# Some issues emerging from recent CIAM activities

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science for global insight

# Drastic changes in emission inventories for 2005 between 2012 and 2014 submissions
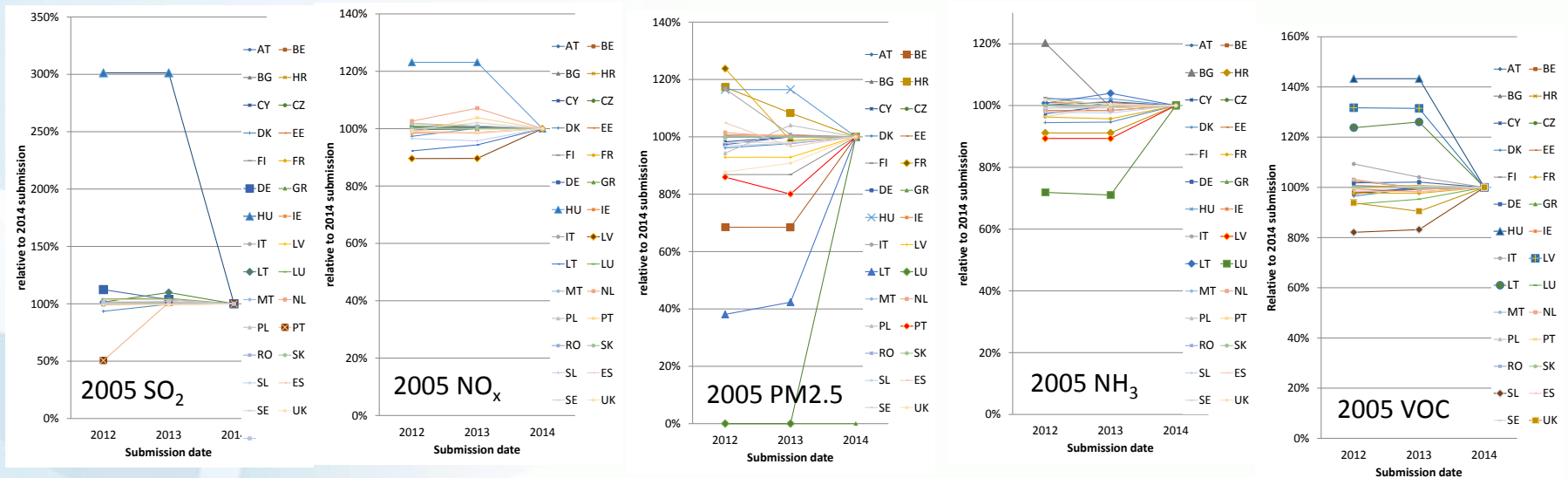
- Bilateral consultations with 29 countries on GAINS input data

- Focus, i.a., on emission inventories for 2005

- Striking changes between national submissions 2012 – 2014

Frequent differences between national inventories with important consequences on cost-effective allocations
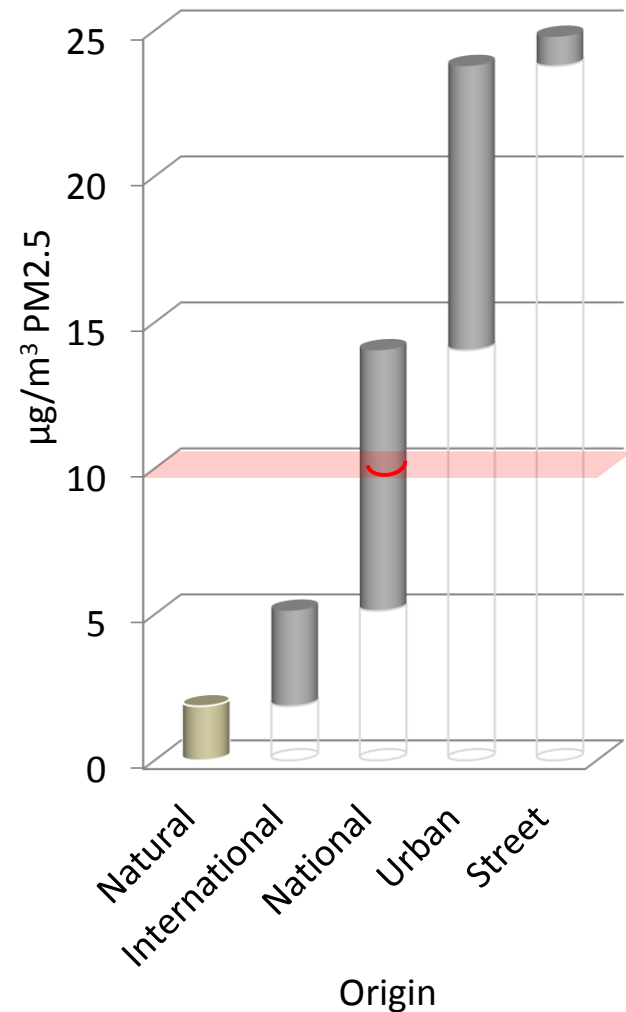
- Different tiers

