

CEIP activities 2020-2021

Present state of emission data and gridding system

(ECE/EB.AIR/GE.1/2020/7–ECE/EB.AIR/WG.1/2020/18)

Sixth joint session of the Steering Body to EMEP and the Working Group on Effects

14-18 September 2020, web-meeting

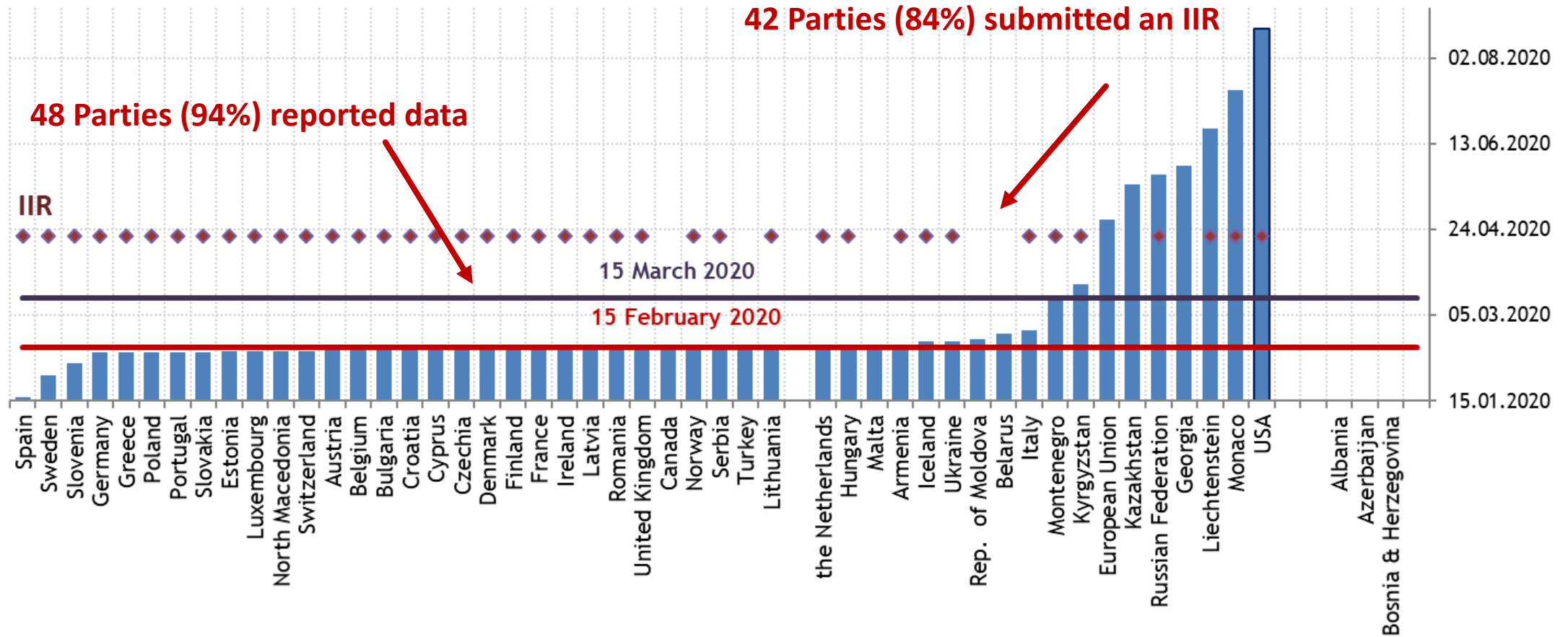
Sabine Schindlbacher, Katarina Mareckova, Robert Wankmüller, Marion
Pinterits, Bernhard Ullrich, Bradley Matthews

