



Priority sectors, reduction potential and cost-effectiveness

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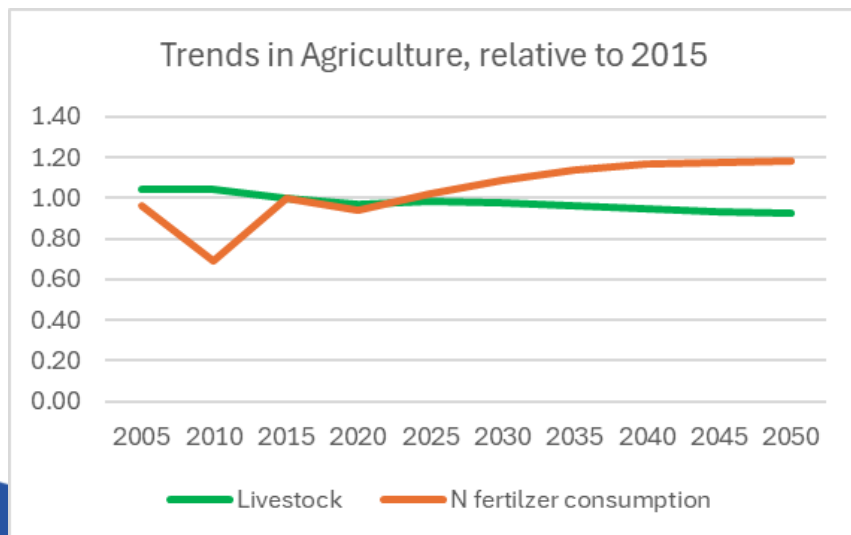
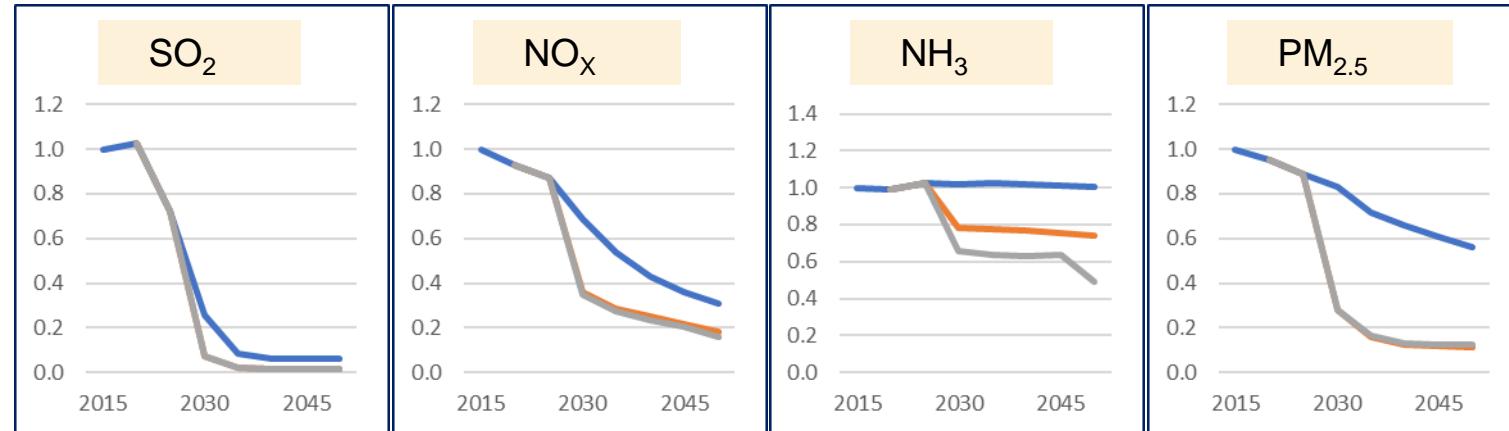
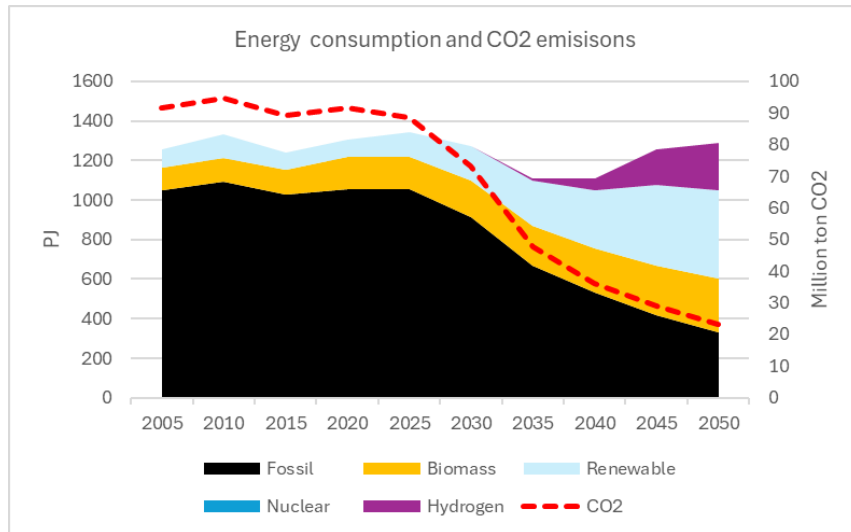
- Scenarios for GP revision
- Assessment of feasibility reaching the targets
- Source attribution
- Initial analysis of staged/phased approaches strategies

