

**Expert Consultation Meeting on NEASPEC activities in the field of
Transboundary Air Pollution in North-East Asia,
20-21 January 2011, Incheon, Republic of Korea**

**Recent developments on black carbon and
further actions on some pollutants within
CLRTAP**

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Main messages from the work of the Task Force on Hemispheric Transport of Air Pollution (HTAP) and the Expert Group on Black Carbon (BCEG) in the context of: revision of the Gothenburg Protocol, outreach activities and LTS of the Convention

- Message on the importance of the intercontinental transport of air pollution
- Message on methane and other tropospheric ozone precursors
- Message on Black Carbon and on other short lived climate forcers (SLCFs)



Reports on black carbon and HTAP available at LRTAP website:

- Report of the Expert Group on Black Carbon

<http://www.unece.org/env/documents/2010/eb/eb/ece.eb.air.2010.7.e.pdf>

- Executive summary of the HTAP report

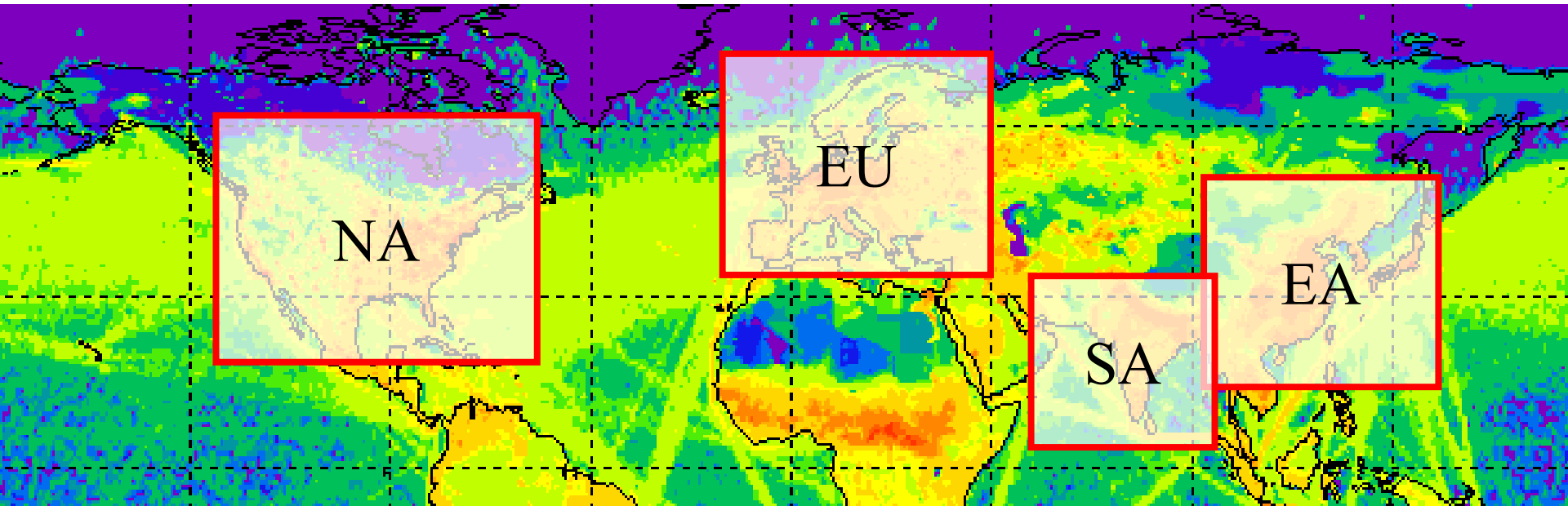
<http://www.unece.org/env/documents/2010/eb/eb/ece.eb.air.2010.10.e.pdf>

- Policy implications of the HTAP 2010 Assessment

http://www.unece.org/env/documents/2010/eb/eb/Informal%20documents/Inf.doc%203_Policy%20Messages%20from%20the%20Co-Chairs%20i%20clean.pdf