- Some - but not all - countries include PM condensables

- Missing sources (open burning of agri waste, etc.)

- Completeness and quality of non-road mobile machinery

- Coastal (national) shipping

Origin of PM2.5 - 2009
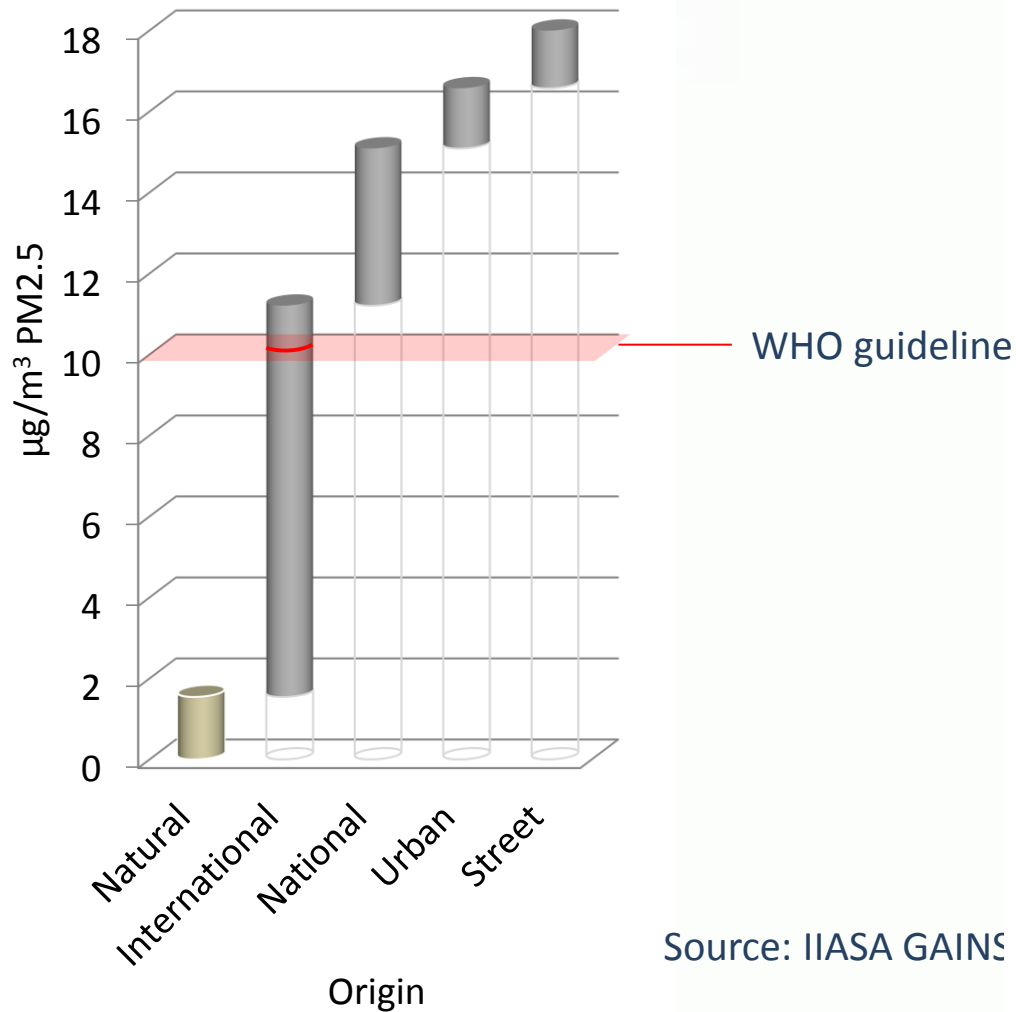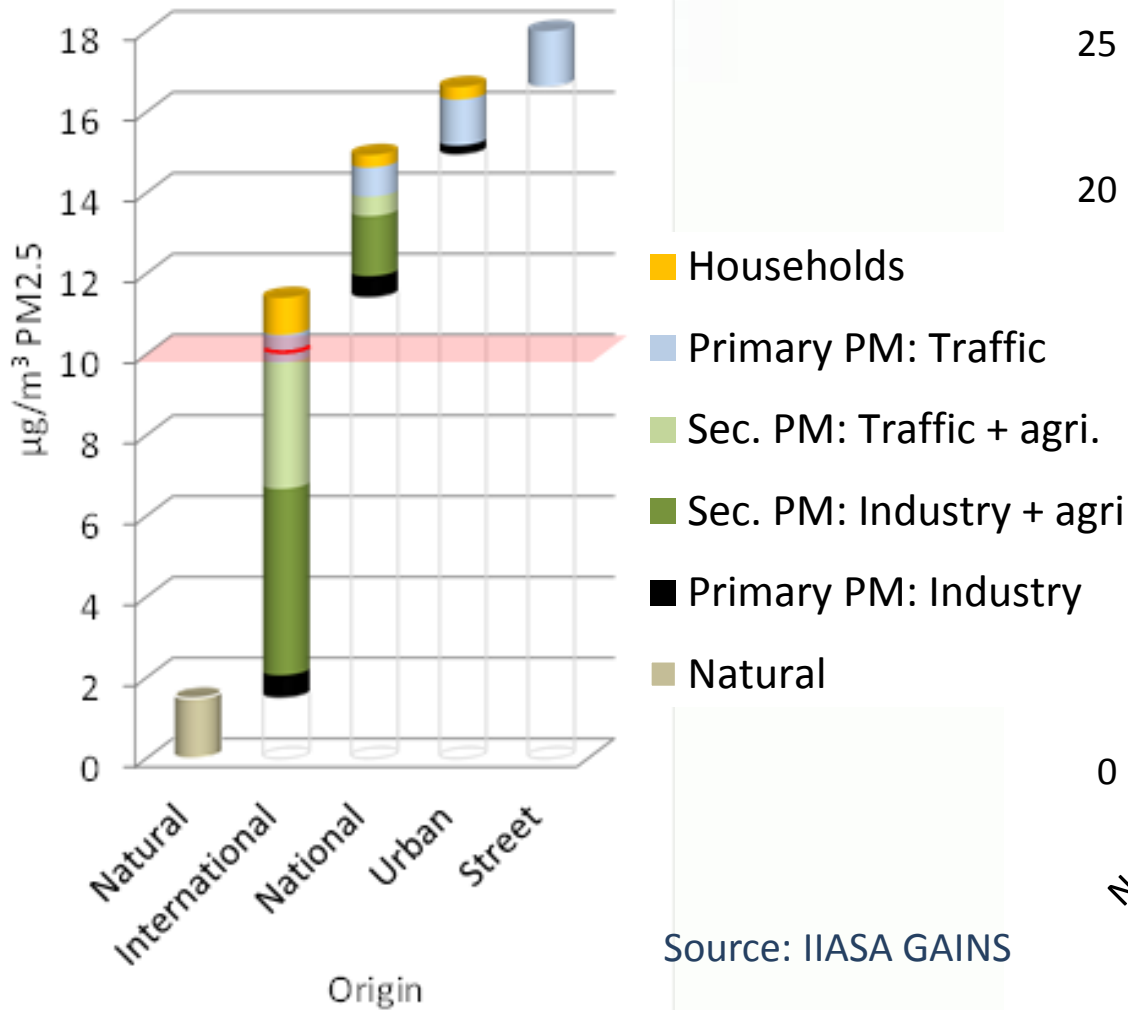