Scenarios for GP revision – updated compared to 2022 GP review

All scenarios for air pollutants and methane up to 2050

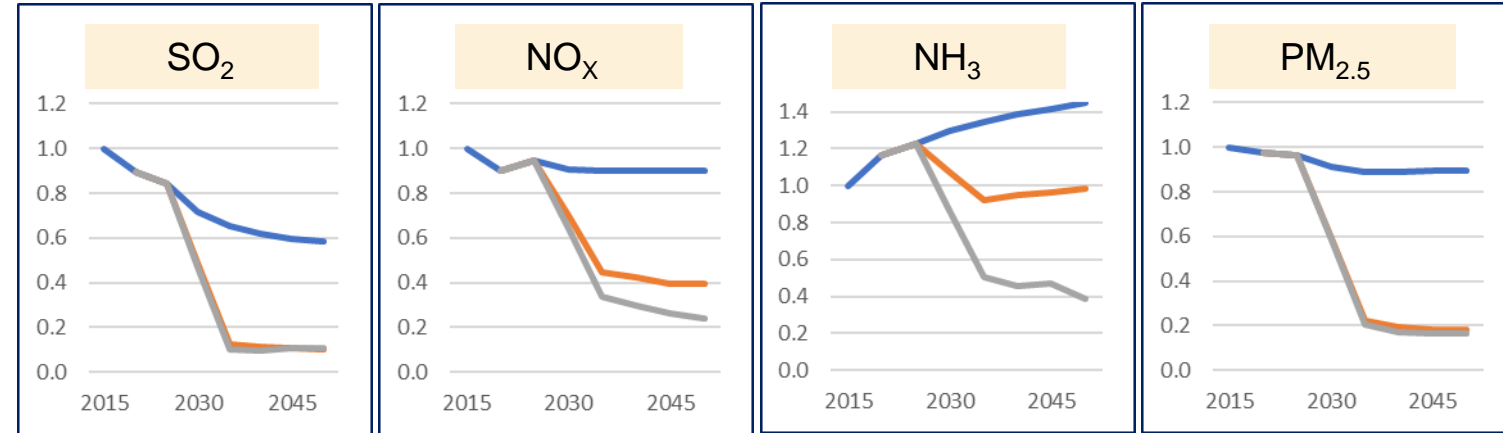
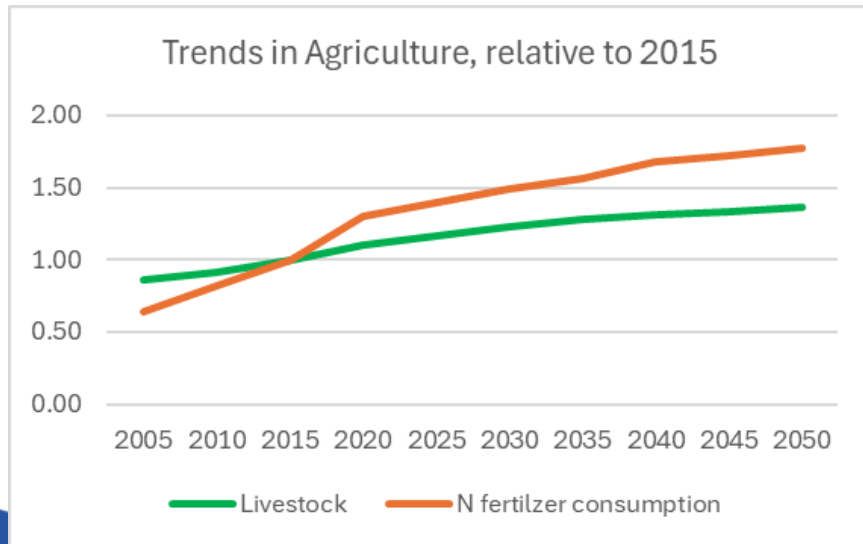
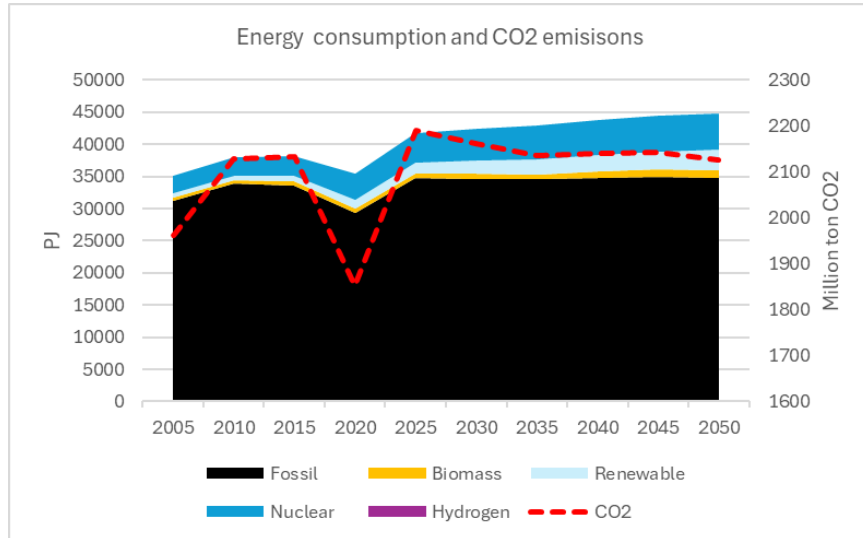
- **Baseline, MTR**
 - West Balkan
 - Modelling tools as for the EU to develop energy and agriculture projections (PRIMES, CAPRI),
 - Energy scenario includes decarbonization targets and compliance with the Energy Community agreements,
 - Consultations with all countries (EU4Green project), including GAINS application to analyse cost-effectiveness
 - Moldova, Ukraine, Georgia
 - Modelling tools as for the EU to develop energy and agriculture projections (PRIMES, CAPRI),
 - Consultations with Moldova, including GAINS application to analyse cost-effectiveness
 - Remaining countries
 - Analysis of national submissions, reports, international statistics,
 - Projections updated using trends from the recent IEA (WEO, 2023) & FAO (FAO, 2018) outlooks for energy and agriculture
- **LOW** – *includes more ambition for climate and agriculture (update ongoing)*
- **Significant benefits from consultations! Need further engagement on both sides**

West Balkan – Key activity and emissions



- Baseline includes an ambitious energy transformations resulting in over 70% reduction of CO₂ emissions
- Jointly with announced air quality legislation, baseline emissions show strong decline, except ammonia
- Apart from importance of enforcement of existing legislation, further emission mitigation potential exists

