

Conclusions from TFIAM 51 and an overview of the COI-report

Stefan Åström, co-chair TFIAM, 2022-04-12

TFIAM 51

- 143 registered participants,
- Main items covered:
 - Review of the Gothenburg Protocol,
 - Other elements of the TFIAM work plan 2022-2023,
 - Other results of integrated assessment modelling
- Recommendations, suggestions, conclusions
 - To be given orally

WP item 2.1.5 –

Report for policymakers on the costs of inaction on air pollution

Question #1:

Can we confidently estimate welfare effects of poor air quality?

Question #2:

How high are the damage costs when we don't take action on air pollution?

Question #3:

Are these damage costs expected to go up or down in the future?

Question #4:

How can we further reduce the costs of inaction?

Question #5:

Will human welfare improve if we do more?

Approach

- Summary of existing literature published before May 2021
- Complementary calculations with the GAINS model and ARP model for the countries not covered in the literature but included in the GAINS v.3 Europe.
- Two cost sets are calculated for the countries and regions:
 - Within country-comparison:
Income-adjusted cost used for comparing costs of inaction to GDP,
 - Between country-comparison:
Absolute costs are based on average values for UNECE-Europe

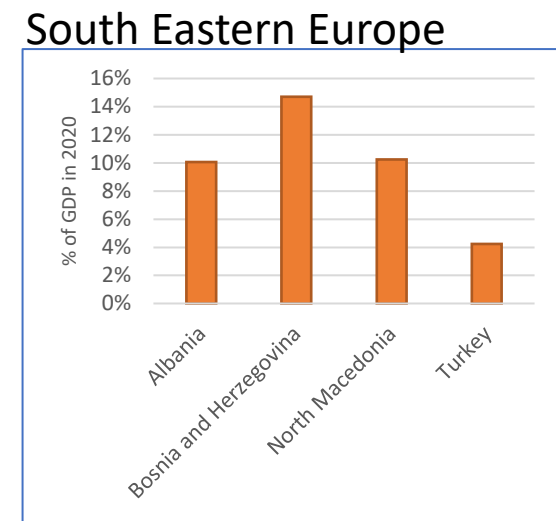
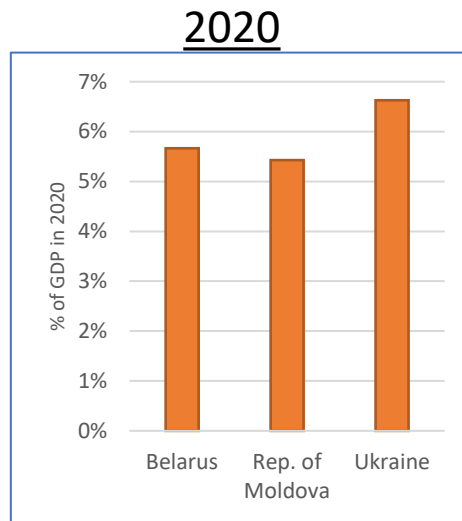
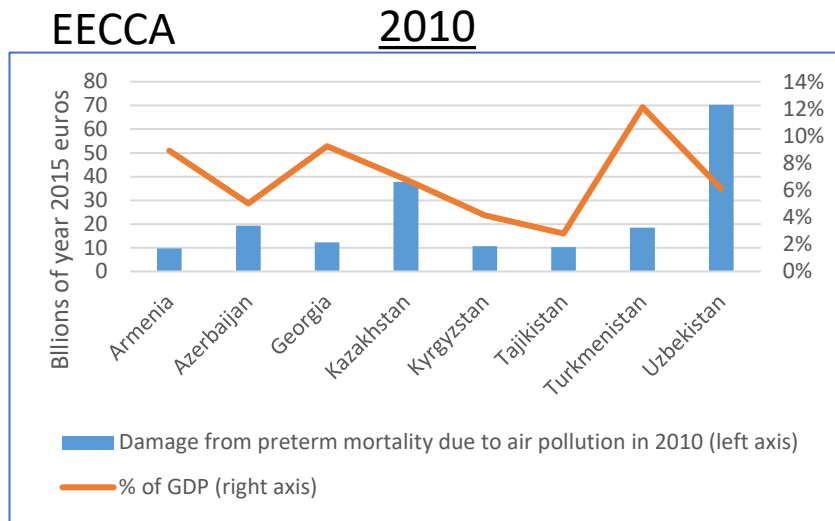
Can we confidently estimate welfare effects of poor air quality?

