

# CEIP activities 2022- Plans for 2023

Present state of emission data, review process and  
data for modelers  
(ECE/EB.AIR/GE.1/2022/7–ECE/EB.AIR/WG.1/2022/18)

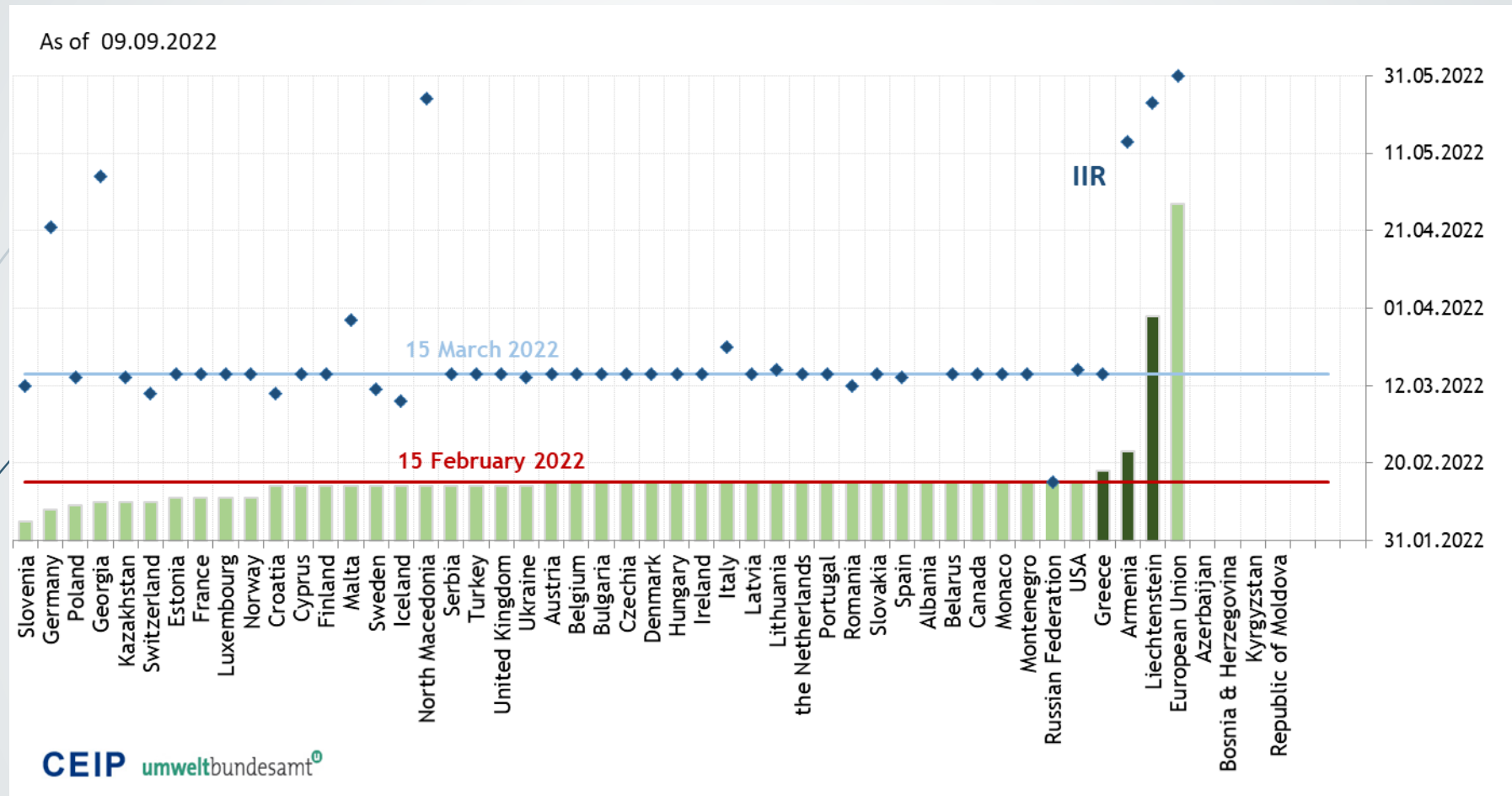
Eighth joint session of the EMEP Steering Body and the Working Group on  
Effects