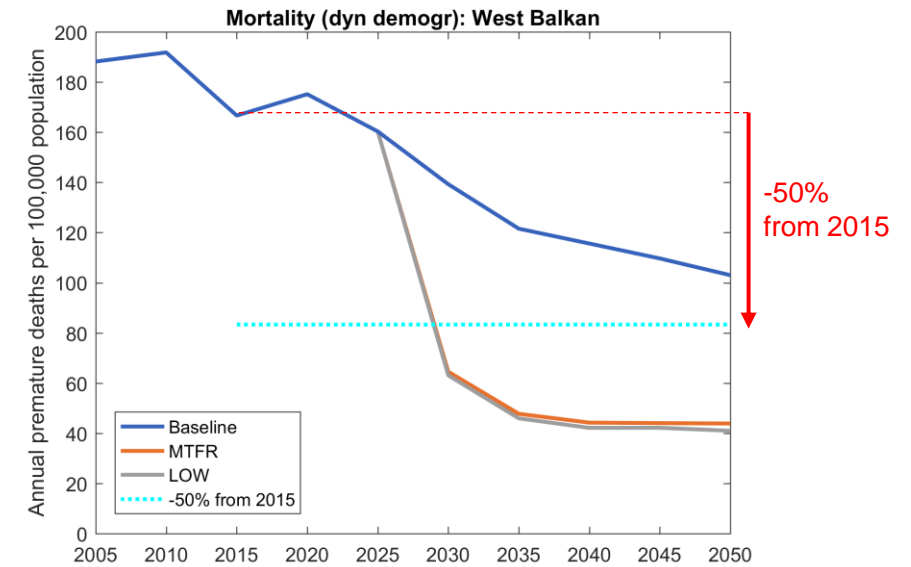
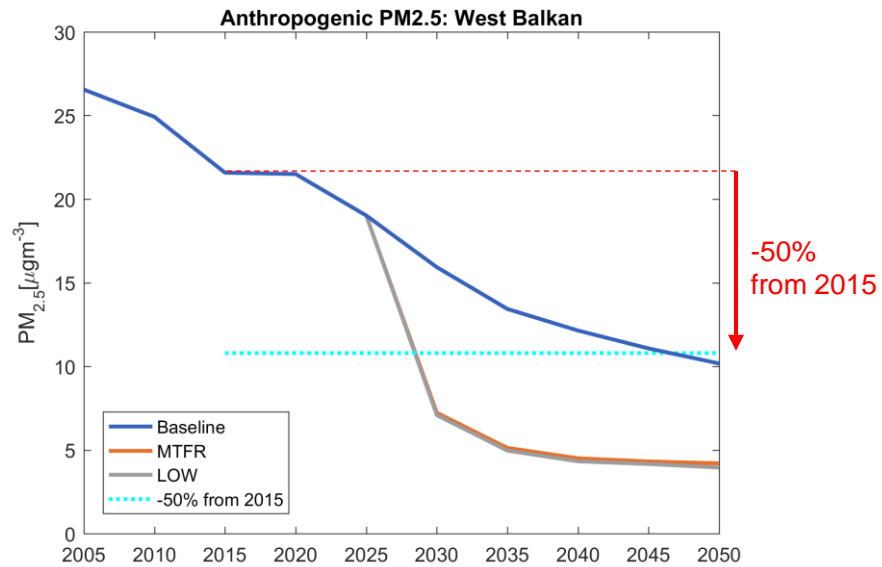
EECCA+Türkiye – Key activity and emissions



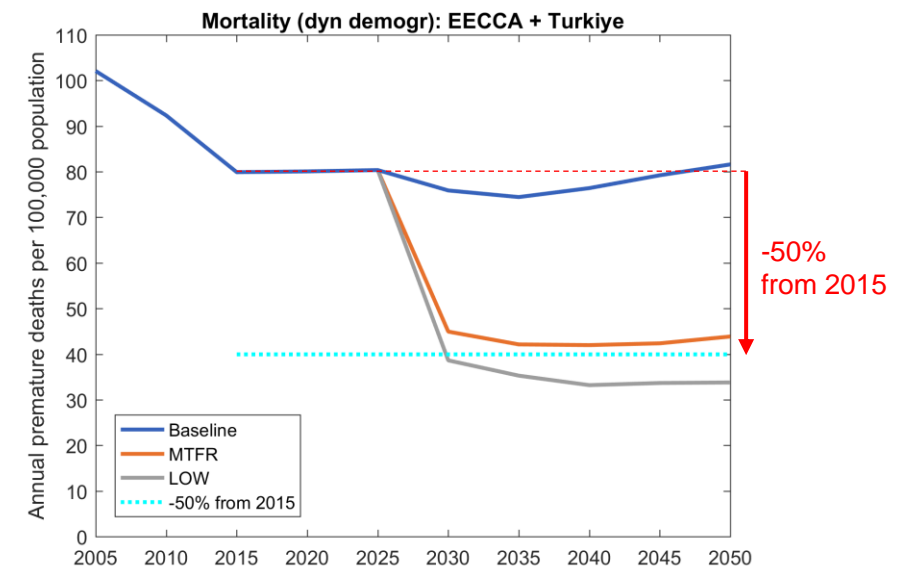
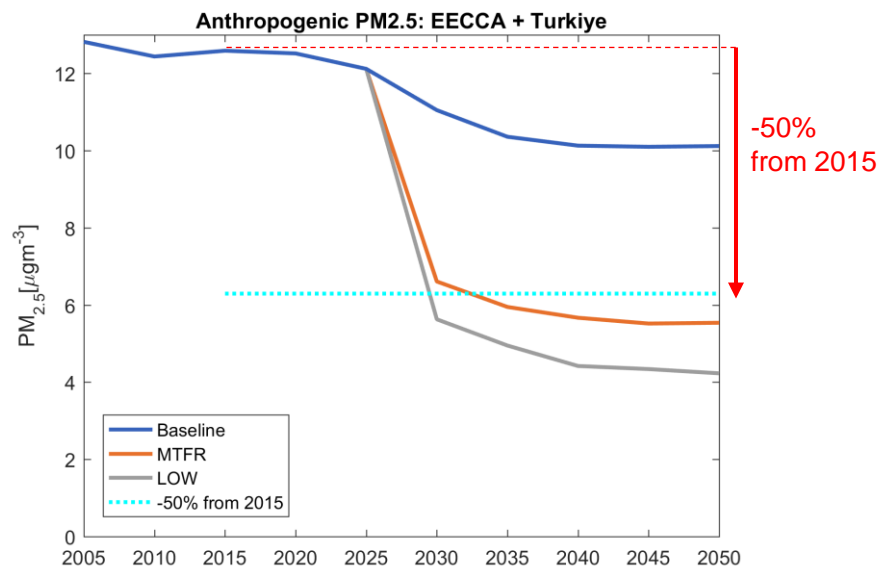
- Baseline does not include significant energy and agriculture transformations and CO₂ is not expected to decline
- Announced air quality legislation results in some decline or stabilization of emissions, except ammonia
- Apart from importance of enforcement of existing legislation, significant further emission mitigation potential exists