Yes!

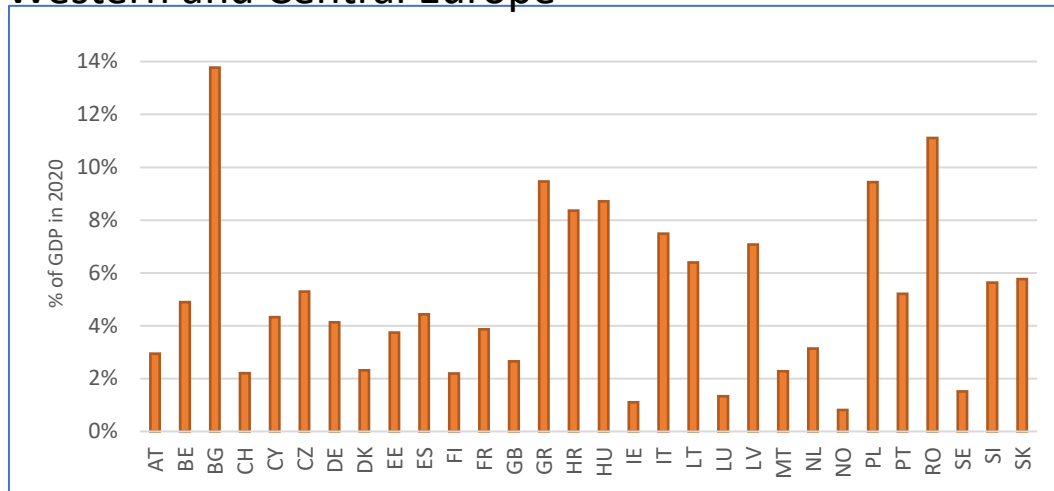
We are confident in the data and method used to calculate welfare effects.
We are confident that published values are underestimations.

- Numerous studies on costs of inaction have been published in peer-reviewed journals.
- The impact pathway approach is well developed for Goth. protocol air pollutants,
 - Emission dispersion is well known,
 - Many health effects and environmental effects are well quantified,
 - Economic effects are calculated for a significant subset of the known health effects and some of the environmental effects,
- More economic research is needed to reach completeness.

How high are the damage costs when we don't take action on air pollution?