*12-16 September  
Geneva*

Sabine Schindlbacher, Robert Wankmüller, Bernhard Ullrich, Bradley Matthews

# Status of reporting

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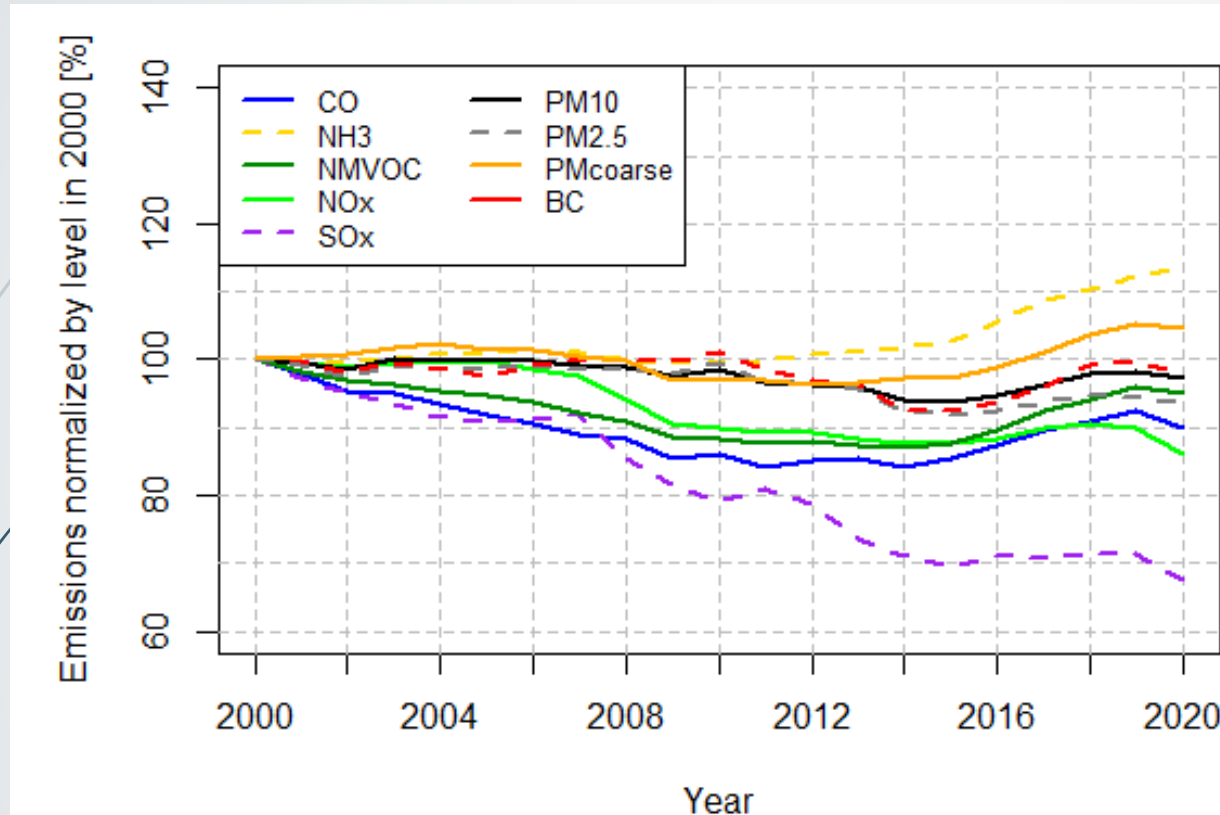


➤ <https://www.ceip.at/status-of-reporting-and-review-results>

# Status of reporting – a few numbers

- 47 inventory submissions (3 after the deadline)
- 44 Informative Inventory Reports (7 after the deadline)
- 42 full time series (1990/2000 to 2020)
- 41 Black Carbon Inventory Submissions
- 3 Gridded/LPS datasets
- 7 Projection datasets
- 4 New adjustment applications
- 14 Declarations on the publication of the Informative Inventory Reports
- 21 Parties included quantitative information on uncertainty estimates for the main pollutants in their IIR