Feasibility of indicative PM_{2.5} health target

West Balkan



EECCA + Türkiye



Designing preliminary staged/phased cases

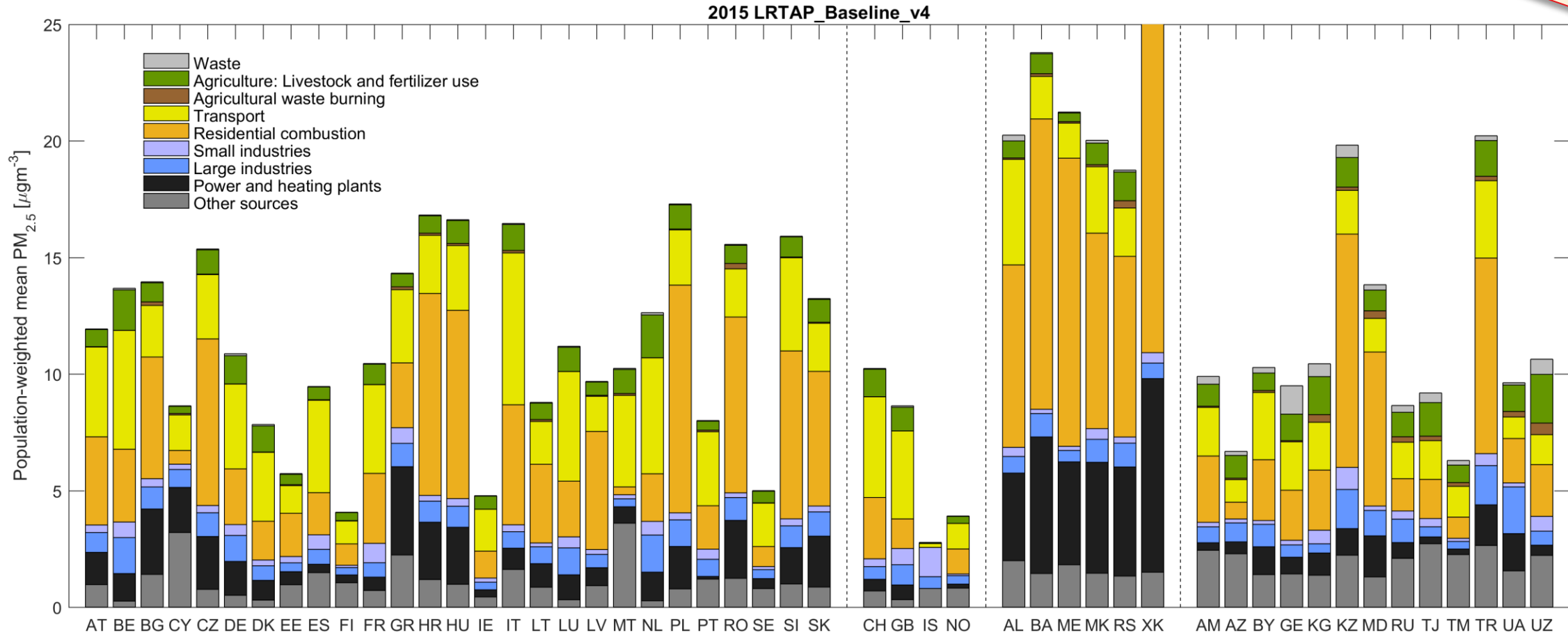
Sector intervention scenarios

- 4 sector specific intervention scenarios were defined as variants of the Baseline
- These assume EU standards for emission controls implemented in the GAINS model from 2030 to comply with the EU policies
 - PP: Power & Heating Plants
 - IND: Industrial combustion and processes
 - TRA: Road and off-road transport
 - DOM: Residential combustion
- All other sectors remain as in the Baseline

Sector source contributions to PM_{2.5} in UNECE (excl. North America)

Results for **2015**: Population weighted country mean anthropogenic PM_{2.5} concentrations

