

Interactive comment on “The challenge to NO_x emission control for heavy-duty diesel vehicles in China” by Y. Wu et al.

Anonymous Referee #2

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Review of “The challenge to NO_x emission control for heavy-duty diesel vehicles in China” by Wu et al.

This paper attempts to estimate the emissions of NO_x from a range of heavy duty vehicles in China using on-board emission measurements (PEMS). I think this is a very useful piece of work which could have important implications for NO_x emission inventories in China and beyond. The findings are clearly important and relevant to ACP and should be published. The paper is well-written and well structured and I can find little to criticise.

It would be good to know however, whether NO and NO₂ were speciated in the measurements – I think not and only NO was measured? If this is the case then the authors should state so. In heavy duty vehicles typically about 15% of the total NO_x is in the

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form of NO₂ (by volume), but the amount will depend on the driving conditions. The SCR system also produces NO₂ as part of its operation and vehicles fitted with SCR could emit higher proportions of NO₂. Again, if this is the case a measurement of just NO will ‘miss’ an important contribution of NO₂. The authors should therefore clarify exactly what has been measured and add additional discussion about the implications if the NO_x measurements are actually NO. Similarly, if NO₂ and NO were measured it would be very useful to have the emission factors speciated throughout the paper.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 18565, 2012.