Netherlands
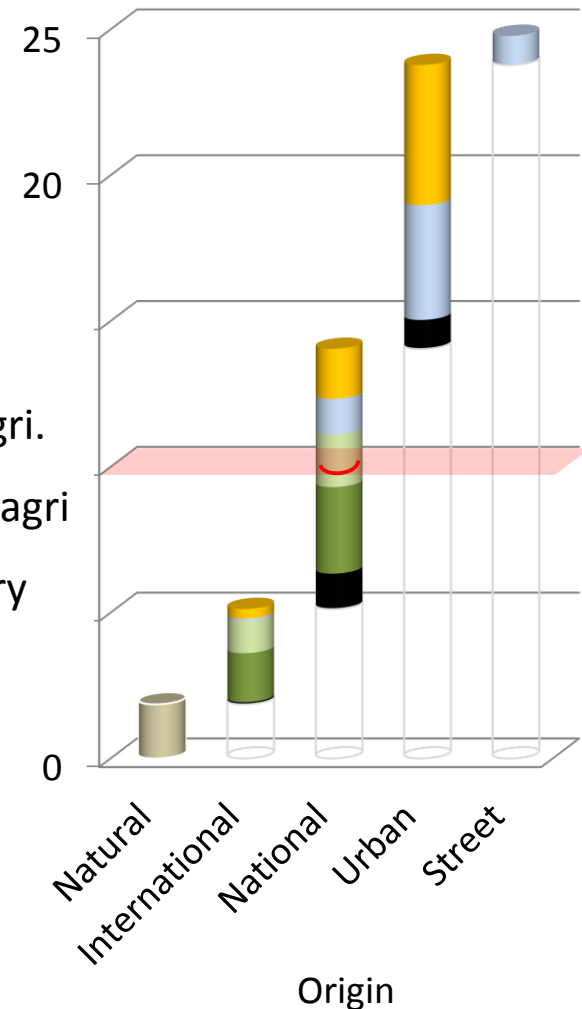average of the urban AIRBASE stations

