriam-co2.net  
2010-today



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## CONTENT POSITION PAPER

- Contribution of Road Pavements to reduce CO<sub>2</sub> emissions
  - Influencing factors on rolling losses: evenness, texture/smoothness, but also rutting, potholes and deteriorated joints, ...
  - Poor quality, or deteriorated pavements (“bad” surface condition”) contribute to even higher rolling losses.
  - Solution to this is investment, in order to achieve the best pavement performance over the lifetime



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## CONTENT POSITION PAPER

- Proper maintenance and upgrading to replace “bad” surface conditions with “good” ones
  - e.g. a new surface even and smooth can be expected to reduce fuel use up to 5%
  - different scenarios
- “An upgrade of one third of the entire road network of Europe by 2030 could lead to yearly savings of 14 million tonnes of CO<sub>2</sub>. If two thirds of the network were upgraded, this could be **28 million tonnes** of CO<sub>2</sub> saved yearly.”
- “This is the equivalent of replacing **6 million** cars with zero-emission cars!”

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## CALL

FEHRL, EUPAVE, and EAPA call on policy-makers, road owners and operators to

- Encourage Member States and local and regional road authorities to consider the CO<sub>2</sub> effect in their road maintenance plans.
- Initiate a study to demonstrate how prioritising maintenance and upgrading of pavement quality has benefits in terms of CO<sub>2</sub> emissions, as well as for growth and jobs.



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## SUMMARY

- Investment in road pavements contributes to CO<sub>2</sub> savings from road transport
- Road sector / Industry can provide solutions immediately
- *Road Group* created a common initiative to
  - show contribution of road infrastructure to reducing CO<sub>2</sub> emissions in transport
  - the necessity of investment, upgrading and maintenance
  - Deliver general information and awareness



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## SUMMARY

- New Position Paper – release today
- Next steps:
  - Spread information together as *Road Group* to member states, NRA's, EC and EP
  - Various events with target groups



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