

Report on EMEP SB activities – 2022

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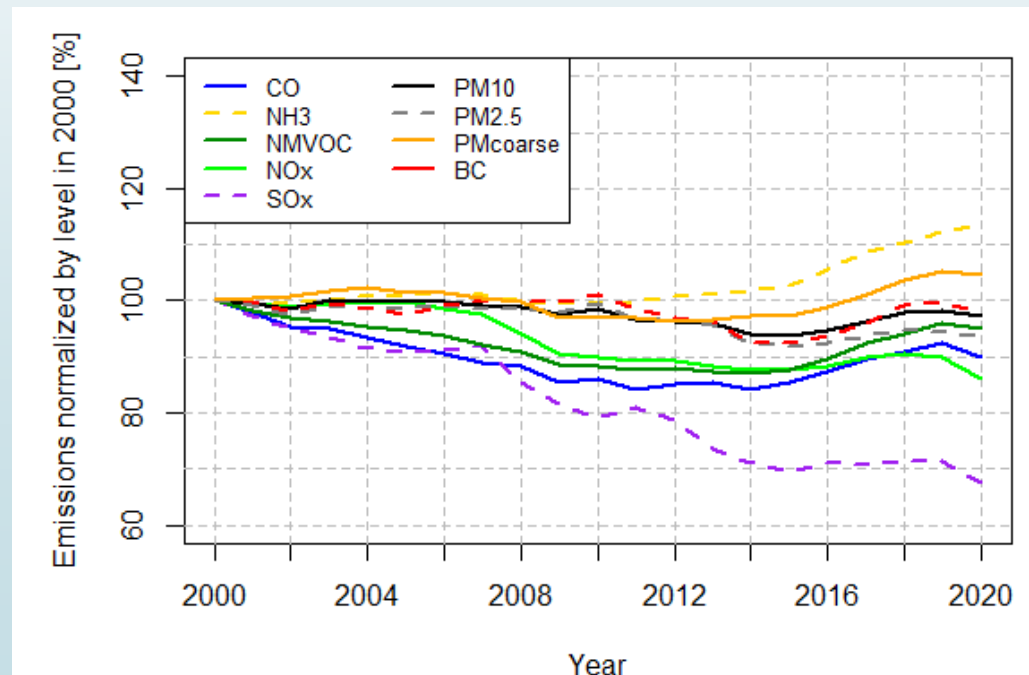
42nd session of the Executive Body for CLRTAP

8th joint EMEP/WGE meeting

- 12-16 September 2022- hybrid meeting with 2/3 of the sessions held with interpretation
- Representatives of 40 countries attended the meeting (excellent representation from EECCA region)
- Two thematic joint sessions focused:
 - on the review of the Gothenburg Protocol and the contribution of the scientific bodies
 - (Open) Access to data produced or gathered by the Convention bodies (ICPs, TFs, and centers)
- Review of progress of work related to the 2022-2023 work plan
- **Focus on few items :**
 - Emissions reporting and review
 - Adjustment applications
 - Condensable in PM
 - Open data
 - Science strategy