Lyon, Centre Ville

Source: IIASA GAINS

Origin of PM2.5 - 2009
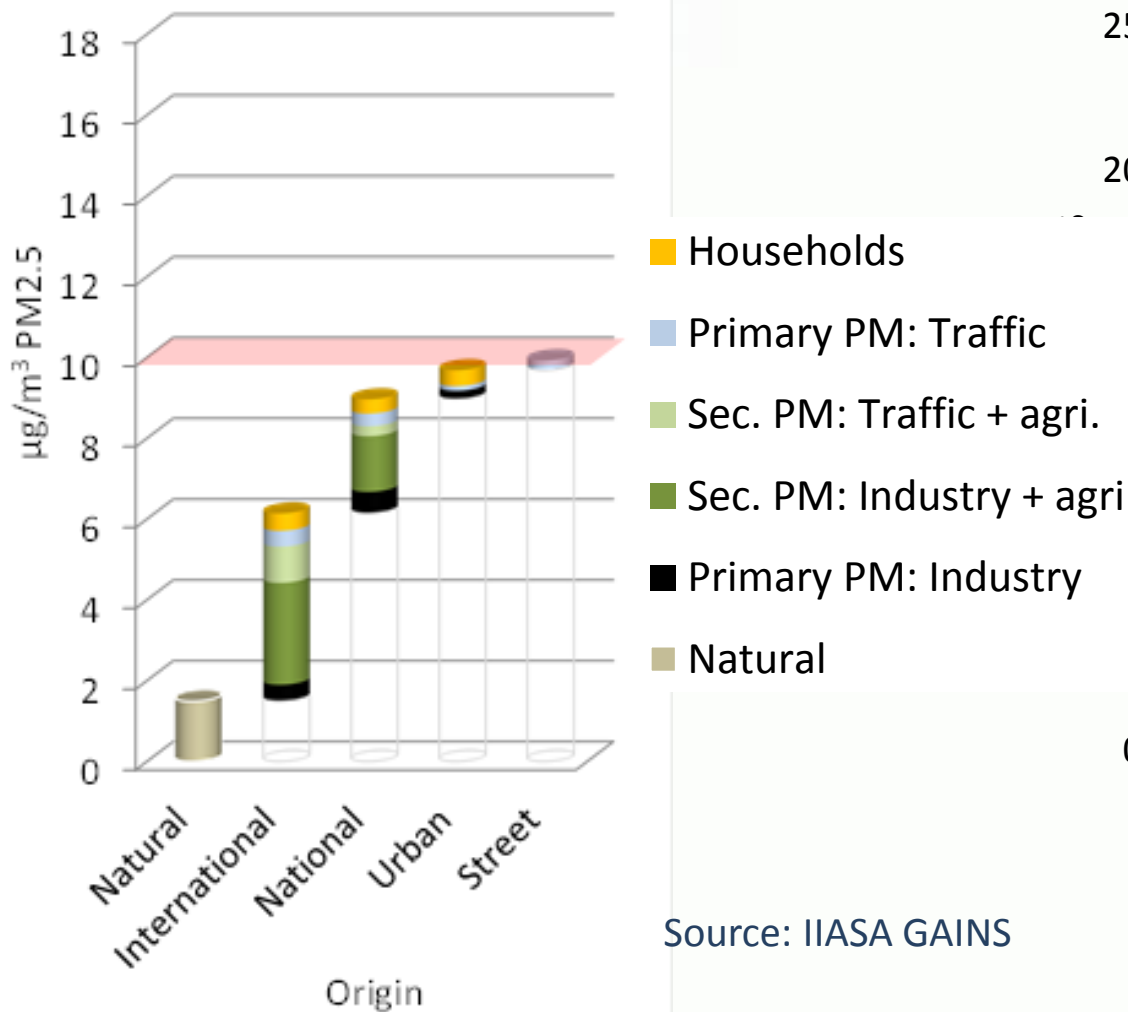

Netherlands
average of the urban AIRBASE stations

Lyon, Centre Ville

Source: IIASA GAINS

PM2.5 in 2030: Commission proposal

Netherlands
average of the urban AIRBASE stations

