

Main messages from TFIAM 51

TFIAM co-chairs – 8 April 2022

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- 1) GAINS projections 2030-2050 produced (and the years in between); country data to follow → ppt CIAM. TFIAM participants wish to have the country data made official as soon as possible. Computations of optimised emission control scenarios have been initiated and will be presented in September (for EU-27).
- 2) EECCA and West-Balkan projections show high pollution levels, in these regions there is also largest mitigation potential. Draft city-source apportionments have been drafted for the regions.
- 3) Further reduction of exceedances of WHO-AQG & critical loads requires more efforts ... at international and local level ... and it is important to also remember the emission reduction potential for shipping and shipping ports.
- 4) Known emission reduction measures are still available on international, national, and local levels. Important with improved representation of spatial distribution of shipping emissions and actual and future shipping propulsion technologies.
- 5) The low-emission scenario for 2050 includes changes in energy system and agriculture (NH₃), and seems to be sufficient to meet >90% of the environmental targets and WHO 2021 AQG (in EU27 and West Balkan) and some ~50% for EECCA and Turkey.
- 6) A consistent database for condensable PM emissions is far gone in its development. Using this database will likely increase PM-exposure in some regions compared to reported emissions. Further analysis of implications in relation to emission reduction obligations will have to follow.
- 7) Global methane reduction is needed (in addition to Nox/VOC in UNECE) to reduce groundlevel ozone in UNECE
- 8) WHO can't exclude impacts below AQGs, nor different toxicity of PM_{2,5}-subspecies, but these are still too uncertain to quantify sensitivity analyses / European guidance needed!
- 9) Several experts expressed interest in inventory of good practices on measures to stimulate behavioural change
- 10) Several experts expressed interest in further co-operation with TFHTAP and TFICAP.
- 11) Uncertainties/robustness analysis should be addressed if a revision of the Gothenburg protocol is initiated.
- 12) ON the basis of the above, TFIAM concludes that a large amount of the questions asked by the GPG group has been answered (in some cases preliminary).

GPG questions on scenarios (3.1)

1. What are the latest **emission projections**, compared with the latest GAINS-scenarios (including recent climate, energy and agricultural policies and new source legislations)? **Are emission reduction obligations adequate for meeting long term environmental and health protection targets?** What will be the outcomes for health risks from ozone and particulate matter and for nitrogen deposition in 2030 and 2050.
2. Will implementation of **MTFR** be adequate for meeting long term environmental and health protection targets of the protocol beyond 2020?
3. What would be the **optimized emission reduction obligations**, given the updated emission inventories and projections for 2030 in comparison to the emission reduction commitments in the amended Gothenburg Protocol for 2030
4. What would be the impact on emissions reductions of **climate and energy measures** in the long term (2030-2050)? What would be the impact of new policies and measures on **nitrogen** management, biodiversity, bioeconomy, etc.

GPG questions on black carbon, condensables and methane (4-6)

1. What are best available techniques to reduce **black carbon emissions**?
2. What is the contribution of **condensables** to the population exposure and total health impacts?
3. What will be the impact of the inclusion of condensables in particulate matter emissions for residential heating, national emission trends and effectivity of abatement measures?
4. What is the difference between optimized emission reduction allocations with and without particles from condensables?
5. What is the projected future trend in **methane** emissions and subsequent improvements in ozone exposure and human health and ecosystems impacts?
6. What is the contribution of existing and new climate policy on methane emissions? What are the (best) available emission abatement techniques?