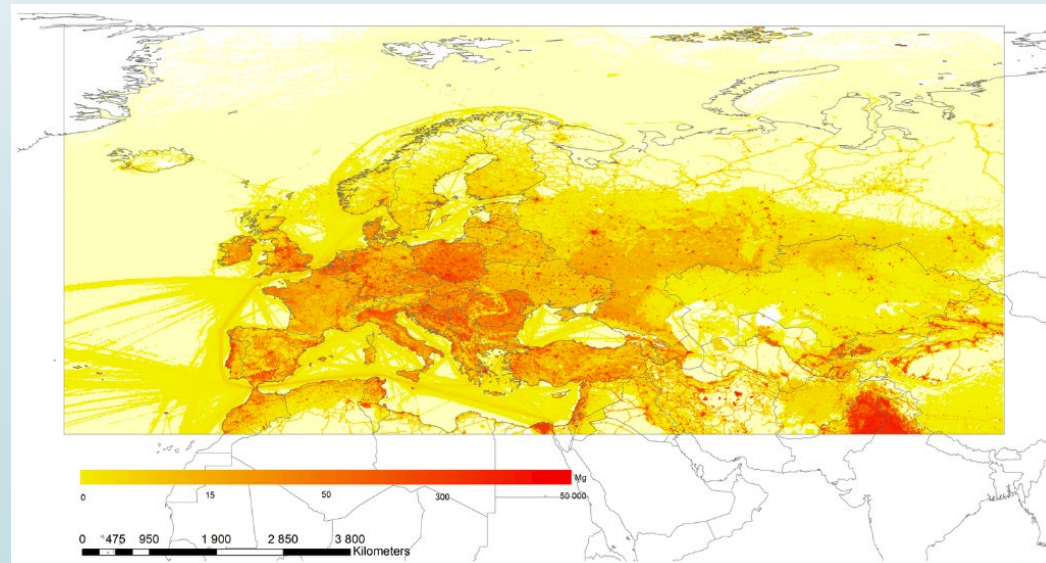
Emission inventories reporting

- **Quality and completeness of emission data reported improved over the last years. In 2022:**
 - **47 Parties** reported data;
 - **44 Parties** submitted an IIR. (46 in 2021)
NB: Parties also have to provide the “declaration of the publication of the IIR” (**annex 3, mandatory since 2020**). CEIP received only 14 declarations
 - **21 Parties included quantitative information on uncertainties in main pollutants emissions in their IIR**
 - **41 Parties** had reported BC emissions,



Gridded emission data

- High long-lat resolution ($0.1^{\circ} \times 0.1^{\circ}$) gridded emission datasets on GNFR sector levels are reported every four years. No obligation in 2022
- 35 Parties reported gridded emissions until June 2022 that CEIP processed for modelling needs (gap-filling)
- Methodologies defined and implemented by CEIP with special treatment for 2020 (“Covid year”)
- Historical datasets (1999-2020) for main pollutants – Year 2020 is consolidated for HM and POPs



Documentation

- Update of **the EMEP/EEA emission inventory guidebook** is on-going for adoption by the EMEP SB in 2023. National contributions (experts, measurement campaigns, national studies) highly welcome as sustainable long-term support
- **Technical guidance for emission inventory adjustments under the amended GP** (in the context of the ERC) prepared by the TFEIP approved and proposed to the EB for adoption
- **Guidelines for Reporting Emissions and Projections Data under the Convention** approved and proposed to the EB for adoption
- In 2023, TFEIP will work on an informal paper on future emissions reporting and review needs in the perspective of the review of the GP



IN-depth review (stage3)

- Focused in 2022 **on residential heating and road transport and condensable** component of PM emissions
- **40 countries reviewed** : country reports with specific recommendations from the ERT available on the CEIP website ([2022 data \(ceip.at\)](https://ceip.at))
- Positive feedback from the national experts and the reviewers (EC sponsored participation of 7 experts from Western Balkans and Turkey)
- Proposal for 2023 : **emissions from agriculture** with a special emphasis on NH₃, NMVOC and NO_x emissions, including **gridded data**

Review of the adjustment applications

- **2022** was the first inventory submission under the 2020 emission reduction commitments
- CEIP organised the review of 4 applications submitted

Country	Sector	NFR	Pollutant	Years	ERT Recommendation
Denmark	Agriculture	3B1a (Manure Management of dairy cattle)	NMVOC	2005, 2020	Accept
France	Agriculture	3B (manure management), 3D (agricultural soils)	NMVOC	2005, 2020	Accept
The Netherlands	Agriculture	3B1a (Manure Management of dairy cattle)	NMVOC	2005, 2020	Accept
The United Kingdom	Agriculture	3Da2c (Other Organic fertilisers applied to soils)	NH ₃	2005, 2020	Accept