Lyon, Centre Ville

Legend:
- 🟨 Households
- 🟦 Primary PM: Traffic
- 🟩 Sec. PM: Traffic + agri.
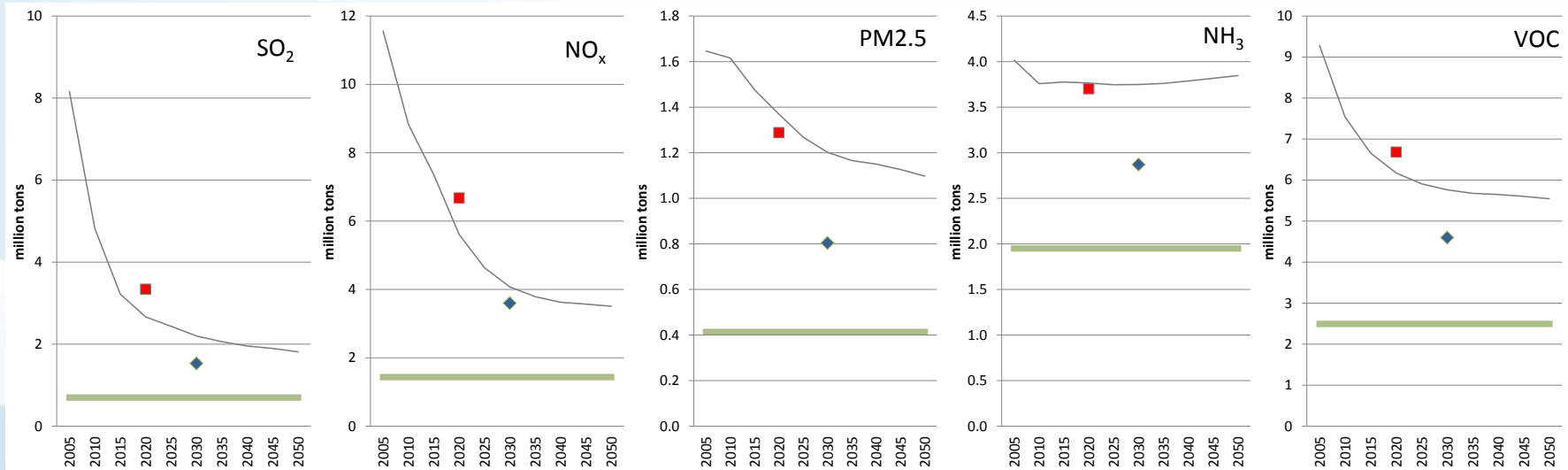- 🟩 Sec. PM: Industry + agri
- ⬛ Primary PM: Industry
- ⬜ Natural
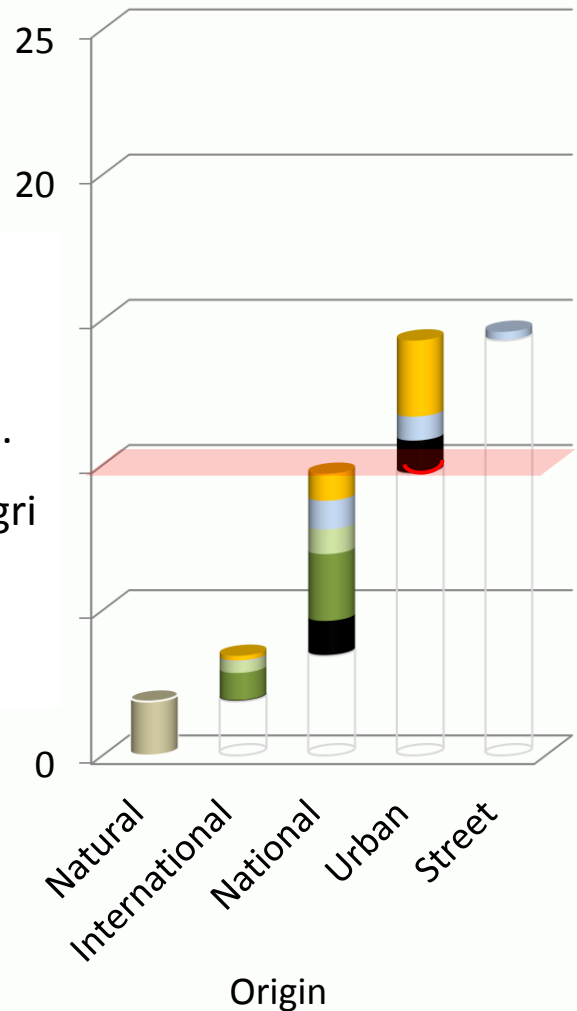
Source: IIASA GAINS

