



TFIAM-CIAM

Recommendations from the “Policy brief on potential targets to reduce risks for health and ecosystems”

Simone Schucht for the TFIAM/CIAM team

TFIAM/CIAM Policy brief on potential targets to reduce risks for health and ecosystems

- An informal document to be updated throughout the GP revision process & reflecting CIAM modelling work
- Requested by WGSR-61 and EB-43
 - Assess the feasibility of an overarching risk-based goal for the Convention covering all air pollutants and impacts on health, starting with an indicative 50% reduction target
 - Cover also the risks of biodiversity loss and explore the potential of staged/phased strategies
- Timeline
 - Version 1 at [EB-43](#)
 - Version 2 at [WGSR-62](#)
 - Version 3 [now available](#), to be submitted to EB-44 (with Russian translation)

A compilation of the comments received is available on the [TFIAM website](#)

Contents of the Policy Brief

- Overview of policy scenarios
 - Baseline climate, energy, and air pollution scenario
 - Maximum Technically Feasible (MTFR) air pollution control scenario
 - Combined advanced climate/energy/dietary scenario + MTFR = LOW
- Scenario impacts for health and ecosystems
- Options for policy targets
 - Health PM_{2.5} (UNECE)
 - Ozone concentrations (UNECE)
 - Reduction of biodiversity risks (UNECE excl. NA)
 - Inclusion of sectoral staged approaches - “flexibilities” (current non-parties)
- Conclusions

Conclusions of the Policy Brief

- Health PM_{2.5} targets
 - The indicative 50% target appears feasible at the UNECE level, but not for each country (gap closure approach proposed)
 - Target for the whole region more cost-effective than country level gap closure
- Pursuing climate and dietary change policies appears essential
 - Ambitious LOW scenario could get us 'half-way' and reduce ten-fold the additional air pollution costs
- A 50% health target for O₃ is more challenging
 - Current air pollution policies (BL) are largely offset by the global increase in methane emissions
 - Feasibility of the target is more dependent on global cooperation to reduce ozone precursors (NO_x, NMVOCs, CH₄)
- Biodiversity
 - Initial assessment shows that the attainability of 50% reduction in Average Accumulated Exceedance (AAE) for ecosystems differs across regions and between ecosystems types

Conclusions from exchange with Parties and experts on parameter choices for the ongoing CIAM modelling

- Assess least-cost solutions (=optimize) for 2040 relative to 2015

(2005 would be without ambition for some countries, and EECCA region lacks data for 2005; 2050 too far away; results will be presented in 5-year steps between 2015 and 2050)

- Optimize reaching targets cost-effectively across the UNECE and through equal relative improvement in each country

(Meeting a target is easier for a larger region; considering equal relative improvement by country brings in an egalitarian element)

- Optimisation based on risk-based indicator “deaths per 100,000 inhabitants” and dynamic population

Note: WHO seems in favour of excluding demographic change from assessments

- Focus on anthropogenic (the avoidable) $PM_{2.5}$

- Present results for different health metrics (premature deaths, YOLL and morbidity indicators)

- Use the indicator Average Accumulated Exceedance (AAE) for nature protection, with optimisation for minimum and average empirical critical loads

Issues still to be investigated

- Optimization for nature protection
- O₃ health to be included in 2025
- The possibility for a combined PM_{2.5} & O₃ target for health will be explored in 2025
- Further sensitivity scenarios are planned for 2025
 - Impact of targets for marine ecosystems, impact of N management policies, ...
 - Inclusion of further equity criteria
 - Investigation of alternative mortality indicator (PAF) => this indicator is currently not discussed by WHO
- Ex-post analyses, also by other expert groups
 - E.g., implications of scenario results for black carbon
- Exploration of reduction targets higher than 50%

Need for feedback and interactions

- Indicative results for possible implications of staged approaches included in the Policy Brief
 - Guidance is still needed from EECCA/WB/Türkiye to focus further assessments
 - Workshop planned in 2025 (31 March – 2 April 2025) back-to-back with annual TFIAM meeting (3-4 April 2025)
- Inclusion of further equity criteria – WGSR feedback welcome
- Frequent interaction between WGSR and modellers needed
 - Improve mutual understanding of the complexity
 - Jointly develop a scenario that can be used as fair basis for the actual negotiations
 - WGSR is invited to give guidance on the choices to be made in modelling

Further considerations

- Health impacts from NO₂ will not be part of the target setting – but will be assessed ex post
 - Possible overlap in health impacts related both to exposure to PM_{2.5} and to NO₂
 - Simplify communication
 - Avoid further complicating GAINS modelling
- All parties of the GP should contribute to improving air quality
 - GP is a collective effort
 - If some parties do less, will other parties then do more to meet the collective risk reduction target?
 - There are likely health effects below WHO guidance levels

Thank you!

TFIAM co-chairs

Stefan Åström (Sweden) Stefan.Astrom@anthesisgroup.com

Simone Schucht (France) simone.schucht@ineris.fr

CIAM head & deputy head

Zbigniew Klimont klimont@iiasa.ac.at

Gregor Kieseewetter kiesewet@iiasa.ac.at

Special consultant

Rob Maas rob.maas@rivm.nl

Presentations and conclusions from TFIAM and EPCAC meetings found at:

[Task Force on Integrated Assessment Modelling \(TFIAM\) under the LRTAP Convention - TFIAM – IIASA](#)