

Report on EMEP SB activities – 2020-2021

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41st session of the Executive Body for CLRTAP

7th joint EMEP/WGE meeting

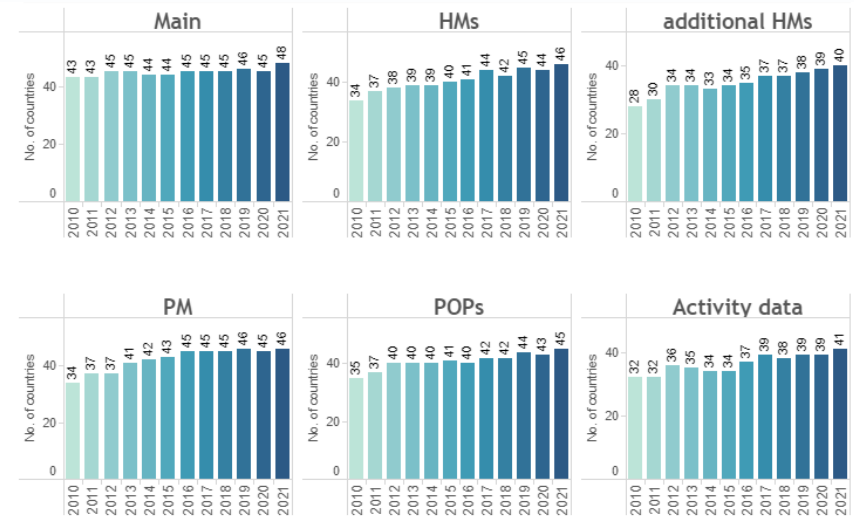
- 13-16 September 2021- virtual meeting with most of the sessions (5/7) held with interpretation
- Representatives of 44 parties attended the meeting (excellent representation from EECCA countries)
- Thematic joint session focused on the review of the Gothenburg Protocol and the contribution of the scientific bodies
- Review of the 2020-2021 work plan and elaboration of the 2022-2023
- **Focus on few items :**
 - Emissions reporting and review
 - Adjustment applications
 - Condensable in PM

Emission inventories reporting

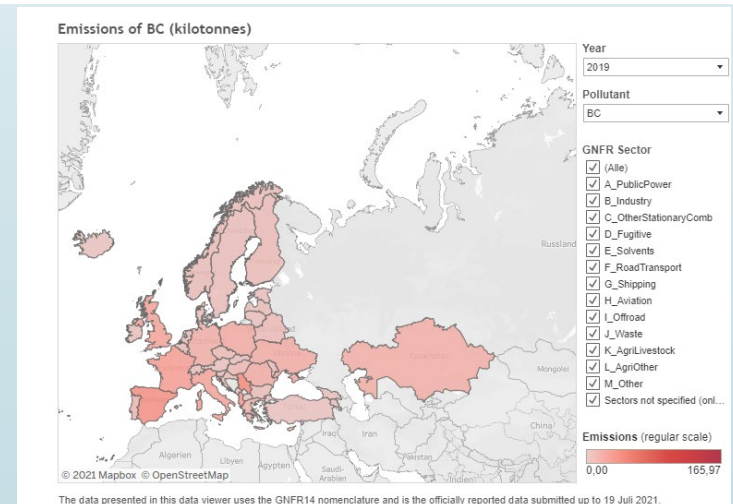
- **Quality and completeness of emission data reported improved over the last years. In 2021:**
 - **48 Parties** (94 %) reported data; emission data from Azerbaijan, Bosnia and Herzegovina and Kyrgyzstan were missing
 - **46 Parties** submitted an IIR. NB: Parties also have to provide the “declaration of the publication of the IIR” (**annex 3, mandatory since 2020**)
 - **36 Parties** reported large point sources (slightly decreasing number)
 - **42 Parties** had reported BC emissions, with **38 Parties** submitting emission time series (2000–2019). Gap-filling stage from CEIP still essential

➤ Gridded data:

- **34 countries** reported in 0.1°*0.1° lat-long resolution
- Reported gridded data used for modellers covers less than 25 % of the cells within the EMEP area



Main pollutants: NO_x, NMVOC, SO_x, NH₃, CO
Heavy Metals (HMs): Pb, Hg, Cd
additional HMs: As, Cr, Cu, Ni, Se, Zn
Particulate Matter (PM): PM_{2.5}, PM₁₀
Persistent organic pollutants (POPs): PAH, DIOX, HCB, PCBs