Are we on track towards sustainability?

Legend:
— Baseline with current legislation
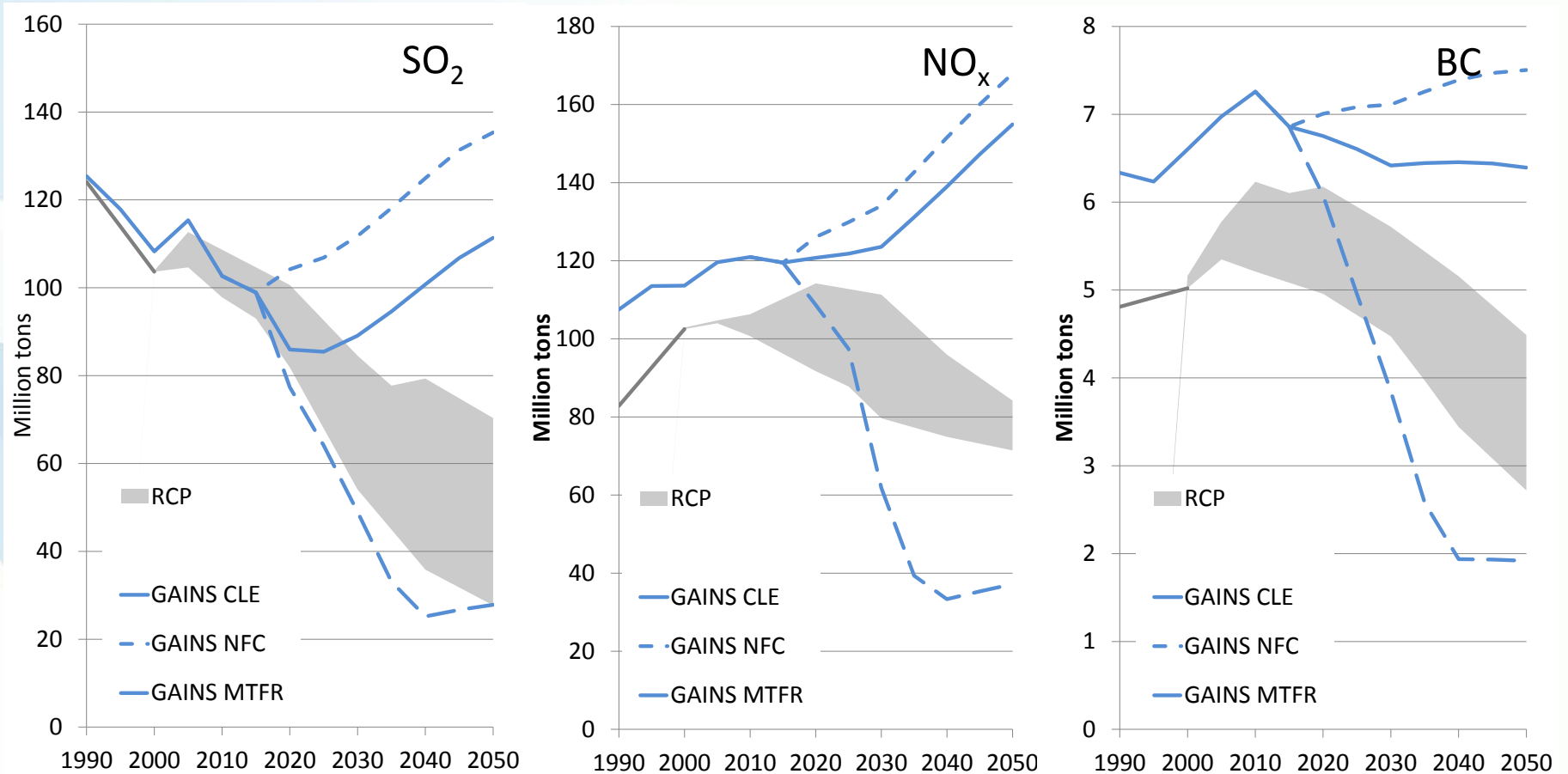■ Gothenburg ceilings
◆ Proposed NEC ceilings
▬ Illustrative low emission set