Status of reporting

2

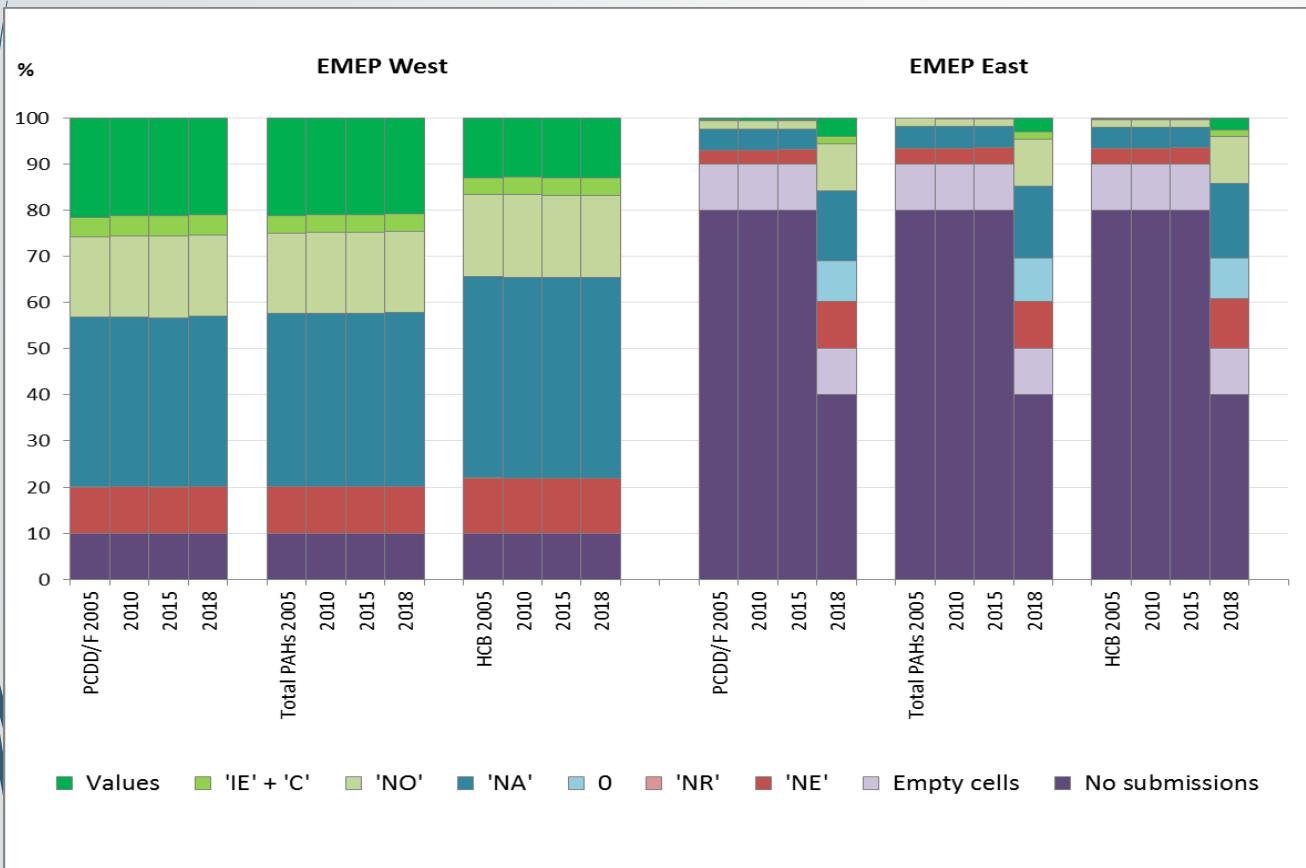
➔ <https://www.ceip.at/status-of-reporting-and-review-results>

As of 01.09.2020



Completeness of reported data

3



- Main Pollutants: 48 Parties
- Main heavy metals: 46 Parties
- PMs: 47 Parties
- POPs: 44 Parties
- 40 Parties submitted Activity

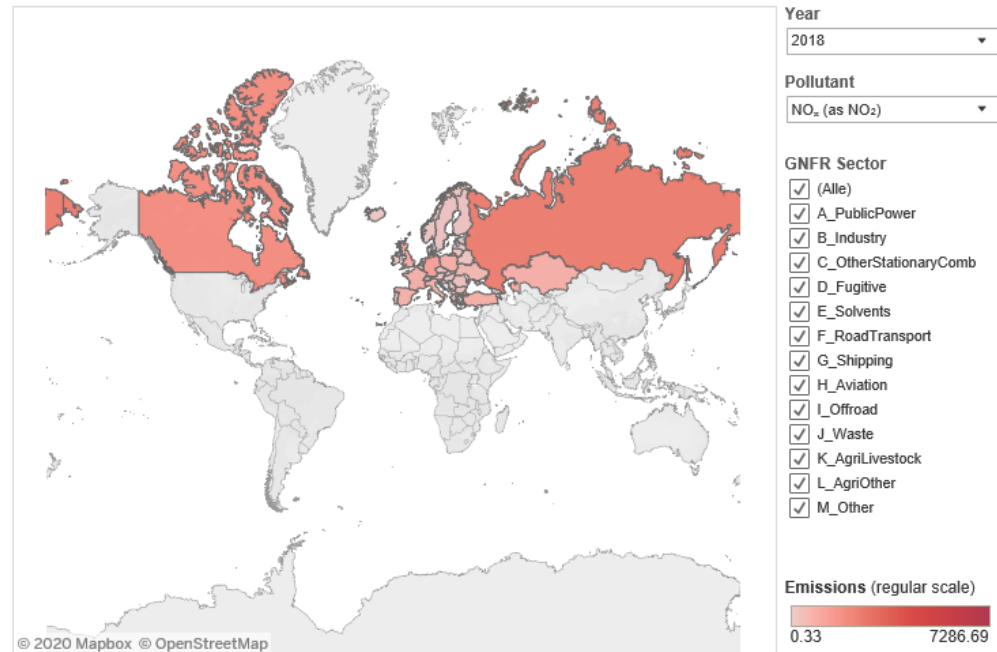
Source: Inventory review report, Technical report 4/2020; <https://www.ceip.at/review-of-emission-inventories/technical-review-reports>