- **EMEP SB approved all the expert review team's recommendations**

Condensable part in PM

- ▶ Ad hoc group of experts set-up as requested by the EB to investigate how the « science » roadmap could be implemented to improve quality of emission inventories and modelling results
 - 05/11/2021 : sharing common knowledge
 - 13/12/2021 : review of practises and in the countries
 - 05/04/2022 : preparing the 2022 in-depth RWC emission review
- ▶ Workshop organised with support of the European Commission – 26/27 April
 - ▶ 90 participants from 36 Parties and belonging to various communities (Emission measurement, Emission inventories, modelling, technology)
 - ▶ Discussion about the sensitive “variables”: emission factors and activity data (fuel, appliance types, practises..). Some Parties need support to gather information
 - ▶ Review of national initiatives/field campaigns that could be useful to support update of the guidebook
 - ▶ Cooperation with modelers to develop an incremental improvement approach
 - ▶ Example of “harmonised reporting” approaches implemented in the US



Condensable part in PM (ii)

- ▶ In-depth (stage 3) review carried out under CEIP coordination
- ▶ In EI used for modelling purposes, replacement of PM emission data reported without the condensable fraction by “expert” estimates (Ref2. emission inventory from TNO-NL). Number of countries for which Ref2. is used should decrease progressively
- ▶ Update of the emission guidebook (2023) and ad hoc group set-up under the TFEIP
- ▶ Nordic Council of Ministers Modelling project coordinated by MSC-West (with CIAM, CEIP, TNO) : sensitivity analyses with various emission datasets, and various chemical modelling schemes to look for the “best” option to support policy work (comparison with observations and trends analysis)
Impact on IAM

Emission inventories used for modelling work

Condensable component is included in national emission estimates for residential heating



Data reported by the Party is used for GNFR C

Condensable component is **NOT** included in national emission estimates for residential heating



TNO Ref2 is used for GNFR- C

Unclear if condensable component is included in national emission estimates for residential heating