Design of Multi-Model Experiments

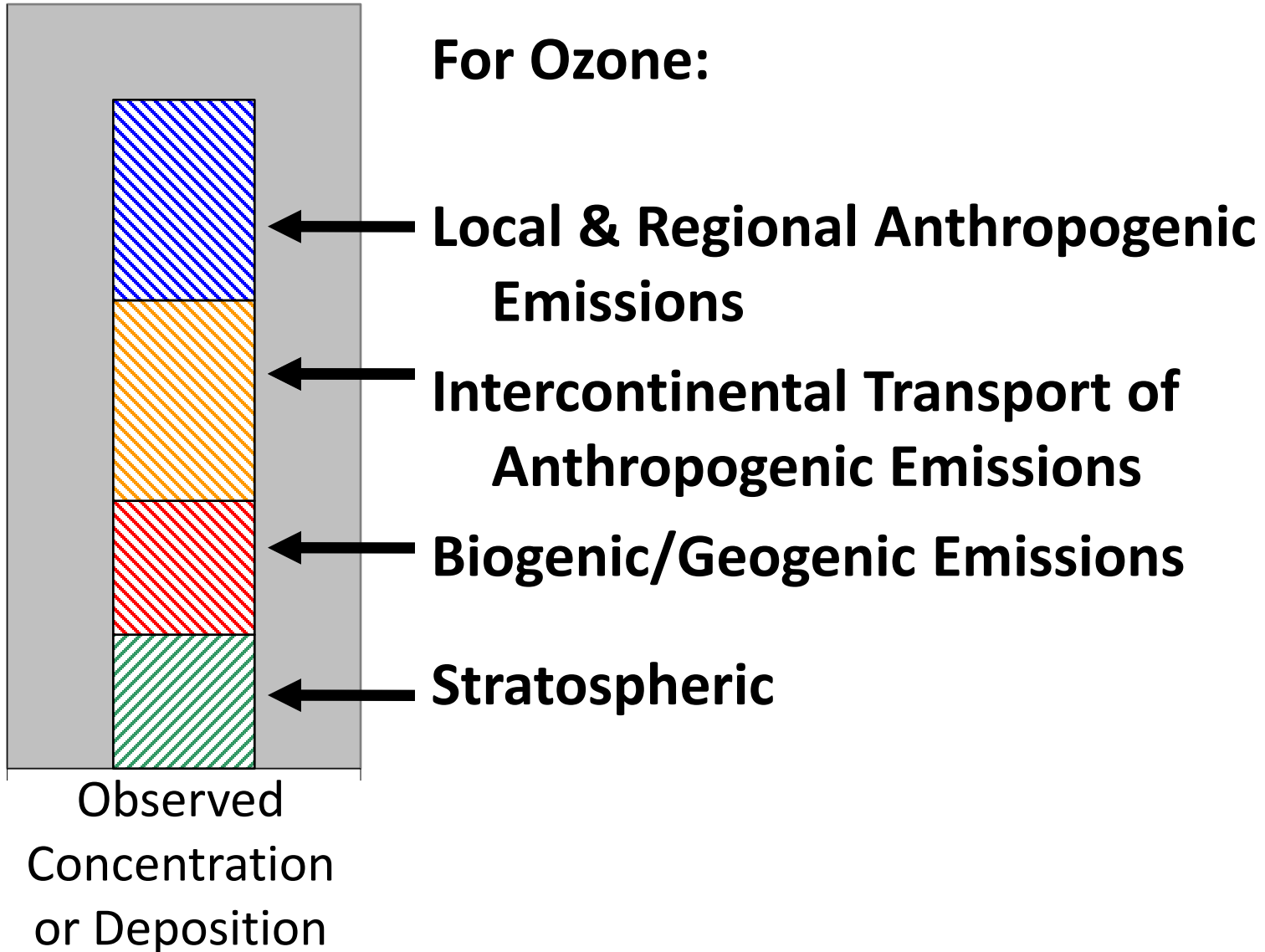


If A,B,C,D represent the change due to 20% emission reductions in each source region:

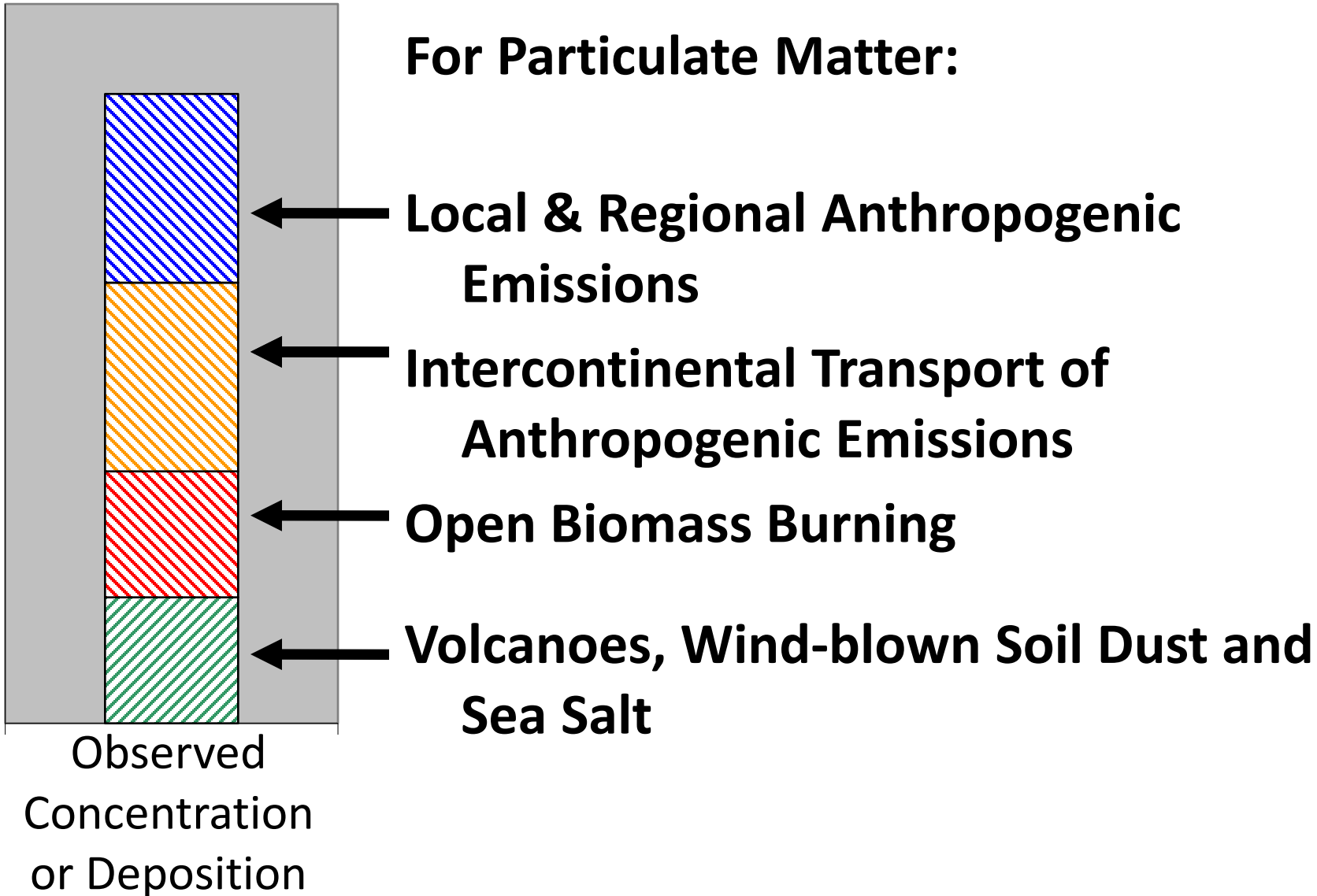
$$\text{Import Sensitivity} = \frac{A + B + C}{D}$$