Interactive Data viewer

4

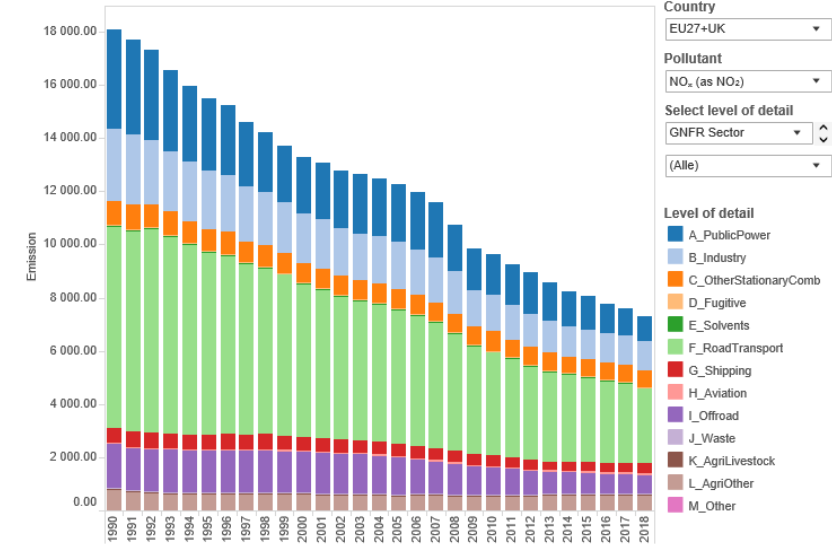
➔ <https://www.ceip.at/data-viewer>

Emissions of NO₂ (as NO₂) (kilotonnes)



The data presented in this data viewer uses the GNFRR14 nomenclature and is the officially reported data submitted up to 13 July 2020.

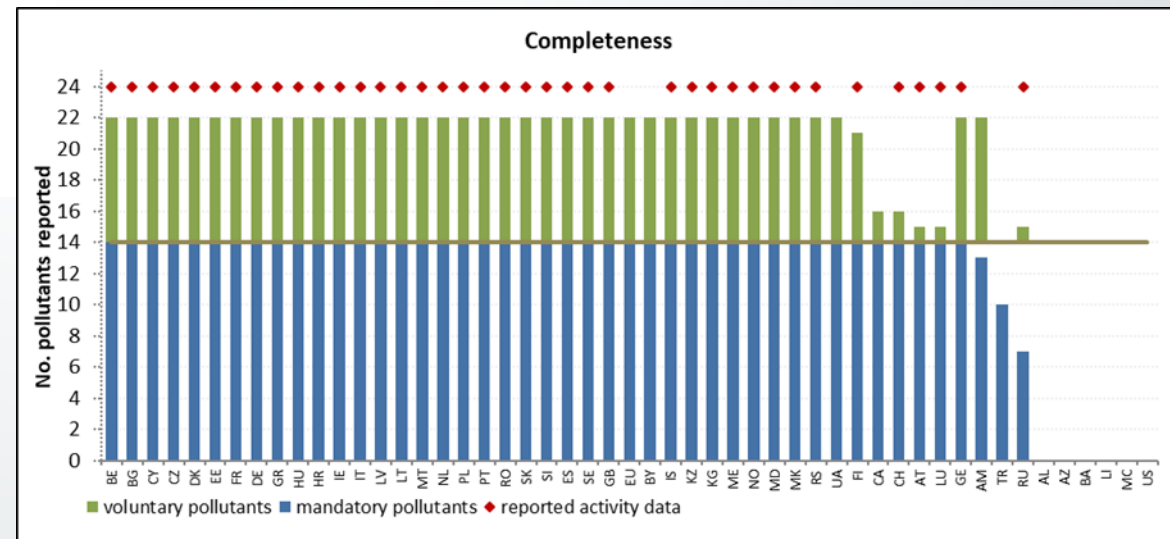
Emissions of NO₂ (as NO₂) (kilotonnes), EU27+UK



The data presented in this data viewer uses the GNFRR14 and NFR14 nomenclature and is the officially reported data submitted up to 13 July 2020.