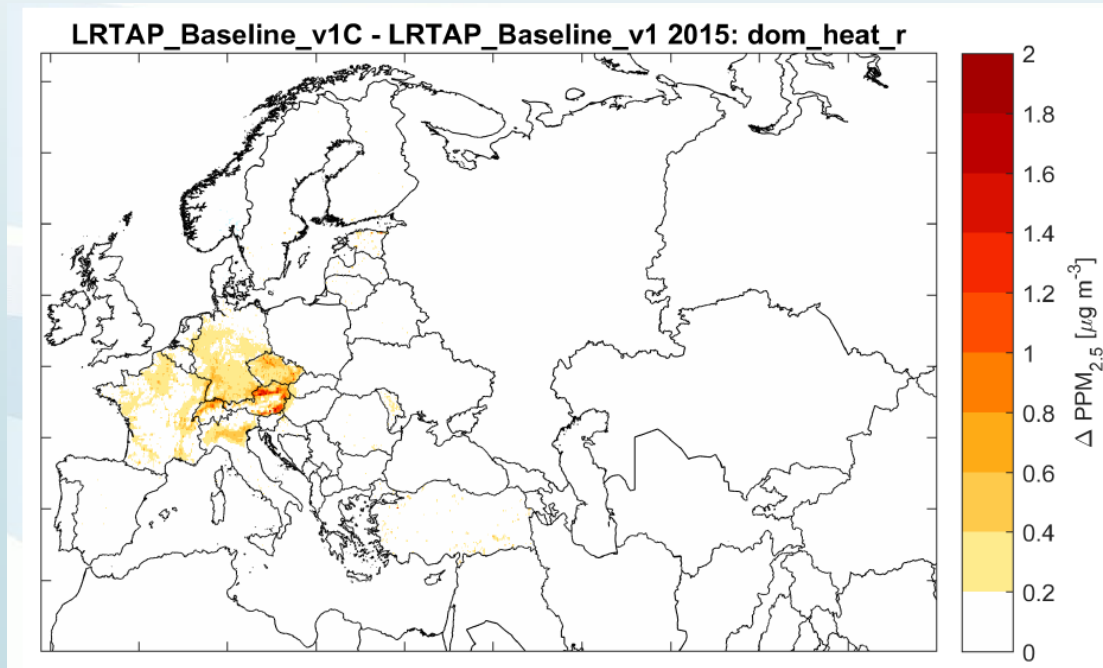


TNO Ref2 is used for GNFR- C

Party Name	Data source for PM emission in GNFR C	Party Name	Data source for PM emission in GNFR C
Albania	REF2	Latvia	CEIP- reported by Party
Armenia	REF2	Liechtenstein	CEIP- gap-filled
Austria	REF2	Lithuania	REF2
Azerbaijan	REF2	Luxembourg	REF2
Belarus	REF2	Malta	REF2
Belgium	CEIP- reported by Party	Monaco	CEIP- reported by Party
Bosnia and Herzegovina	REF2	Montenegro	REF2
Bulgaria	CEIP- reported by Party	Netherlands	REF2
Croatia	CEIP- reported by Party	North Macedonia	CEIP- reported by Party
Cyprus	CEIP- reported by Party	Norway	CEIP- reported by Party
Czechia	CEIP- reported by Party	Poland	CEIP- reported by Party
Denmark	CEIP- reported by Party	Portugal	CEIP- reported by Party
Estonia	REF2	Republic of Moldova	CEIP- reported by Party
Finland	CEIP- reported by Party	Romania	REF2
France	REF2	Russian Federation	REF2/CEIP
Georgia	REF2	Serbia	CEIP- reported by Party
Germany	REF2	Slovakia	CEIP- reported by Party
Greece	CEIP- reported by Party	Slovenia	CEIP- reported by Party
Hungary	CEIP- reported by Party	Spain	CEIP- reported by Party
Iceland	CEIP- reported by Party	Sweden	CEIP- reported by Party
Ireland	CEIP- reported by Party	Switzerland	REF2
Italy	CEIP- reported by Party	Turkey	REF2
Kazakhstan	CEIP- gap-filled	Ukraine	REF2
Kyrgyzstan	CEIP- gap-filled	United Kingdom	CEIP- reported by Party

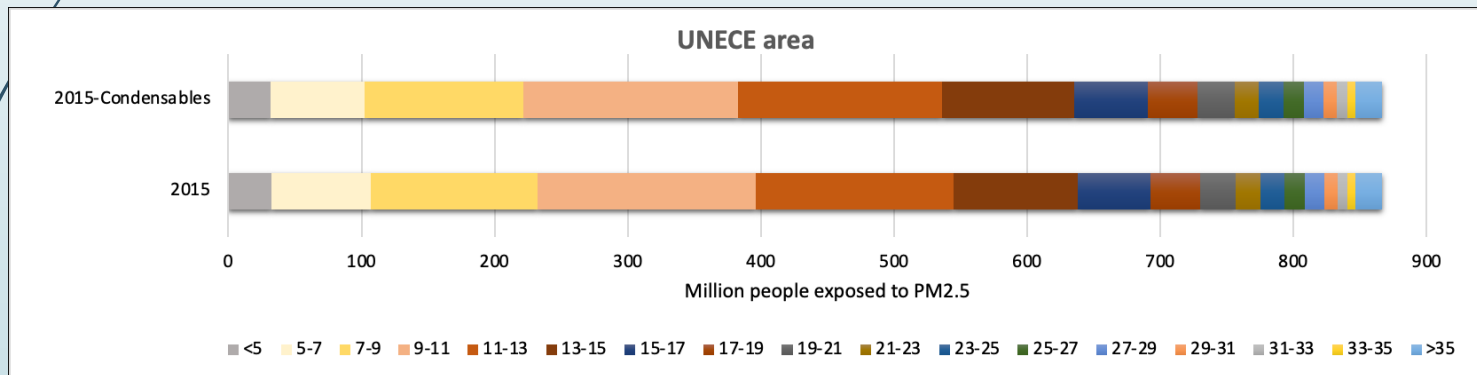
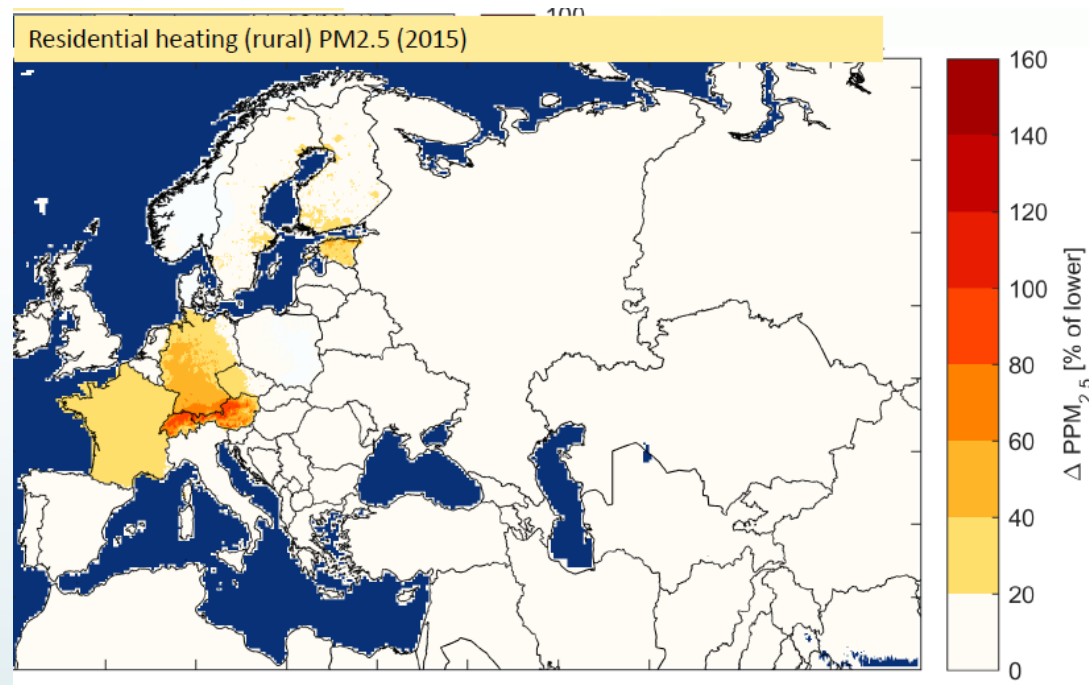
Impact on model results