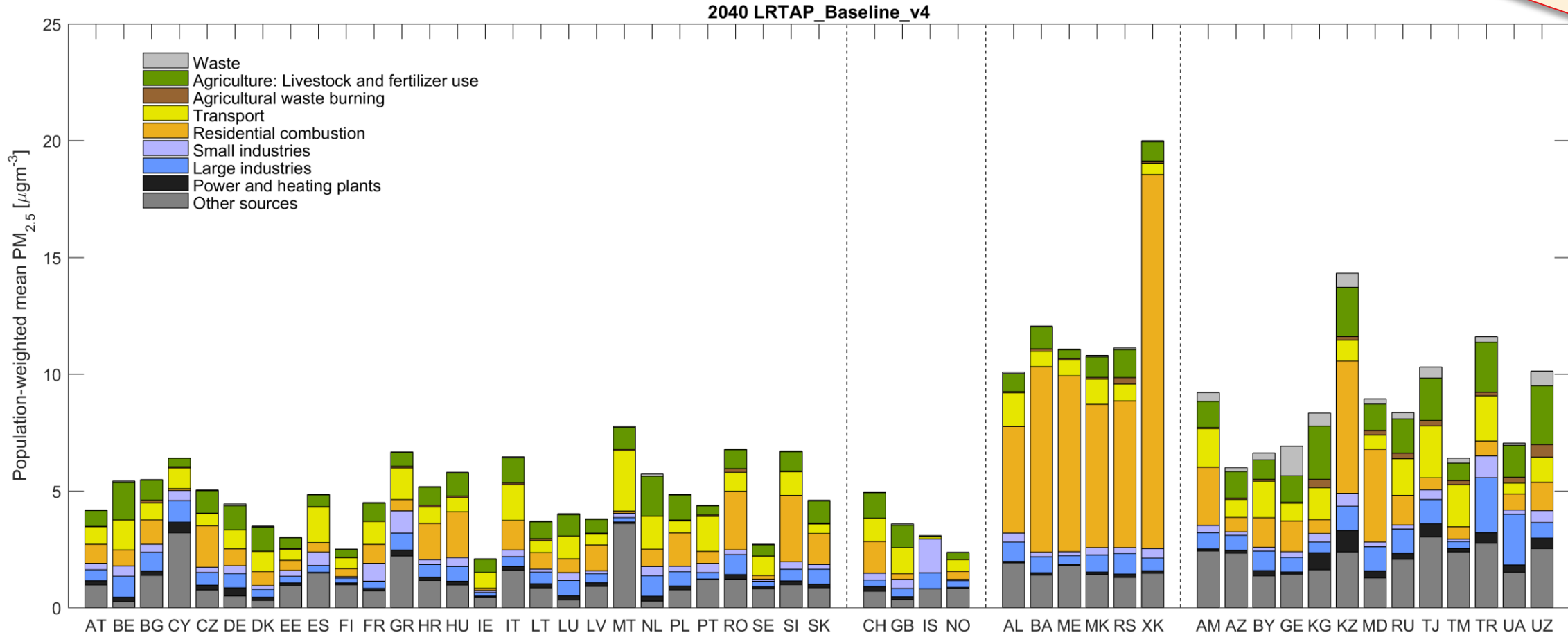
Draft results



Sector source contributions to PM_{2.5} in UNECE (excl. North America)

Results for **2040 Baseline**: Population weighted country mean anthropogenic PM_{2.5} concentrations

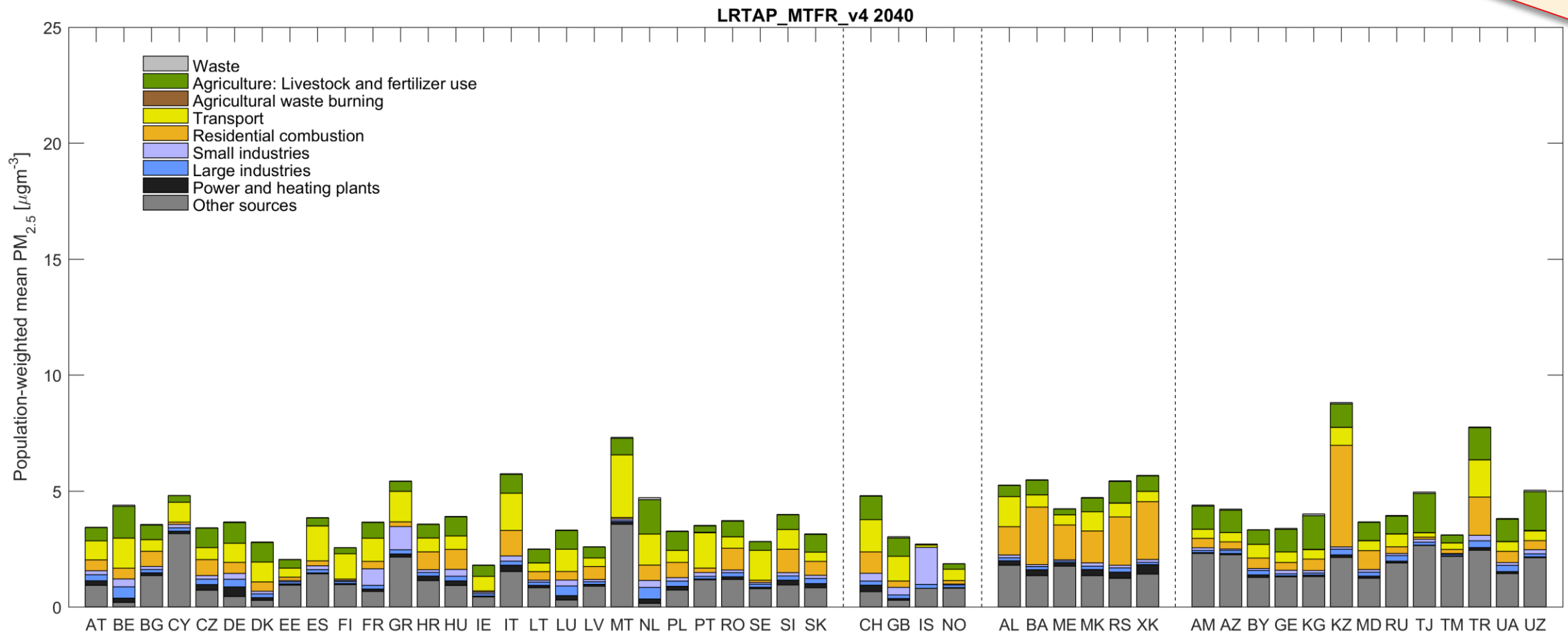
Draft results



Sector source contributions to PM_{2.5} in UNECE (excl. North America)