Completeness of reported data

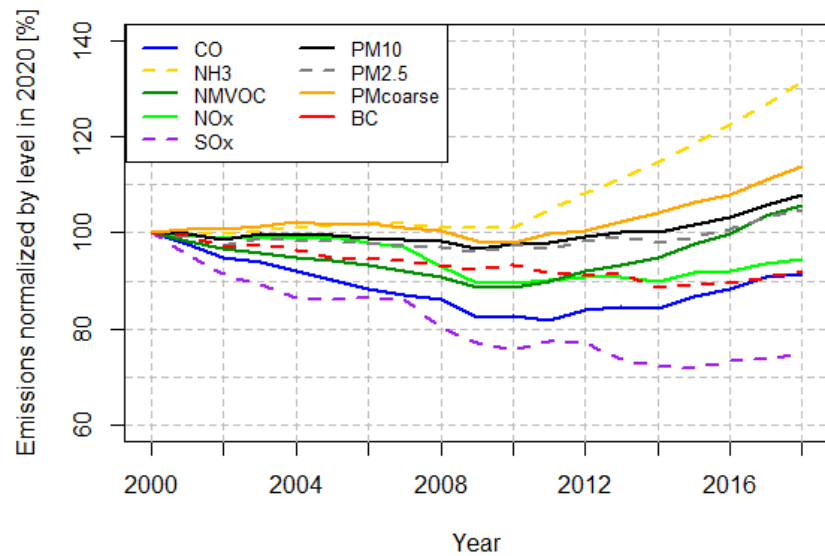
CEIP



09.2020

Emission trends in EMEP area

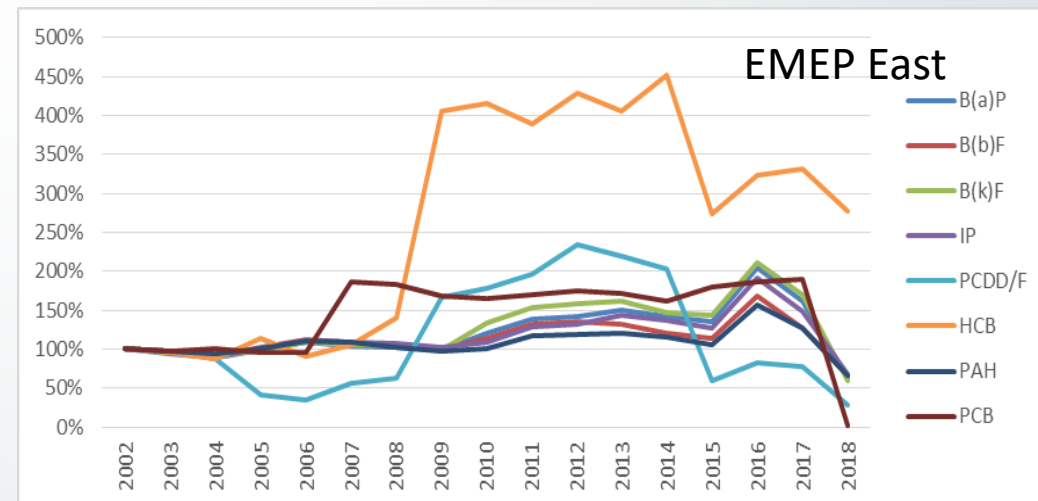
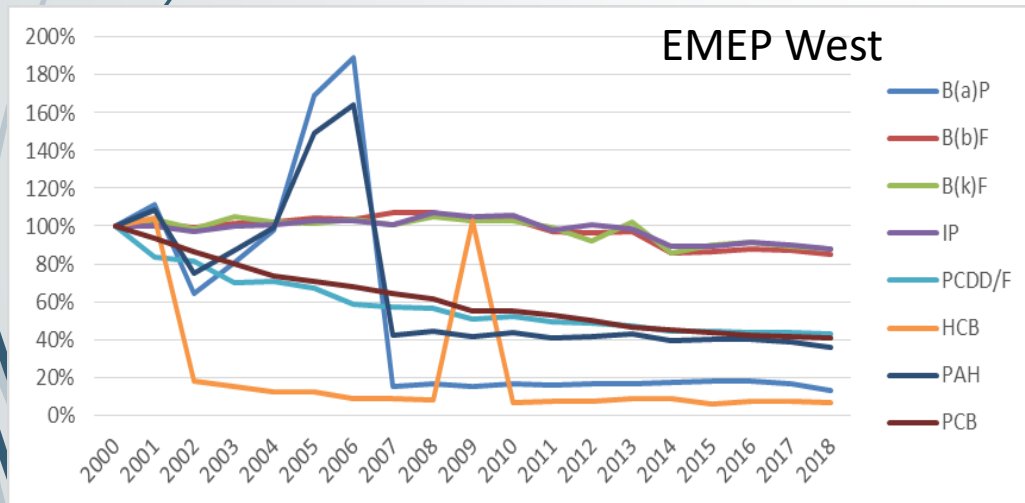
5