Western and Central Europe

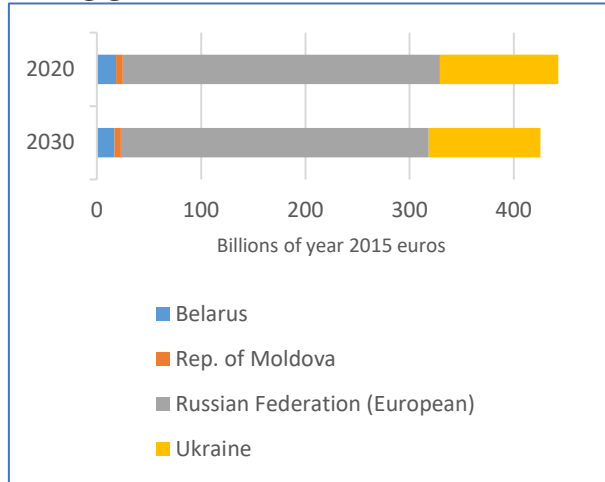


North America

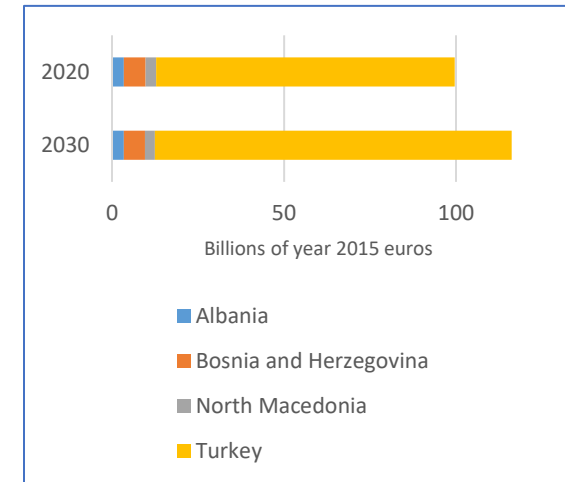
Country	Year	Damage	% of GDP	Included effects; chosen metric for valuation (if available)	Source
US	2010	150	1%	Mortality, morbidity; VOLY	Im et al., 2018
US	2011	510	3%	Mortality; VSL	Goodkind et al., 2019
US	2014	340	2%	AP3 IAM model	Tschofen et al., 2019
US	2005	>980	>7%	Mortality, morbidity	Fann et al., 2012
Canada	2008	6.7	0.5%	Mortality, morbidity	Canadian Medical Association, 2008
Canada	2015	27	2%	Mortality and morbidity; VSL	Smith&McDougal, 2017

Are these damage costs expected to go up or down in the future?