While the proposed NECs are important milestones,
long-term sustainability will require further policy interventions

Range of future global emissions
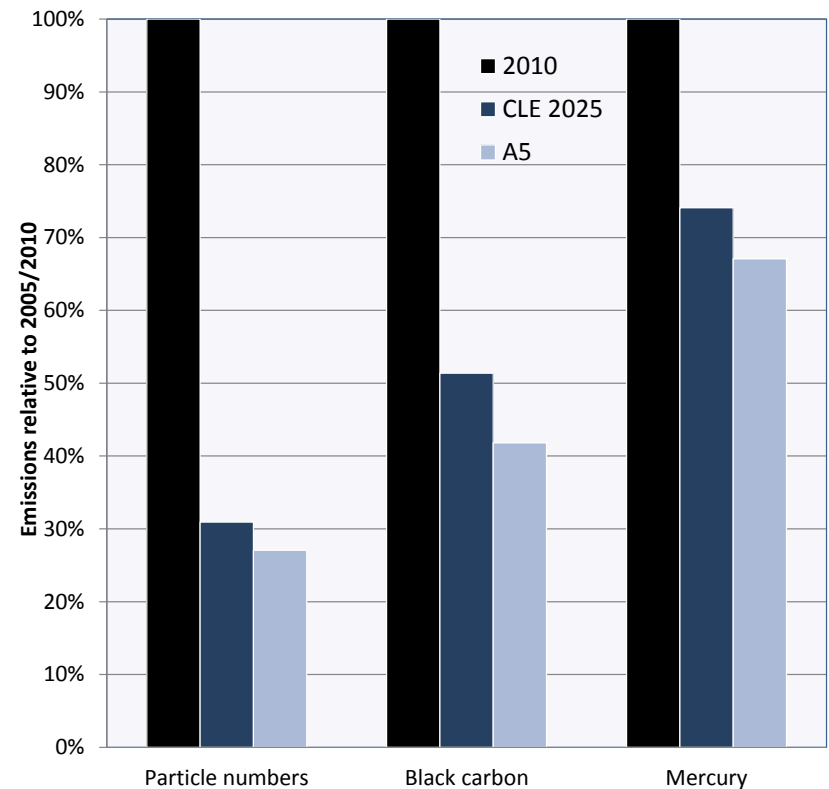## HTAP/GAINS policy scenarios vs RCP

PN, BC and Hg emissions are now included in GAINS

- Measures of the A5 scenario also reduce

  - PM2.5: -50%

  - Particle numbers: -73%

  - Black carbon: -58%

  - Mercury: -33%

Conclusions

- Quality of emission inventories is critical for cost-effectiveness approach. Are current quality control procedures sufficient?

- Source allocation of PM2.5 and NO_2 at local scale is essential for raising public understanding of the need for international cooperation to solve even local problems

- Future air quality will be critically determined by additional policy interventions. Long-term sustainability requires further reductions beyond the Gothenburg ceilings.

- Proposed strategies targeted at PM also reduce PN, BC and Hg