

Interactive comment on “Evolution of NO_x emissions in Europe with focus on road transport control measures” by V. Vestreng et al.

Anonymous Referee #1

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The contribution from Vestreng et al. is an important analysis of the historical development of NO_x emissions from anthropogenic sources in Europe. It gives a good overview about the available literature of activity data as well as emission factors from 1880 to 2005. Additionally it contains an extended assessment of the uncertainties over the whole historical period. Especially the activity data and emission factors from former periods before 1980 connected with partly unknown high uncertainties. But in this paper are used the best available data bases in combination with very valuable discussions about their quality and applicability by the authors. Very interesting are also the considerations about the impact of implementation of different EURO emission standards in past to the implied emission factors in different European countries. Especially the political consequences of this analysis must be more considered in future air quality

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policies in Europe. The recommendation of more addressing future emission control regulations to off-cycle emissions should be also strongly considered in future control policies for the transport sector. The paper struggled additional out the partly contradiction between air quality climate change policies. The paper should be absolutely published as it is published now for open discussion.

Specific/technical comments.

-In paragraph 5.1(page 10722,line 25 to page 10723, line 3) argued the authors that they cannot calculate IEFs separately for PCs and LDV. But in Figure 7 they can, but can not distinguish between Diesel and gasoline cars. The relationship to the following sentence (The reason for that….) is not clear. In following from my point of view the assumption that the emission factors for gasoline cars are higher than for diesel cars is not plausible. My recommendation is to work out this paragraph more precise. This could improve the understanding of the arguments. -In the conclusion I am a bit surprised about the page 10727, line 28 (This is because the stationary emissions closely followed the trend in solid fuel consumption….).I think should be clear that main fuel shares consumed in stationary sources in Europe are solid fuels. Therefore I think the argument is trivial. But on the other side there should be also observed at least a decoupling of fuel use and emissions in the period from 2000 to 2005, especially on base of the implementation of the LCP directive.

-Page 10701, line 13: Jonson et al., in preparation should be cited in the literature chapter -Page 10712, line 5: EU(R)ONOX -Page 10718, line 27: count(r)ies -Page 10730, line 1: biofuels instead of biofules

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