More in Status Report 1/2020 Transboundary particulate matter, photo-oxidants, acidifying and eutrophying components

More in EMEP Status Report 2/2020 Assessment of transboundary pollution by toxic substances: Heavy metals and POPs

Source: Status Report 1/2020 Transboundary particulate matter, photo-oxidants, acidifying and eutrophying components



Source: Status Report 2/2020 Assessment of transboundary pollution by toxic substances: Heavy metals and POPs

15.09.2020

Data sets for modelers

6

- Gridded data is part of the four-year reporting obligation and was not due in 2020
- **32 countries** in total reported sectoral gridded emissions in 0.1°x 0.1° long-lat resolution until August 2020
- Reported gridded sectoral data in 0.1° x 0.1° (long/lat) resolution cover only **43% of the grid** cells of all reporting Parties
- CEIP developed semi automated gap filling system for main pollutants and BC
- **Shipping emissions**
 - are not consistently reported across Parties.
 - Emissions for the sea regions are therefore calculated using the **Copernicus Atmosphere Monitoring System global ship data** set for the years 2000–2018 (Finnish Meteorological Institute, 2019), provided via ECCAD (CAMS_GLOB_SHIP version 2.1).
- **Gridded data available at:**
 - <https://www.ceip.at/the-emep-grid/gridded-emissions>

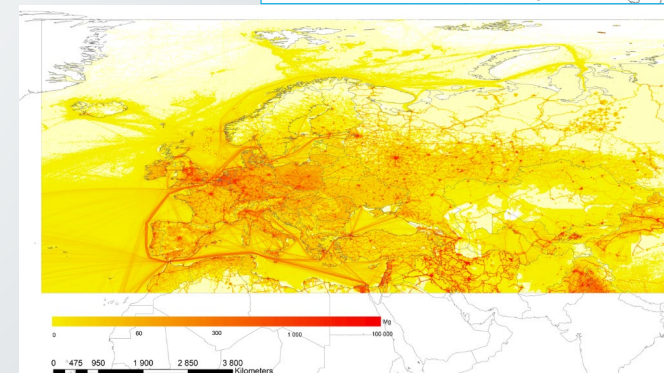
CEIP

Main and PM

HMs, POPs

■ 0.1° only 2015
■ 0.1° only 2016 and/or 2017 and/or 2018
■ 0.1° 2015 + additional years
■ 0.1° 2016 and/or 2017 and/or 2018 + additional years

Source: Inventory review report, Technical report 4/2020;
<https://www.ceip.at/review-of-emission-inventories/technical-review-reports>