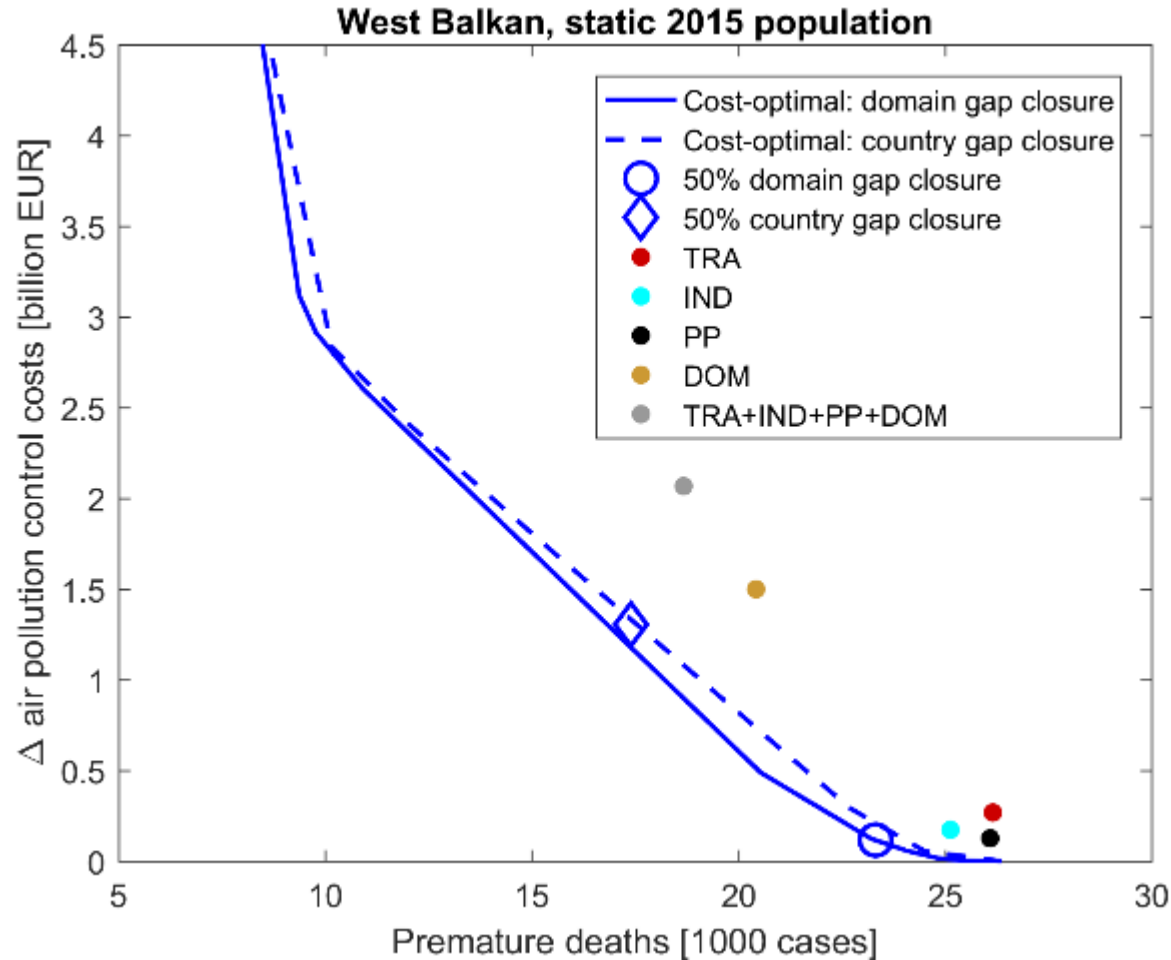
Results for **2040 MTR** : Population weighted country mean anthropogenic PM_{2.5} concentrations

Draft results



Domain wide optimization vs staged approach

West Balkan



- Large difference in benefits between the 50% domain-wide (UNECE-Europe!) vs country gap closure

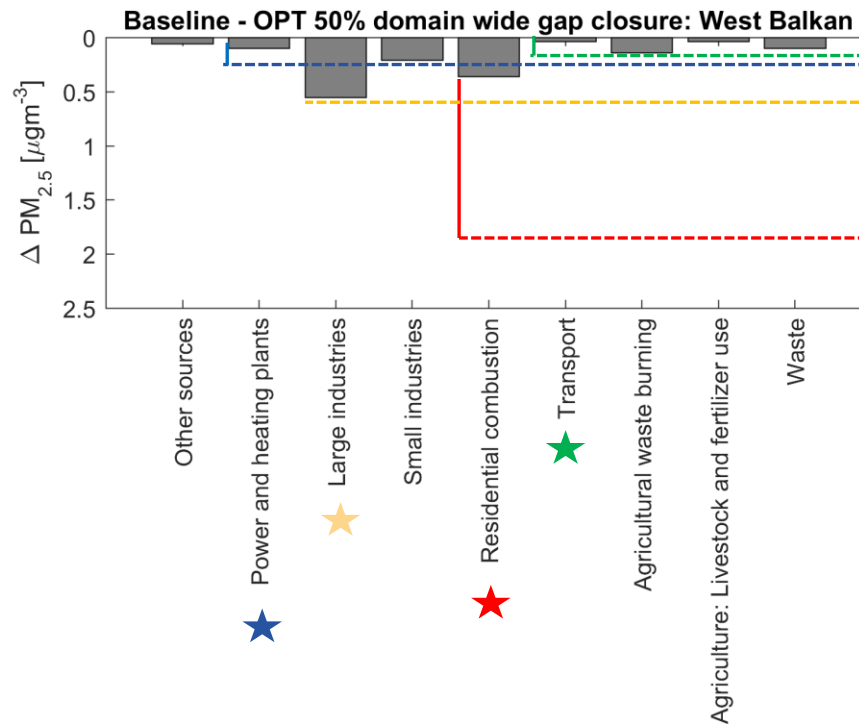
STAGED APPROACH

- Only small improvement and much larger costs for achieved benefits in the preliminary staged approach case (including all four sectors)
- Costs for residential heating dominate the total costs in the staged approach