$$\text{Relative Intercontinental Response} = \frac{A + B + C}{A + B + C + D}$$

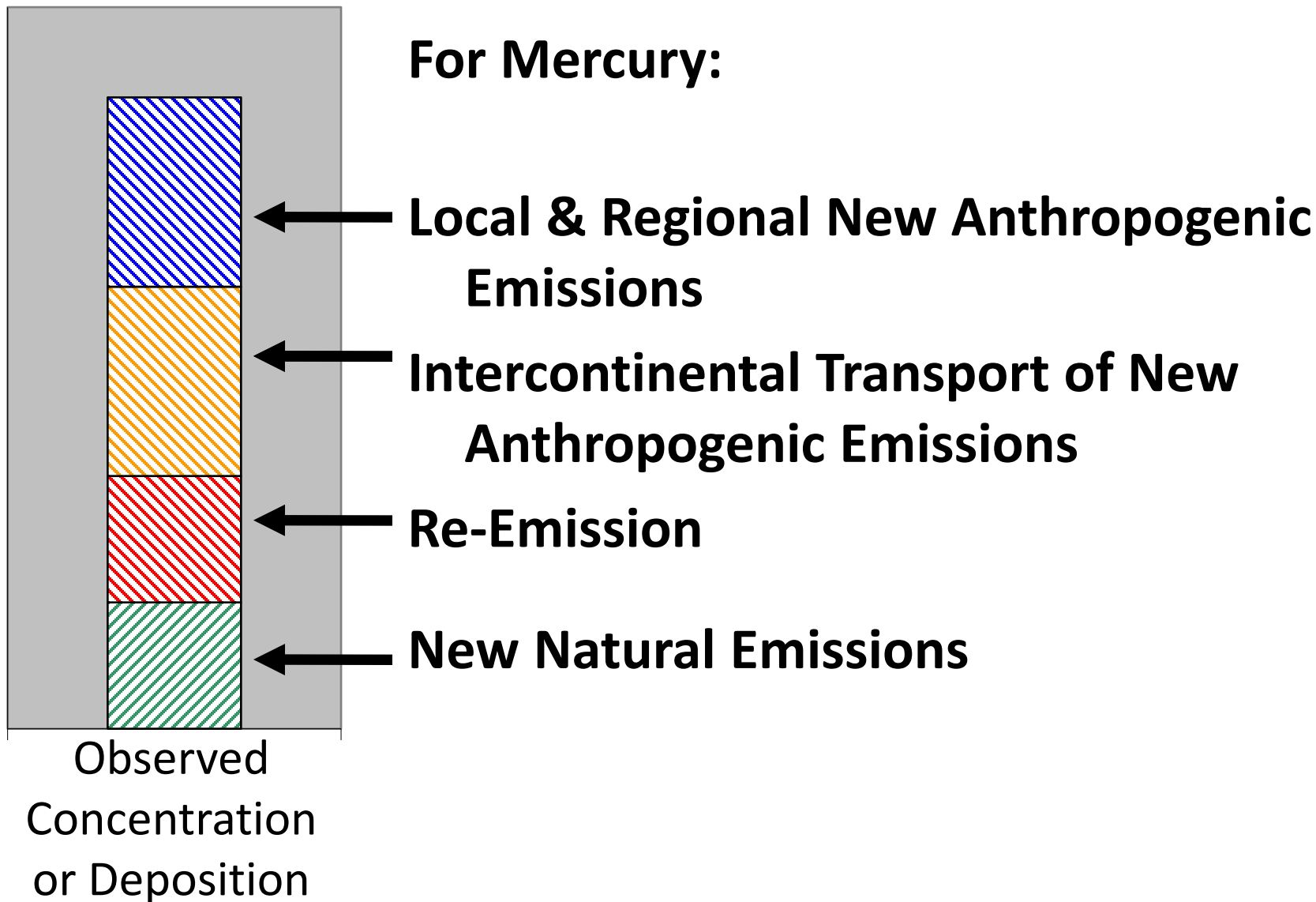
Source Apportionment