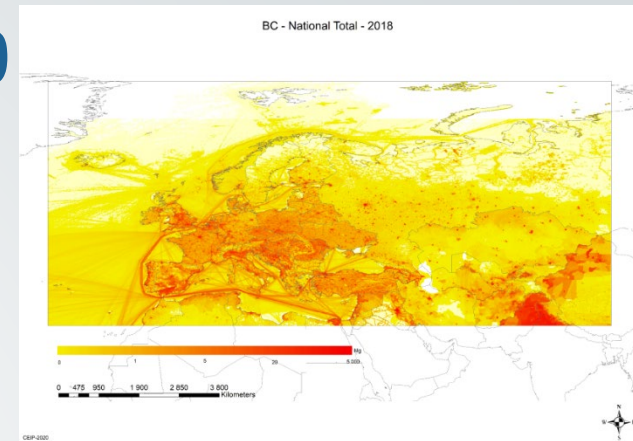


Source: <https://www.ceip.at/the-emep-grid/gridded-emissions>

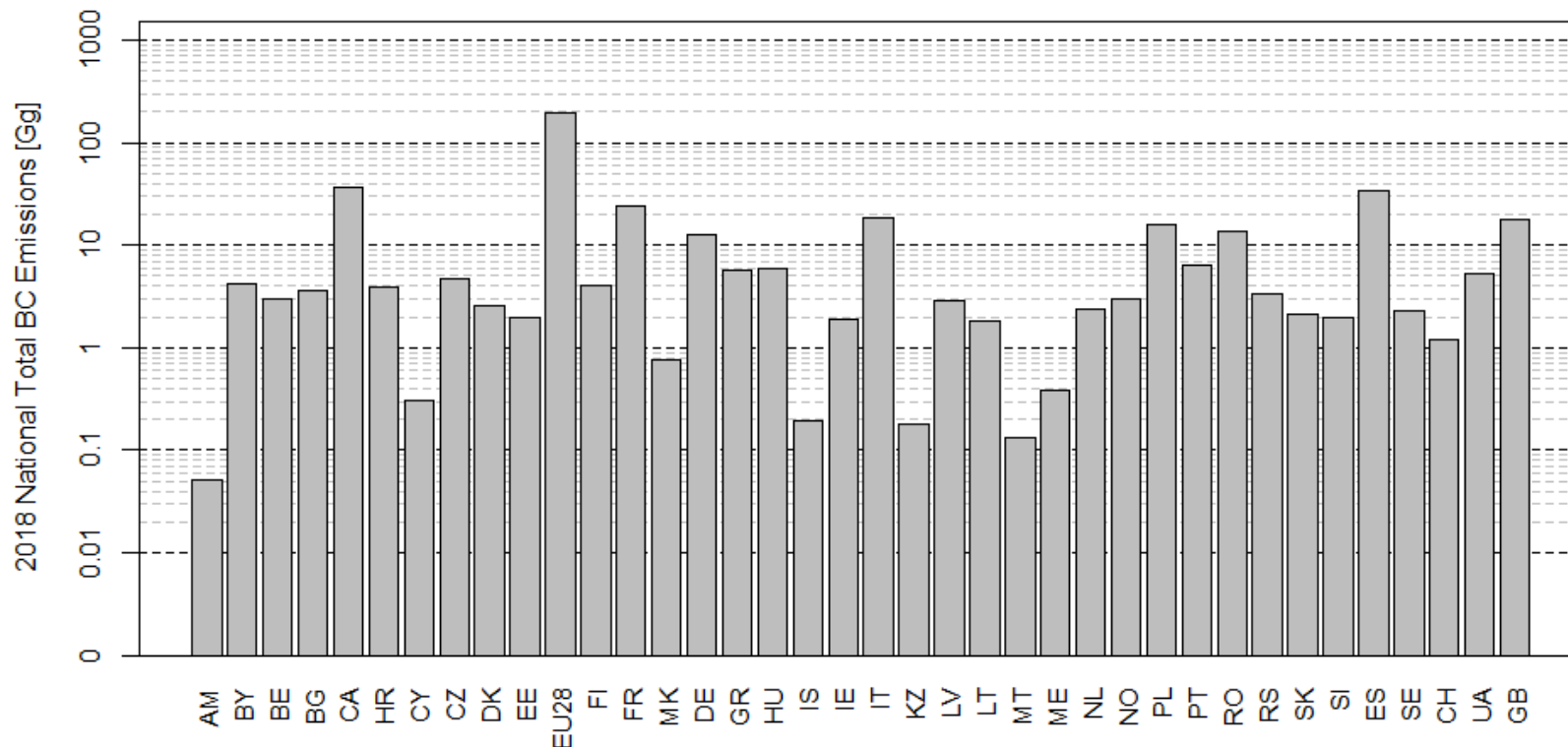
Black Carbon reporting & Gap-filling 2020

7

- Since enabling reporting , 44 Parties have reported BC
- In 2020:
 - 38 Parties reported BC National Totals for 2018
 - 33 Parties reported BC National Totals for 2000-2018
- For 2018 EMEP gridded BC emissions, gap-filling/replacement was necessary for 22 Parties



Source: <https://www.ceip.at/the-emep-grid/gridded-emissions>



Source: Status Report 1/2020 Transboundary particulate matter, photo-oxidants, acidifying and eutrophying components

- More in Status Report 1/2020 Transboundary particulate matter, photo-oxidants, acidifying and eutrophying components
- CEIP continues cooperation with AMAP via EUA-BCA, which has been extended until June 2021

<https://eua-bca.amap.no/>

15.09.2020

Relaunch website (www.ceip.at)