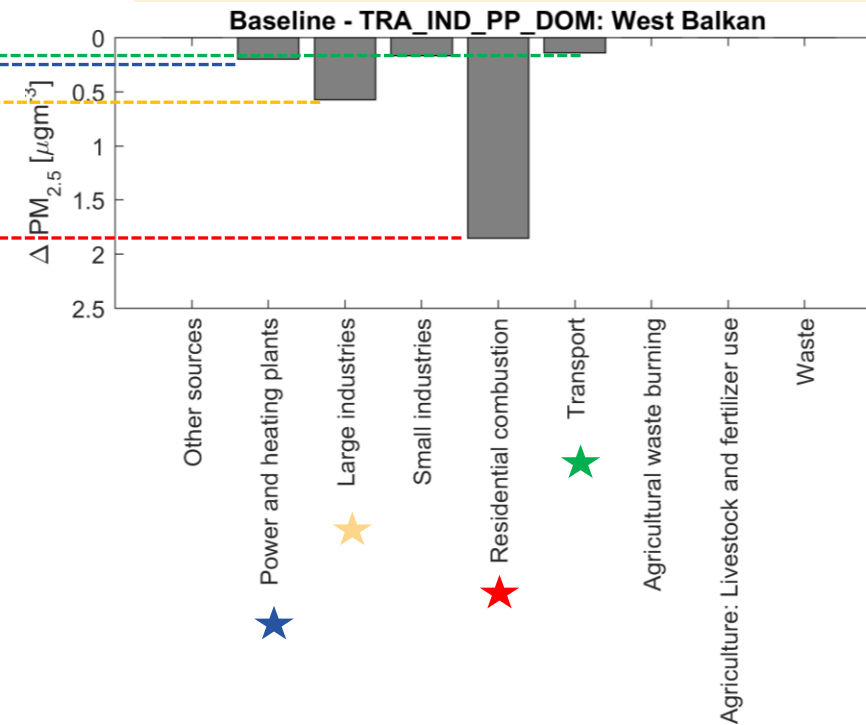
Domain wide optimization vs staged approach

West Balkan

Least-cost approach (domain wide)



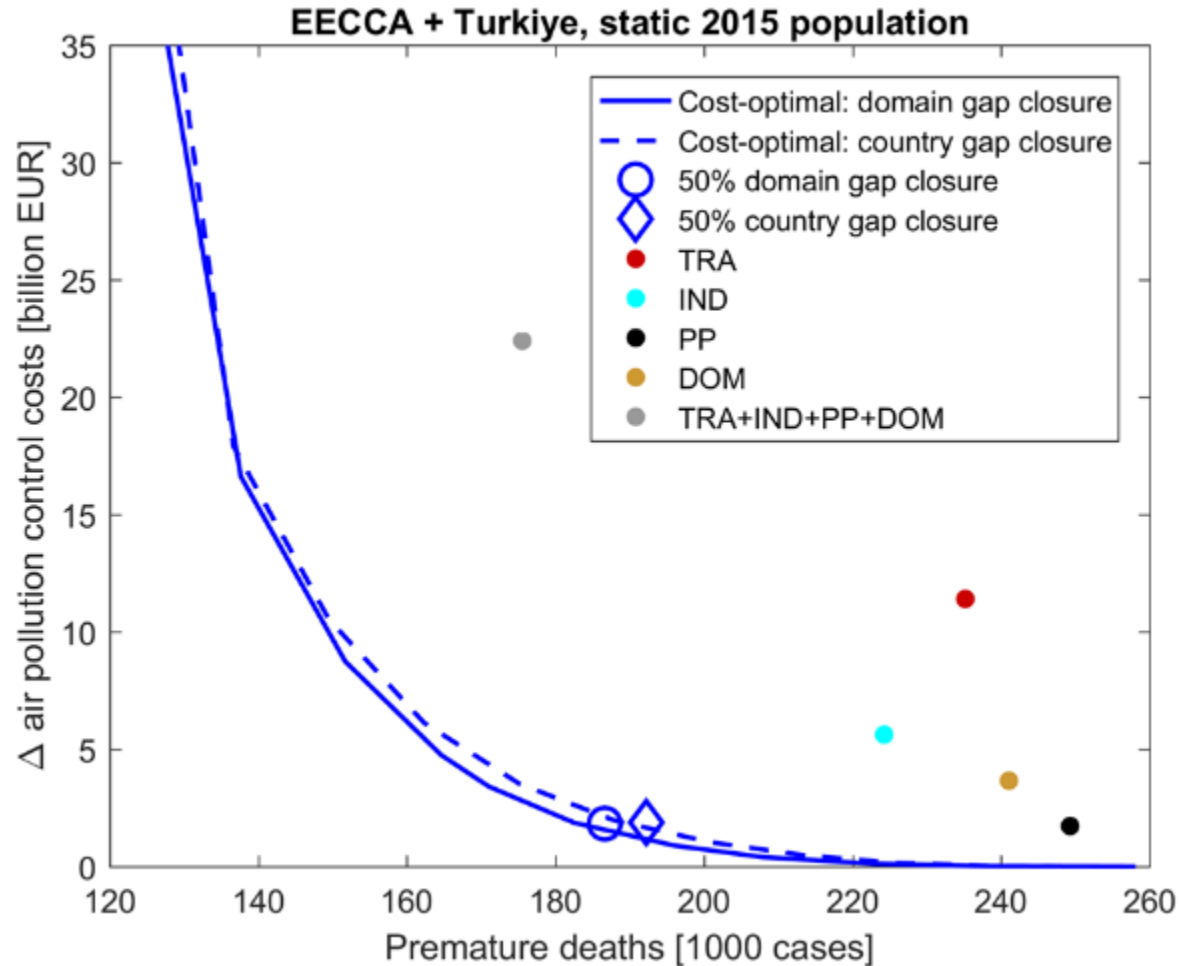
Draft staged approach case: enforcing EU legislation for power, industry, residential combustion, and transport