# Emission Trends in EMEP-area- Main pollutants and PM



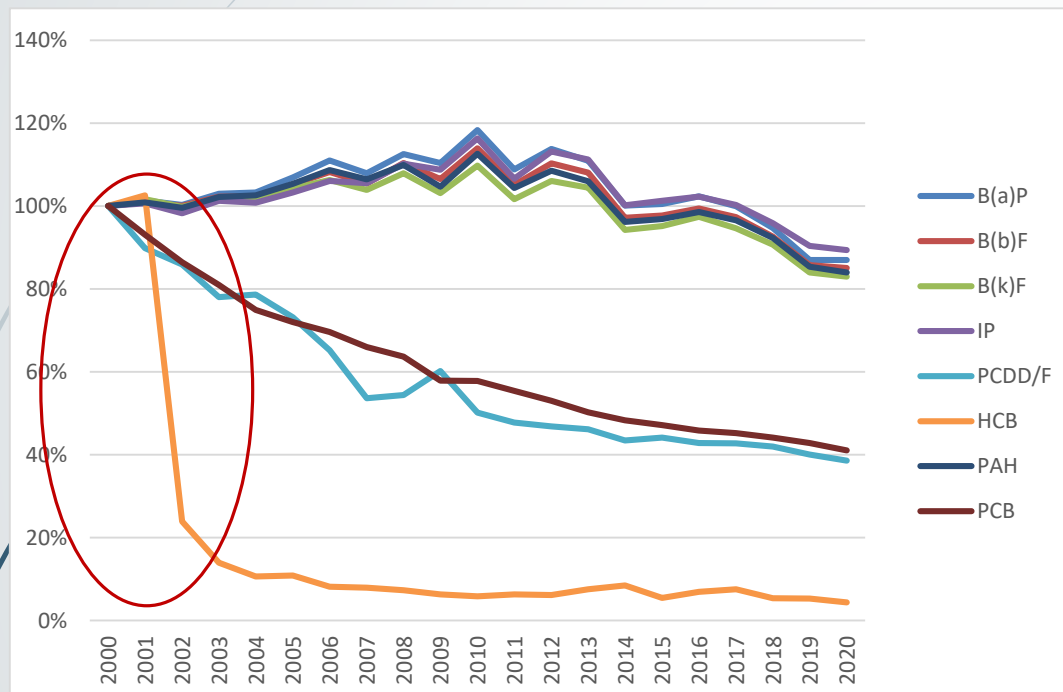
Source: Status Report 1/2022 Transboundary particulate matter, photo-oxidants, acidifying and eutrophying components (in preparation)

- More in Status Report 1/2022 *"Transboundary particulate matter, photo-oxidants, acidifying and eutrophying components"* Joint MSC-W & CCC & CEIP & CIAM Report

# Emission Trends in EMEP-area – POPs

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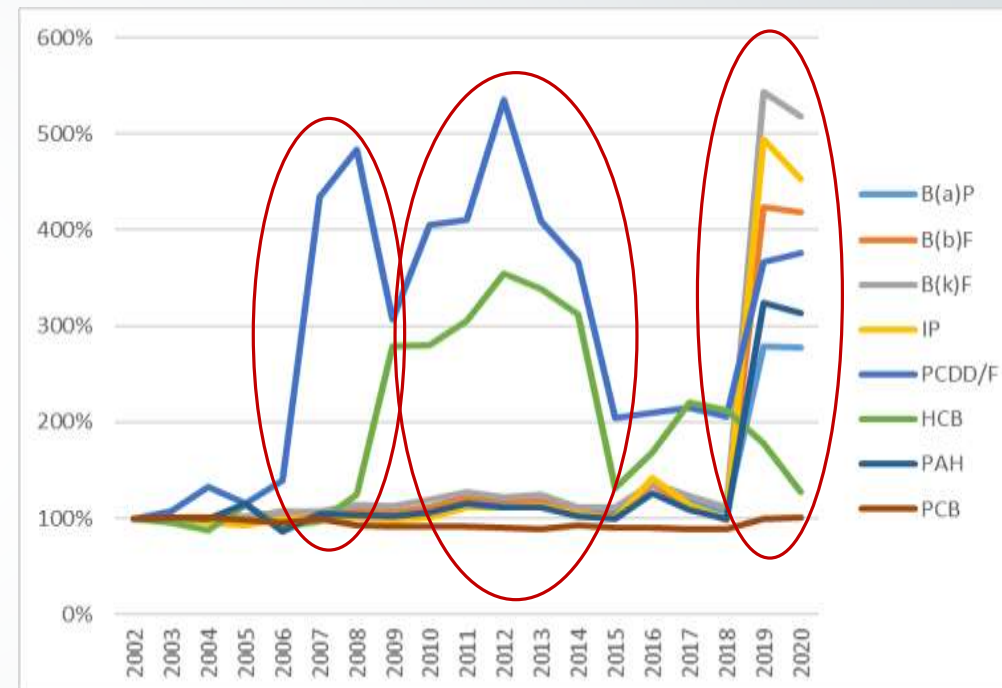
Emission trends of POPs 2000-2020 in the **EMEP West area (reported data)**