Source Apportionment

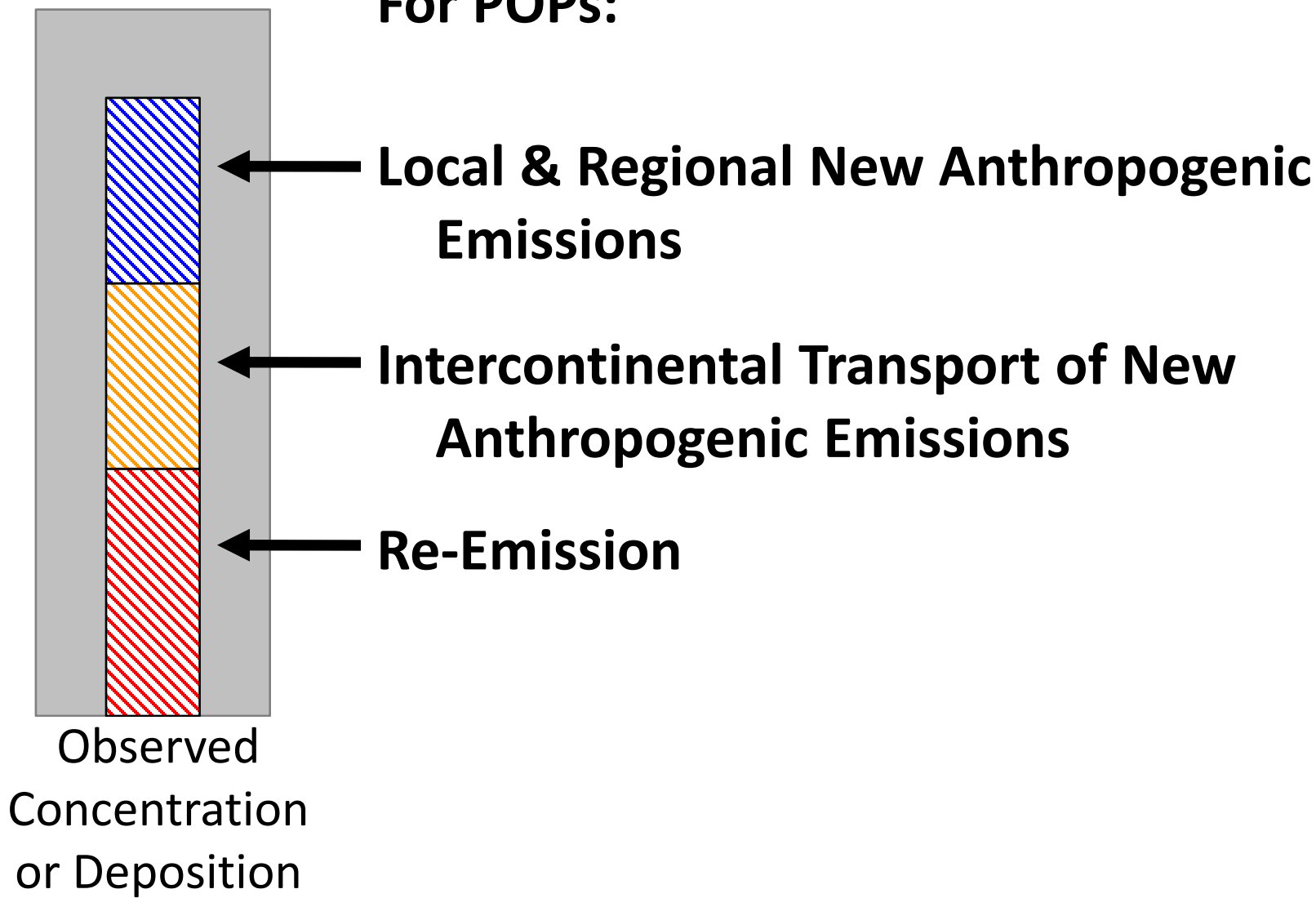


Source Apportionment



Source Apportionment

For POPs:



Methane Message

- methane is an important precursor for tropospheric ozone
- the ozone benefits of methane reductions are global, do not depend on location of emissions, and take a decade to be fully realized.
- globally, many methane emission reductions are available at a low cost or net savings
- global methane trends can offset reductions of other ozone precursors at the regional scale
- recognizing that methane is being addressed under the UNFCCC, the LRTAP Convention should consider means of addressing methane as an ozone precursor within the context of the Convention



Black Carbon Message

- mitigation of BC will lead to positive regional impacts by reducing BC deposition in areas with snow and ice
- EB should consider the advantages of integrated air quality and climate policies. Climate and air quality are inextricably linked, and strategies devised for one will likely impact the other
- while it is clear that BC emission reductions would be expected to provide important health and climate benefits, there is substantial room for improving the knowledge base with respect to emissions and impacts
- combined, the regional climate impacts and the known health benefits that would accrue to UNECE region by reducing particulate matter (PM) justify the EB considering options to mitigate BC as a component of PM when making revisions to the Convention's 1999 Gothenburg



Black Carbon Message - continued

- recommendations for implementation in LRTAP 2011 workplan (EMEP, WGE, HTAP)
- BC emission from shipping in the Arctic may increase by a factor of two to three by 2050. This may have a significant impact on the Arctic environment. This issue is presently under consideration in the International Maritime Organization. Although emissions from international shipping are not included in the work under the Convention, EB could consider informing the IMO about its concern about the effects of BC on the Arctic
- Also suggested are possible outreach activities (e.g., capacity-building and cooperation on monitoring, developing emission inventories, and mitigation measures) to **non-UNECE countries**, countries with economies in transition, and countries preparing to ratify the Gothenburg Protocol.



Black Carbon Message – related to GAINS

- Near-term forcing and carbon deposition to the Arctic could be included as an additional effect of air pollutants into the existing GAINS multi-pollutant/multi-effect framework
- Suggested metrics:
 - Instantaneous radiative forcing at the regional/global scale
 - Carbon deposition to the Arctic
- A prototype version of GAINS is currently being developed
- In a first step, such information could be used to prioritize reductions of precursor emissions to reduce PM_{2.5} levels



Decisions adopted by the LRTAP Executive Body at its 28th session in 13-17 December 2010 with respect to black carbon (BC), SLCFs and HTAP

- i) revised (extended) mandate for the Task Force on Hemispheric Transport of Air Pollution TF HTAP; transport of air pollution across the northern hemisphere and its regional impacts considering both air quality impacts and those on climate (near-term climate effects); BC as part of PM**
- ii) inclusion of BC into the process of the revision of the Gothenburg Protocol as a component of particulate matter**
- iii) inclusion of further work on SLCFs: BC, tropospheric ozone (and its precursors including carbon monoxide) and methane into the Convention workplan for 2011 and in the following years**



Selected items from the Long-term Strategy of LRTAP Convention – (Air Convention)

- Importance of co-benefits in combating
 - i) climate change and air pollution, with short-term focus on short-lived climate forcers (black carbon, ozone) and
 - ii) air pollution and biodiversity loss;
- Strengthen links with UNEP Conventions (Stockholm Convention, CBD, future instrument on mercury) and IMO (International Maritime Organisation e.g. for ship emissions);
- Strengthen international collaboration including more active involvement in activities by EECCA and SEE countries, outreach activities and **further inter-regional collaboration**



Summary

- Long-term Strategy of the Convention will set priorities for the next 10 years and beyond
- TF HTAP and BCEG bring new important messages with respect to intercontinental transport, methane and other ozone precursors, BC and other SLCFs
- There is a need for interregional and inter-institutional cooperation to effectively combat air pollution problems



Thank you very much!

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http://www.unece.org/env/lrtap/lrtap_h1.htm