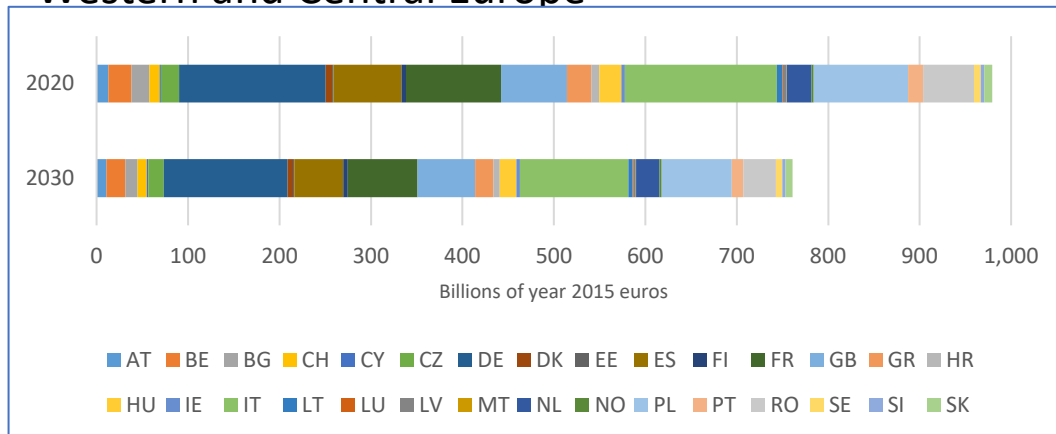
EECCA



South Eastern Europe



Western and Central Europe

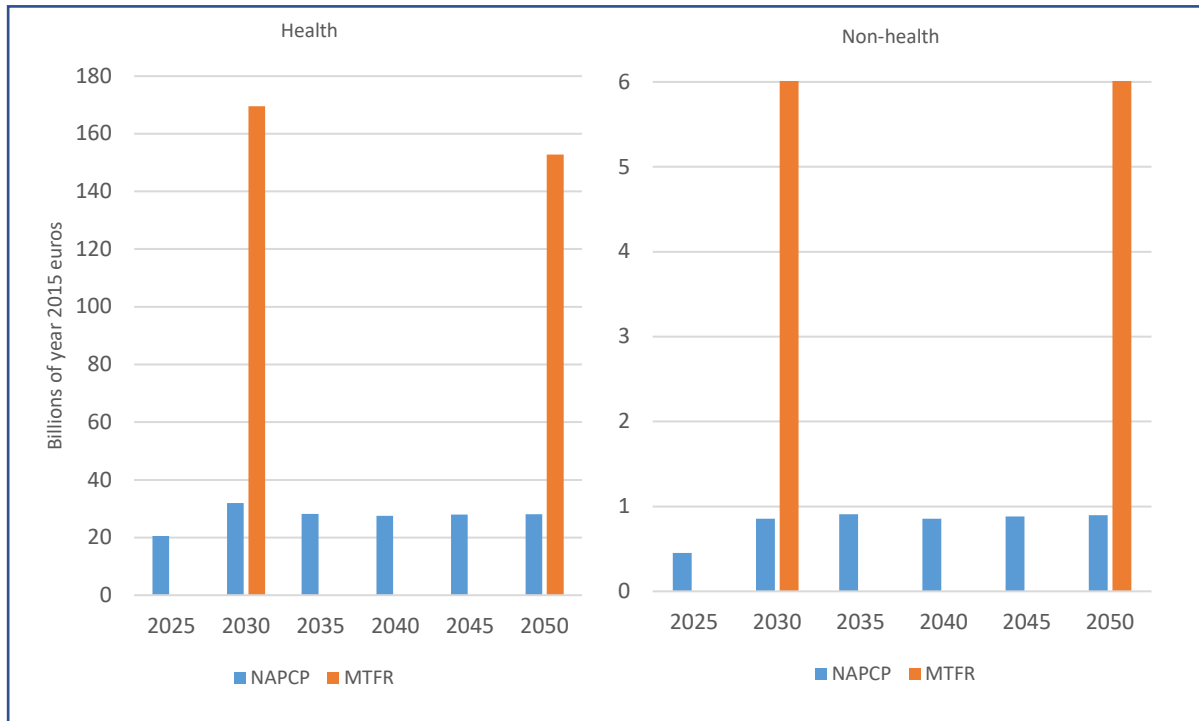


North America

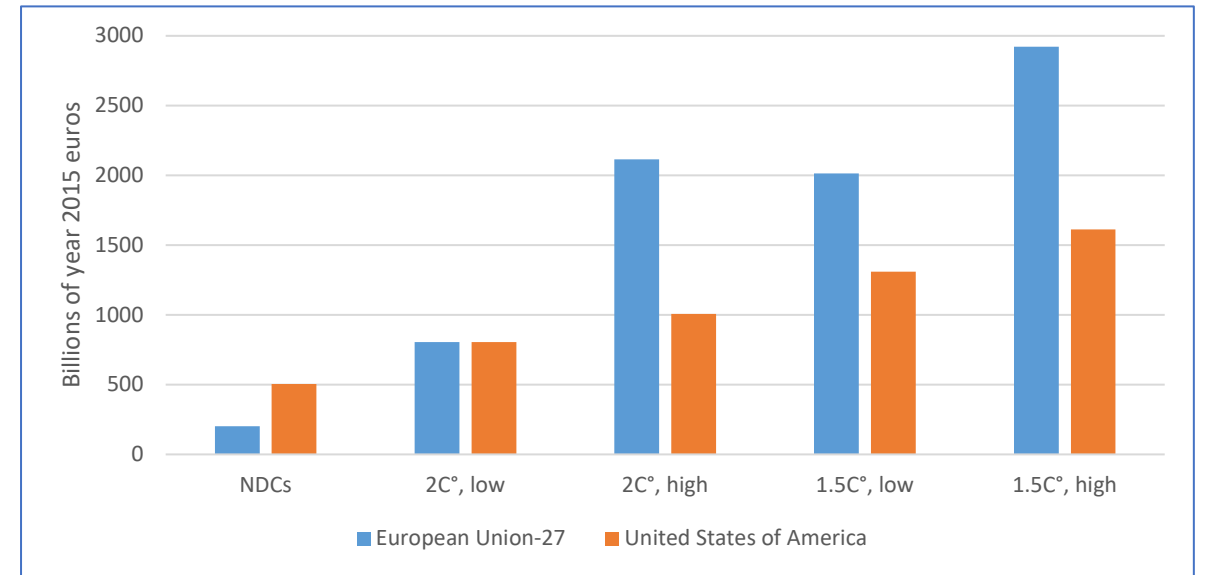
No consistent information found

How can we further reduce the costs of inaction?