Emission inventories reporting (ii)

- ▶ **According to the work plan, technical revisions of the emission inventory guidebook** (www.eea.europa.eu/themes/air/air-pollution-sources-1/emep-eea-air-pollutant-emission-inventory-guidebook)
 - ▶ *Agriculture*: Nitrogen oxide emissions from crop residues;
 - ▶ *Transport*: Updated chapters for Road Transport and Navigation (shipping)
 - ▶ *Combustion & Industry*: An updated chapter for Food & Beverages
- ▶ **EMEP SB approved the revision of the Annex II of the reporting guidelines (structure of the IIR)** as suggested by CEIP to be used in 2022 onward.
 - ▶ Changes to the suggested information on the inclusion of the condensables
 - ▶ Clearer specification of the information that should be provided in the chapter on reporting of gridded data and LPS data
 - ▶ Revisions in the guidance provided in the sector „sections“
 - ▶ Suggestion to include information on verification activities
 - ▶ Suggestion to include a table with information on the implementation of recommendations/findings from reviews (CLRTAP stage 3 and where relevant NECD review)

In-depth review (Stage 3)

3 cycles of in depth review closed: each eligible Party (except BiH) reviewed
2008-2012/**44** countries, 2013-2017/**45** countries, 2008-2021/**21** countries (focus on non-EU MS)

2021	2022
Kazakhstan	All Parties: Residential Heating (incl. condensables)
Liechtenstein	All Parties: Road Transport (incl. condensables)
Monaco	Continue assessment of the implementation of findings from the previous reviews
Montenegro	
Assessment of the implementation of findings from the previous reviews (planned for Q3-Q4)	

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- Suggestion for 2023 : continue with selected categories/pollutants/topics and/or (add) review of selected countries
- Focus on the countries which need more support (capacity building)
- Nomination of experts from EECCA and West Balkans countries

Review of the adjustment applications

► Adjustments approved prior to 2021

- The adjustments reported by countries Belgium, Czech Republic , Denmark, Finland, France, Germany, Luxembourg, Netherlands, Spain and Great Britain prior to 2021 refer to NO_x, NMVOC and NH₃ emissions for various NFR sectors (prevaillingly Road transport and diverse Agriculture categories).
- Reviewed and approved by the ERT

► New adjustment application submitted in 2021 **by the Czech Republic for NH₃ in sectors 3B and 3D /2015**, and finally withdrawn (after discussion with the Expert review team)

- Approved by the ERT

► New adjustment application submitted in 2021 **by France for NMVOC and NO_x in sectors 3B and 3D**

- Approved by the ERT

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

Adjustment applications for emission reduction commitments (ERC) in 2022

- See note from TFEIP co-chairs (informal document under item 4 (a) (c))
- A substantial number of Parties that have ratified the amended Gothenburg Protocol could be in non-compliance with ERCs for 2020 (reporting due in 2022)
- Assessing adjustments related to ERC requires different technical considerations, math. Calculations, and submission of different datasets (compared to adjustments for emission ceilings).
- Because submission of emission inventories is 15th February, Parties which may be in non-compliance for ERC urgently need guidelines
- EMEP SB asked TFEIP and CEIP to review and analyse work needed to elaborate new guidelines and templates : they could be proposed by the end of December as provisional documents for preparing 2022 reporting.

Pollutant	Number of Parties potentially in non-compliance
SO _x	1
NO _x	5 to 10
NH ₃	8 to 14
NMVOc	6 to 12
PM _{2.5}	4 to 5

■ Suggestion to the EB :

- To request the TFEIP and CEIP to prepare and post (in consultation with the EMEP Bureau) updated guidelines by the end of 2021
- To request the parties to use updated material for assessing 2022 ERC adjustment (as a provisional solution)
- The documents will be discussed and agreed by the EMEP SB in September 2022 for EB approval in December 2022

Agreed strategy for dealing with condensable in PM:

- ▶ EMEP SB agreed that accounting for the condensable part in PM emissions, especially for the residential heating sector, **is essential when dealing with scientific assessments (incl. S/R matrices for IAM)**
- ▶ However this can raise some policy issues (national legislation, emission monitoring standards..)
- ▶ EMEP SB recommends to develop a stepwise approach, focusing on scientific aspects:
 - ▶ Parties are urged to report correctly about their practices regarding PM emission estimates in the IIR
 - ▶ Reported emissions, complementary information and scientific state of the art will be used by EMEP experts for elaborating PM emissions expert estimates that account for condensable where necessary
 - ▶ **Expert estimates will be progressively replaced by official emission data reported by the Parties when they correctly account for the condensable part of organic PM**
 - ▶ All the modelling activities performed under EMEP (air quality assessments, scenarios analysis, source-receptor calculations for integrated assessment modelling) will use science-based emission estimates and **the Parties will be informed about the emissions used for modelling**
- ▶ **Implementation of this process will be followed and facilitated by an ad-hoc expert group gathering the centers, and national experts**

Data source for PM emission in GNFR C used in EMEP models in 2021

Reported: 26 Parties

Ref 2: 17 Parties

Gap-filled: 5 Parties

Party	Data source for PM emission in GNFR C	Party	Data source for PM emission in GNFR C	Party	Data source for PM emission in GNFR C	Party	Data source for PM emission in GNFR C
Albania	Ref2	Denmark	CEIP, reported	Italy	CEIP, reported	Netherlands	CEIP, reported
Armenia	CEIP, gap-filled	Estonia	Ref2	Kyrgyzstan	CEIP, gap-filled	Norway	CEIP, reported
Austria	Ref2	Spain	CEIP, reported	Kazakhstan	CEIP, gap-filled	Poland	Ref2
Azerbaijan	CEIP, gap-filled	Finland	CEIP, reported	Liechtenstein	CEIP, reported	Portugal	CEIP, reported
Belgium	CEIP, reported	France	Ref2	Lithuania	Ref2	Romania	CEIP, reported
Bosnia & Herzegovina	Ref2	United Kingdom	CEIP, reported	Luxembourg	CEIP, reported	Serbia	CEIP, reported
Bulgaria	CEIP, reported	Georgia	CEIP, gap-filled	Latvia	CEIP, reported	Russian Federation	Ref2 + CEIP (gap-filled)
Belarus	Ref2	Greece	CEIP, reported	Monaco	CEIP, reported	Sweden	CEIP, reported
Switzerland	Ref2	Croatia	CEIP, reported	Republic of Moldova	CEIP, reported	Slovenia	CEIP, reported
Cyprus	Ref2	Hungary	CEIP, reported	Montenegro	Ref2	Slovakia	Ref2
Czechia	CEIP, reported	Ireland	Ref2	North Macedonia	CEIP, reported	Turkey	Ref2
Germany	Ref2	Iceland	CEIP, reported	Malta	CEIP, reported	Ukraine	Ref2

9.2021

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Ref2 = "alternative" emission data including condensable estimated by TNO (NL); considered as the "best estimate" for modelling assessments



Ad- hoc group on Condensables in PM

- First meeting held on the 5th November (next one on the 13th December)
- Detailed description of the alternative approach based on the Ref2 inventory. Information about the assumptions.
- Dialogue with national experts:
 - Urgent need to improve and updated the emission inventory guidebook with relevant information about emission factors and activity data
 - Questions about measurement methods, standardization and relevance of looking for “correction factors for emissions based on the solid fraction”
 - Bilateral exchanges (EMEP centers/Parties) essential to establish country specific approaches. The Stage 3 review foreseen in 2022 will help.
- Next steps : elaborating 2022 work plan
 - In-depth review of data reported by the Parties
 - In-depth analysis of the Ref2 assumptions by the national experts
 - Promoting standardization processes for PM emissions measurement with condensable
 - Support from the Nordic Council of Ministers to develop historical emission datasets and carry out modeled assessments

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EMEP contribution to the GP Review

- ▶ Trends in air pollutant emissions (information presented by CEIP supported by TFEIP) and analysis of the distance to the GP ceilings;
- ▶ Analysis of the quality of reported emissions
- ▶ Trends in air pollutants concentrations and depositions – comparison with emission trends (MSC-W, CCC, CIAM, MSC-E, TFIAM, TFMM);
- ▶ Attribution of trends to changes in extra-regional sources, including the intercontinental impacts of marine shipping and methane sources (TFHTAP).



Thank you for your attention !