- ▶ Extensive evaluation of the impact of updated emission inventory on modelling results carried out by the TFMM and the centers
- ▶ Comparison with the 2017-2018 intensive field campaign organised by CCC and the Parties and focused fossil and biomass burning (SA)
- ▶ Sensitivity analyses (MSC-W and CIAM)



GAINS results (from CIAM)

- 0.5 million more exposed to levels > 25 microg/m³
- 0.6 million less exposed to levels below WHO guidelines



Scientific work will continue according to the stepwise approach proposed in the “science” road map in 2020, to support future policy decisions



Open access to data

- ▶ Open access to environmental data elaborated and gathered through programs and projects funded by public resources is requested (Aarhus Convention, Open-data directive..)
- ▶ FAIR principles : findability, accessibility, interoperability and reusability
- ▶ Review of this status for EMEP and WGE activities with analysis of pros and cons (misinterpretation, responsibility for misuse, costs..)
- ▶ Agreement on the relevance to go a step further, also to improve visibility and branding of the Convention work
- ▶ NILU as host of the CCC will propose an open common creative license for EMEP observation data
- ▶ Generalization of the process will be investigated for other CLRTAP datasets as part of the upcoming strategy

Science strategy for 2022-2030

- Update and merging of EMEP and WGE scientific strategies (2010-2019)
- Review of the 10 past years achievements
- **Improving scientific knowledge** to improve effectiveness of control strategies : ozone, PM and their compounds, condensables, ammonia, PAH, secondary emissions (reemission to the atmosphere), Chemicals of emerging concern, corrosion and soiling, biodiversity, non forest ecosystems, climate change, marine protection, health impacts
- **Improving emission** data, guidances for emission inventories and review
- **Improving modelling and monitoring** : strengthening networks (EMEP and ecosystems) capacities and geographical coverage, IOP, biomonitoring, challenges in modelling (chemistry, deposition, resuspension..), data assimilation, dynamic modelling
- **Linking the scales from the cities to the global** cooperating with other bodies or networks
- **Linking science to policy**: synergies with other policy areas, behavioural measures, improving IAM, new methods for socio-economic impacts, inequalities, characterising uncertainties
- **Partnership and openness** in and outside the Convention

Document approved by the WGE and EMEP SB and proposed to the EB for adoption



Thank you for your attention !