Dedicated air pollution control, example from EU

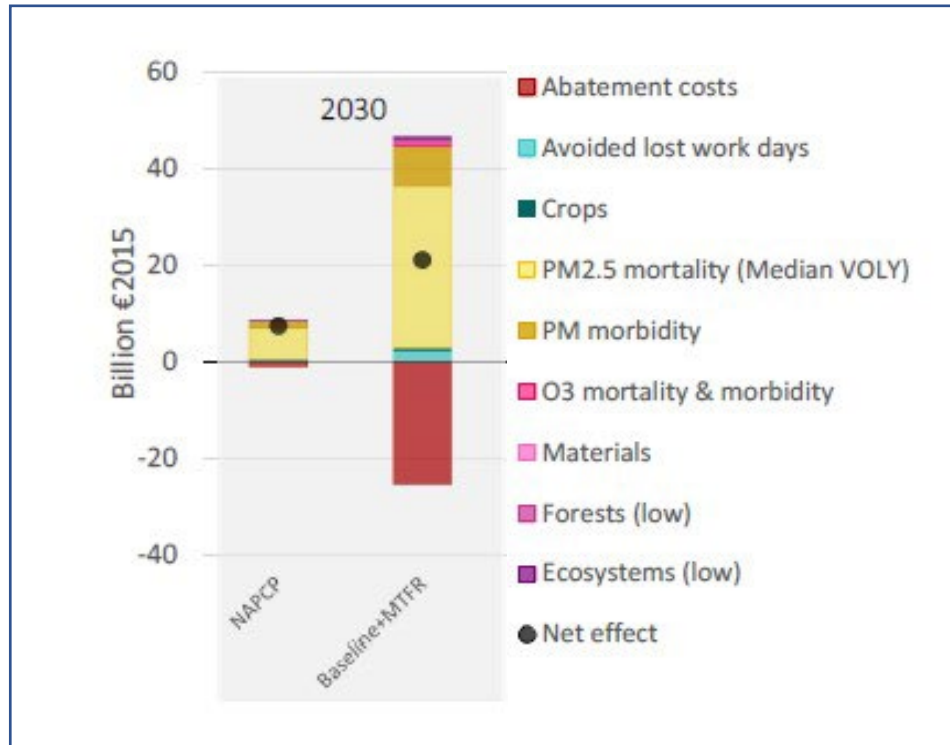


Climate control co-benefits (example from EU and United States)

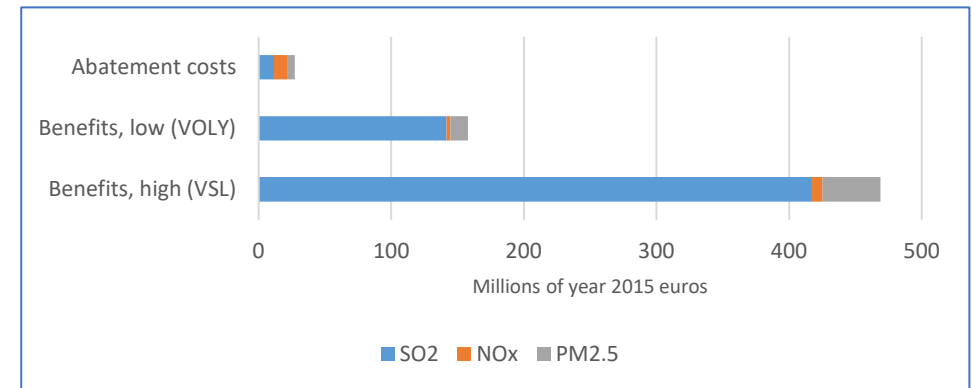


Will human welfare improve if we do more?

Cost-benefit assessment for the EU-27 relative to the baseline



Costs and benefits of installation of cleaning technologies at Apatity coal plant



Received comments

- Comments received from the EU and its member states (17 March 2022)
- These comments are currently being incorporated into the next version of the report

Thank you for your attention

Draft report available in English, French, and Russian at:

<https://unece.org/environment/documents/2022/02/working-documents/cost-inaction>

If you have, please send comments to :

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katarina.yaramenka@ivl.se

DEADLINE: 13th of June 2022