8

The screenshot shows the homepage of the EMEP Centre on Emission Inventories and Projections. The header includes the organization's name and a menu icon. The main content area features a large background image of a factory with smokestacks emitting smoke over a landscape. The title 'EMEP Centre on Emission Inventories and Projections' is prominently displayed. Below the title, a paragraph states: 'is responsible for coordinating the emission related work of EMEP and contributes to the scientific assessment of air pollution throughout the ECE region and to the evaluation of the implementation of the Protocols of the Convention.' Two buttons, 'ABOUT US' and 'EMEP INTERNATIONAL', are visible. A navigation bar at the bottom contains links: HOME, Mandate, Reports, Reporting instructions, Status of reporting, Data viewer, RepDab, WebDab, Review, and a right-pointing arrow. Below the navigation bar are three small images: a row of colorful binder rings, a calculator and pen on a document with a line graph, and a dandelion seed head blowing in the wind.

EMEP Centre on Emission Inventories and Projections

EMEP Centre on Emission Inventories and Projections

is responsible for coordinating the emission related work of EMEP and contributes to the scientific assessment of air pollution throughout the ECE region and to the evaluation of the implementation of the Protocols of the Convention.

[ABOUT US](#) [EMEP INTERNATIONAL](#)

[HOME](#) [Mandate](#) [Reports](#) [Reporting instructions](#) [Status of reporting](#) [Data viewer](#) [RepDab](#) [WebDab](#) [Review](#) >

© 2020 Umweltbundesamt [Disclaimer](#) [Privacy Statement](#) [Accessibility Statement](#)

- ▶ During Q2 2020 the **website was completely revised and improved.**
- ▶ access to the website with mobile devices
- ▶ user friendly navigation
- ▶ further improvements planned for 2020 and 2021

15.09.2020

Review of inventories

9

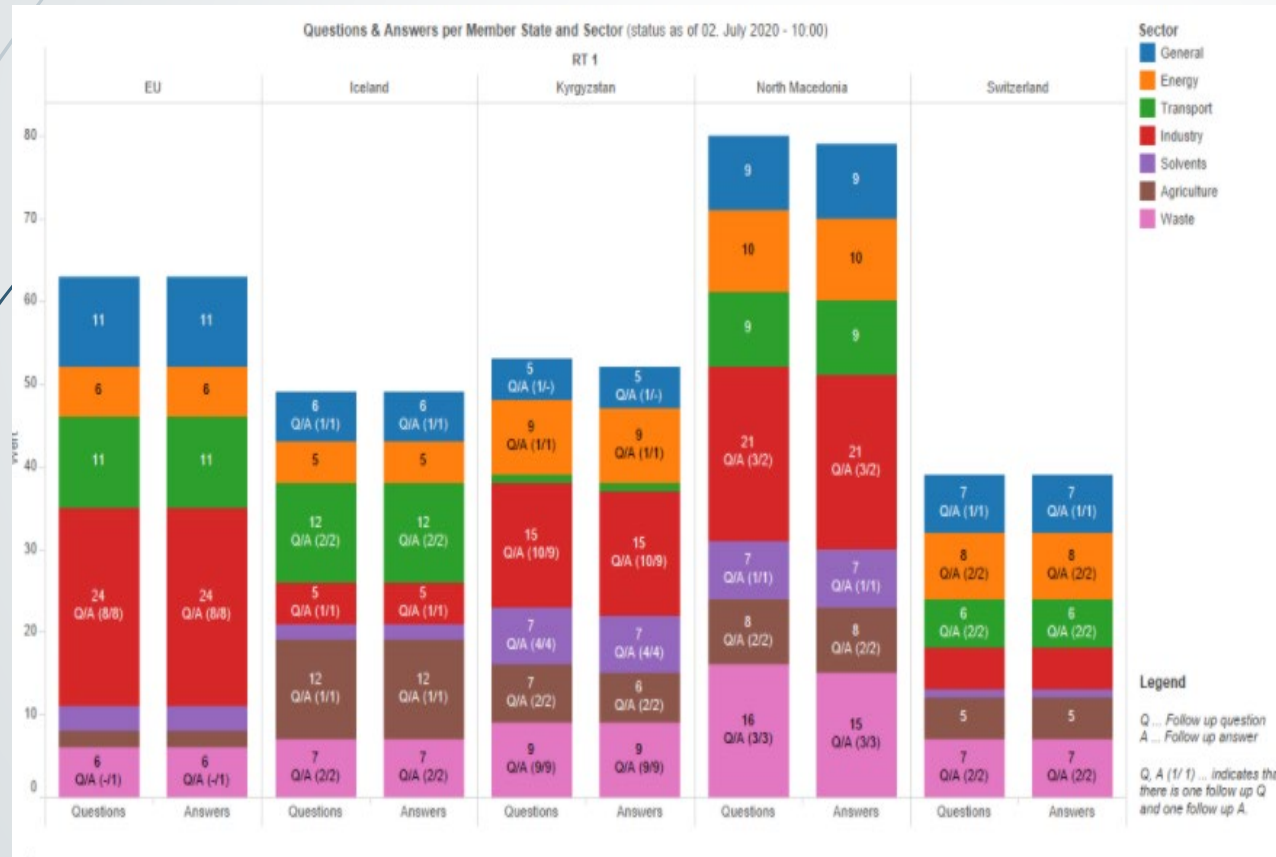
- ▶ Initial checks (S1 and S2) cover: timeliness, completeness, consistency (years, Parties, reporting obligations), indicators
- ▶ Findings published 2 times: before and after 15 March 2020 at <https://www.ceip.at/status-of-reporting-and-review-results/2020-submissions>
- ▶ Summary in *Inventory review report, Technical report 4/2020*, Annexes in form of interactive data viewers <https://www.ceip.at/review-of-emission-inventories/technical-review-reports>
- ▶ In-depth review (S3)

