

Subject: EMEP report for HELCOM

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EMEP Centres Joint report for HELCOM 2006 - Comments from Sweden

Dear Jerzy et al.!

Since Yngve Brodin is on leave (mosquito research) I was asked to read the report. I have only a few comments:

* *General:* The report is interesting and easy to read. As you say, it mainly includes figures and tables but these are very informative and I think the concept works very well. I have some concerns about the key messages of the indicator sheets. .

* *Chapter 2. Observed concentrations of Nitrogen, Lead*

- Not a big issue, but why all the zeros in station codes in Table 2.1, when only 2 digits in Figure 2.1?

- Section 2.2, page 5. Suggested new wording: "But for DE09 data on ammonium/ammonia (?) is missing for several months, so the data from this station is only approximate."

- Page 9. "... the northern regions **typically receive** half...."

- Page 11. "... at the Polish station and a **Finnish** site:

* *Chapter 3. Atmospheric supply of Nitrogen*

- Map 3.6 There are at least a few coloured inland grids in Sweden and other countries, which are not likely to have international shipping.

- Figure 3.11, 3.12 and 3.13. Insert explanations of BAS and NOS in the figure texts.

* *Chapter 4 Atmospheric supply of Lead to the baltic Sea in 2004*

- Figure 4.1 This figure stretches over three pages. For easy reading it would be useful to have figure legends on all pages, at least at the first page.

* *Chapter 5. Atmospheric supply of Cadmium ...*

- Figure 5.1. Se comment for Figure 4.1

* *Chapter 6. Atmospheric supply of Mercury*

- Figure 6.1 (se comments above)

'* *Indicator sheets*

- Here it seems a bit strange that the key message for nitrogen emission is described in very general wording (a lower emission in 2005 as compared with 1995), while the key messages for emissions/depositions of heavy metals and PCDD/Fs are given with exact percent figures. This gives the impression that statistical trend analyses have been performed in some cases and not in others. For nitrogen deposition the it is e.g mentioned the there is no significant trend, while for the metal and dioxins/furans this is not mentioned. In principle, it would be best to describe any changes in **depositions** with figures from the linear trend regression over the actual period, not the actual difference between figures for the specific years. Changes should only be indicated if the slope of the regressions is significant on the $p > 0.05$ level, thus excluding fundamental uncertainties in emissions figures and models. For **emissions**, linear trend assessments are a bit more dubious since changes may be stepwise and variable and besides there is no inter-annual variability directly induced by weather conditions. So here it might be better to use the actual figures, but with some subjective smoothening. To me it would be justified to say that total nitrogen emission in the contracting parties have decreased by ca 10% in the period 1995-2004. The corresponding figures for metals and dioxins/furans seem too exact, at least when depositions and total emissions are discussed. Data for individual countries be given more exact. Since I am rather new in this business I do not know if these issues have been discussed earlier? But to me it seems important to base the key messages, which is often read by politicians and policy makers, on a consistent methodology.

Best regards!

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