- Staged approach has similar reductions for several selected sectors as in the domain wide solution

Domain wide optimization vs staged approach

EECCA + Türkiye

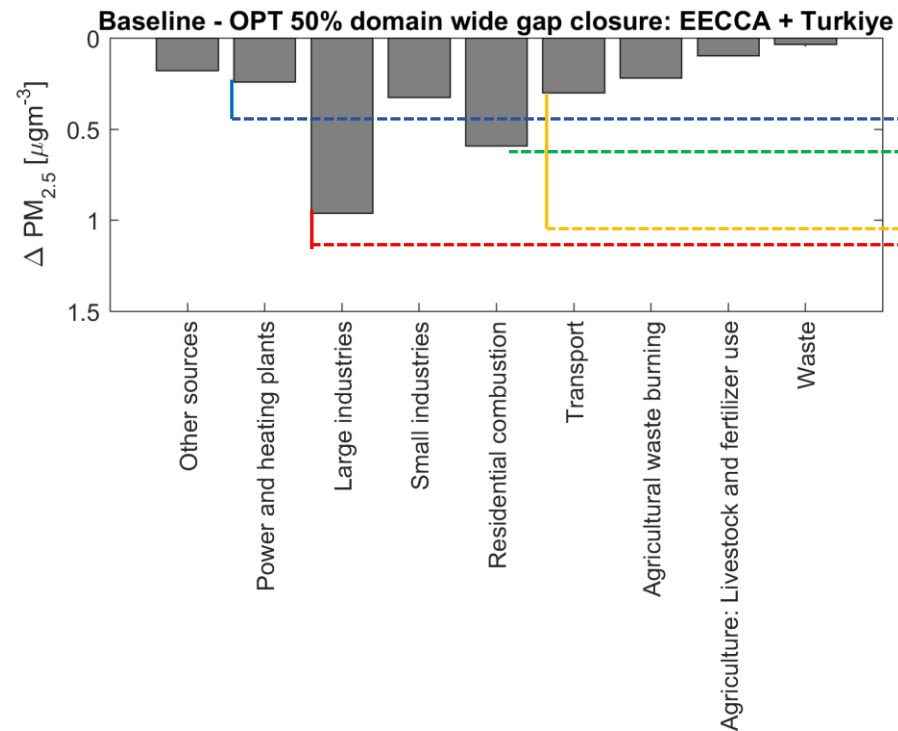


- 50% gap closure solutions are similar, here UNECE-Europe wide gap closure forces stronger reductions
- While a sizable health improvement is estimated for the staged approach, the costs are much larger for achieved benefits in the preliminary staged approach case (all four sectors included)
- Some of the mitigation potential mobilized in the staged case is beyond the cost-effective portfolio of solutions to reach domain wide goals [see next slide]

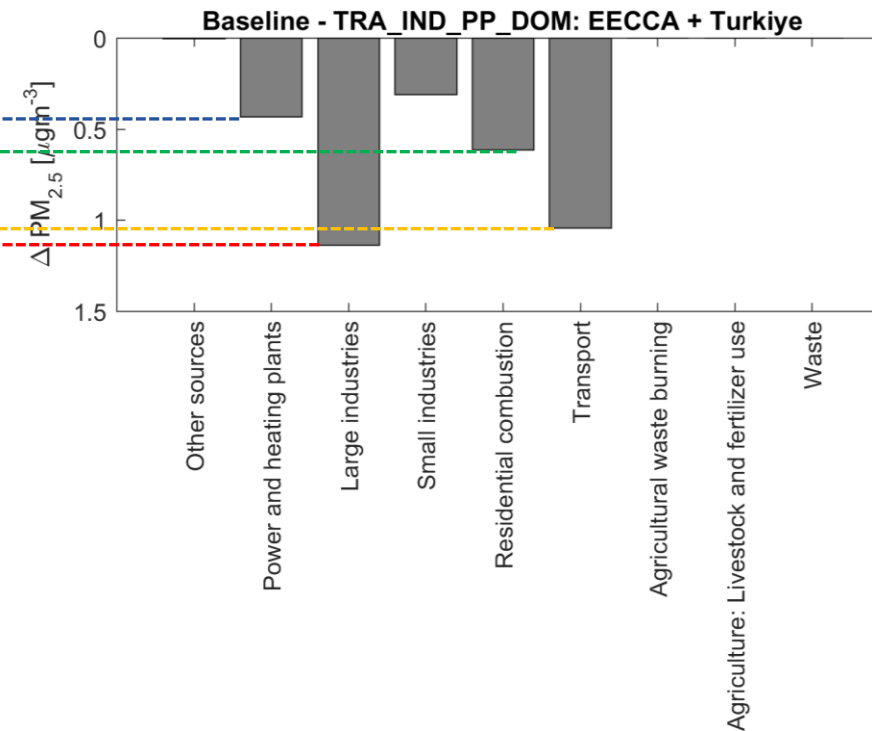
Domain wide optimization vs staged approach

EECCA + Türkiye

Least-cost approach



Draft staged approach case:
enforcing EU legislation for power, industry,
residential combustion, and transport



- Staged approach mobilizes additional mitigation potential for most addressed sectors, compared to the cost-effective solution

Preliminary conclusions and further work

- Significant improvements and better understanding of the current situation and outlook following consultations but some gaps remain
- Indicative 50% health target appears feasible at the regional level, although in some countries might require significant effort -> scope for further analysis of egalitarian approaches
- Staged approach can provide important improvements, but not in all regions and possibly at relatively high cost, compared to the cost-effective solutions
- Analysis of impact on biodiversity from staged approach not done yet
- Coordinated early action on agriculture could offer another case, e.g., implementation of EU IED for Agriculture
- The staged approach implementation will be further discussed and fine-tuned to better represent country-specific aspects
- Phased approaches: not yet considered. Could do sequential optimization with tightening targets over time?