2020 completed	2021 plan
Iceland	Liechtenstein
Switzerland	Monaco
Kyrgyzstan	Montenegro
EU	Kazakhstan
North Macedonia	BiH ??
	other or other topics???

S3 2020 Progress

10

- Review of 5 Parties completed
- Sufficient cooperation with Parties
- RR completed by teams



40 - 80
questions/answers per Party

Thoughts on the review

11

- ▶ **In-depth review is an important element** in the process of verification of inventories and efficient capacity building for country experts – **reviewers and Parties recommend to continue the process**
- ▶ **no inventory experts nominated to EMEP roster from EMEP east region, WB - action needed – EMEP SB, EB.....?**
- ▶ **Desk review (2020)** – was successful, but required much more effort from Lead Reviewers, CEIP and reviewers as well
- ▶ **Meeting of ERT is important** makes the review more efficient , establishing network of experts...
- ▶ **Reporting requirements /formats** (UNECE Guidelines) does not really support review process (e.g. AD, EFs not in standardised formats, missing emissions per fuel,)
- ▶ rather often TC can be not calculated due to the lack of data

Roster:
24 Parties
102 experts

In depth review strategy 2021 onwards

➤ 2021

- Complete the review of remaining Parties (to the extent possible - if submissions are available) and review *Kazakhstan, Liechtenstein, Monaco, Montenegro and Bosnia and Herzegovina*
- Update RR template ???
- Start to assess the implementation of findings from previous reviews

➤ 2022 and 2023 set a specific focus on the review: Topics could be:

- gridded data
- LPS data
- inclusion of condensables in PM emissions
- certain sectors/NFR categories (e.g. 3F)
- implementation of previous review findings
- national system
- projections

For the choice of the topic, TFEIP, IC and MSCw and MSCe will be consulted
Activities will be harmonized with review under NECD

Main achievements and key messages

13

- ▶ Reporting of Parties improved over years
- ▶ In-depth review is an important element in the process of verification of inventories
- ▶ In-depth review of 5 Parties completed in 2020
- ▶ Improvement of the platform for the review
- ▶ Development of semi automated gap-filling for main pollutants and BC
- ▶ Gridded data sets for main pollutants, BC, POPs and HMs delivered to MSCwest and MSCeast
- ▶ Relaunch of web-site
- ▶ Cooperation on BC
 - ▶ Processing and archiving of data reported by Parties
 - ▶ Maintenance and improvement of EMEP emission database (WebDab)
 - ▶ Review of inventory data (initial, in-depth)
 - ▶ Review of Adjustments / support EMEP
 - ▶ Maintenance and improvement of “Gridding tool”
 - ▶ Develop tests and perform checks of gridded data
 - ▶ Support to Parties (capacity building, online guidance, ad hoc, trainings,.....)
- ▶ Cooperation with EMEP centres and TFs, organisations (JRC, AMAP, EEA, EC, ...) and other projects (CAM, NECD review,...)
- ▶ Outreach and Publications of findings (review findings, technical reports, status reports, assessment reports ...)
- ▶ Assessment of reporting of condensable – assessment
- ▶ Improving quality of the EMEP emission inventory: comparisons with other data

15.09.2020

Contact and Information

emep.emissions@umweltbundesamt.at

www.ceip.umweltbundesamt.at