Source: Status Report 2/2022 Assessment of heavy metal and POP pollution on global, regional and national scales.

mainly Germany for G-NFR  
sector *B\_Industry*

Emission trends of POPs 2002-2020 in the EMEP **East area (reported data)** without Russian Federation, Ukraine and without HCB from Kazakhstan and Georgia



incomplete reporting and inconsistent time series



# Emission Database

HOME / WebDab

## The Emissions Database

**WebDab** is the emission database of EMEP (Co-operative programme for monitoring and evaluation of long range transmission of air pollutants in Europe) and open to the public for interactive use via the Internet. Emissions on **Main Pollutants, Heavy Metals, Persistent Organic Pollutants and Particulate Matter** are available as totals/sectors both for officially reported data and gap-filled emissions.

WebDab contains all emission data officially submitted to the Secretariat of the Convention on Long-range Transboundary Air Pollution (LRTAP Convention) by the Parties to the Convention.

### Reported emission data

National totals and sector data as reported by the Parties [1980 to (N-2) year]

READ MORE

### Emissions as used in EMEP models

National totals and sector data as used in EMEP models [1980, 1985, 1990 to (N-2) year]

READ MORE

### Reported activity data

Activity data as reported by the Parties [1980, 1985, 1990 to (N-2) year]

READ MORE

➤ <https://www.ceip.at/webdab-emission-database>

# Review Activities

- Stage 1 and 2 review: **Technical review** of all submitted inventories:  
<https://www.ceip.at/status-of-reporting-and-review-results/2022-submission>
- “Inventory review 2022” (Technical report CEIP 2/2022) plus “Data-viewer” and “Methodology report” (Technical report CEIP 3/2022)  
<https://www.ceip.at/ceip-reports>
- Assessment of Inventory Reports – May , presented during TFEIP (2022 IIR awards to Sweden, Latvia, Hungary, Serbia and Portugal)  
<https://www.ceip.at/iir-awards>
- **Ad-hoc review of 40 countries** (May-July)
  - sectors residential heating and road transport with a special focus on the condensable component of PM emissions  
<https://www.ceip.at/review-of-emission-inventories/in-depth-review-of-ae-inventories>


## Stage 3 review 2022 – ad-hoc review

- In 2022 the review focused on
  - Residential heating with a special focus on the condensable component of PM emissions
  - Road Transport with a special focus on the condensable component of PM emissions
  - A follow-up review for the Parties that were reviewed in 2021 (Kazakhstan, Liechtenstein, Monaco and Montenegro)
- Review of 40 Parties completed (all Parties that provided an Informative Inventory Report before the start of the review)
- Review report have been commented by Parties
- **The ERT raised 369 question in total and received 301 answers**
- Good cooperation with most Parties during the review
- **Positive feedback from countries and reviewers for ad-hoc review**
- Synthesis report planned for autumn 2022





## Handling the condensable component in the gridded data-set for residential heating

- ➡ Outcome of the review was used to decide if emission for residential heating reported by a Party is used in gridded dataset for modelers
  - ➡ Aim to use as much data reported by Parties as possible and at the same time ensure a consistent dataset for the EMEP models
- 

## Handling the condensable component in the gridded data-set for residential heating

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

# Data source for PM emission in GNFR C used in EMEP models in 2022

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

# Stage 3 review 2023 and thereafter

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- In-depth review is an important tool for the
  - improvement of national emission inventories
  - capacity building of air emission inventory experts (reviewers)
  - EC has sponsored the travel/accommodation for seven experts from the Western Balkan and Turkey via one of their neighbourhood programmes
  - This resulted in a geographically more balanced Expert Review Team
  - 22 reviewers from 13 different Parties
- **Centralized review meeting** very important for interaction and exchange of expertise within the review team
- New nominations to the roster of review experts: 111 experts from 29 different Parties

## Stage 3 review 2023 and thereafter

- ➔ Have a „classical“ in-depth review of a subset of Parties
- ➔ Review of gridded data
- ➔ Review of projections
- ➔ **Focus on agriculture (especially NH<sub>3</sub>):**
  - ➔ Several Parties have difficulties reaching the NH<sub>3</sub> emission reduction commitments
  - ➔ Uncertainty estimates



# Gridded Emission Datasets – data for modelers

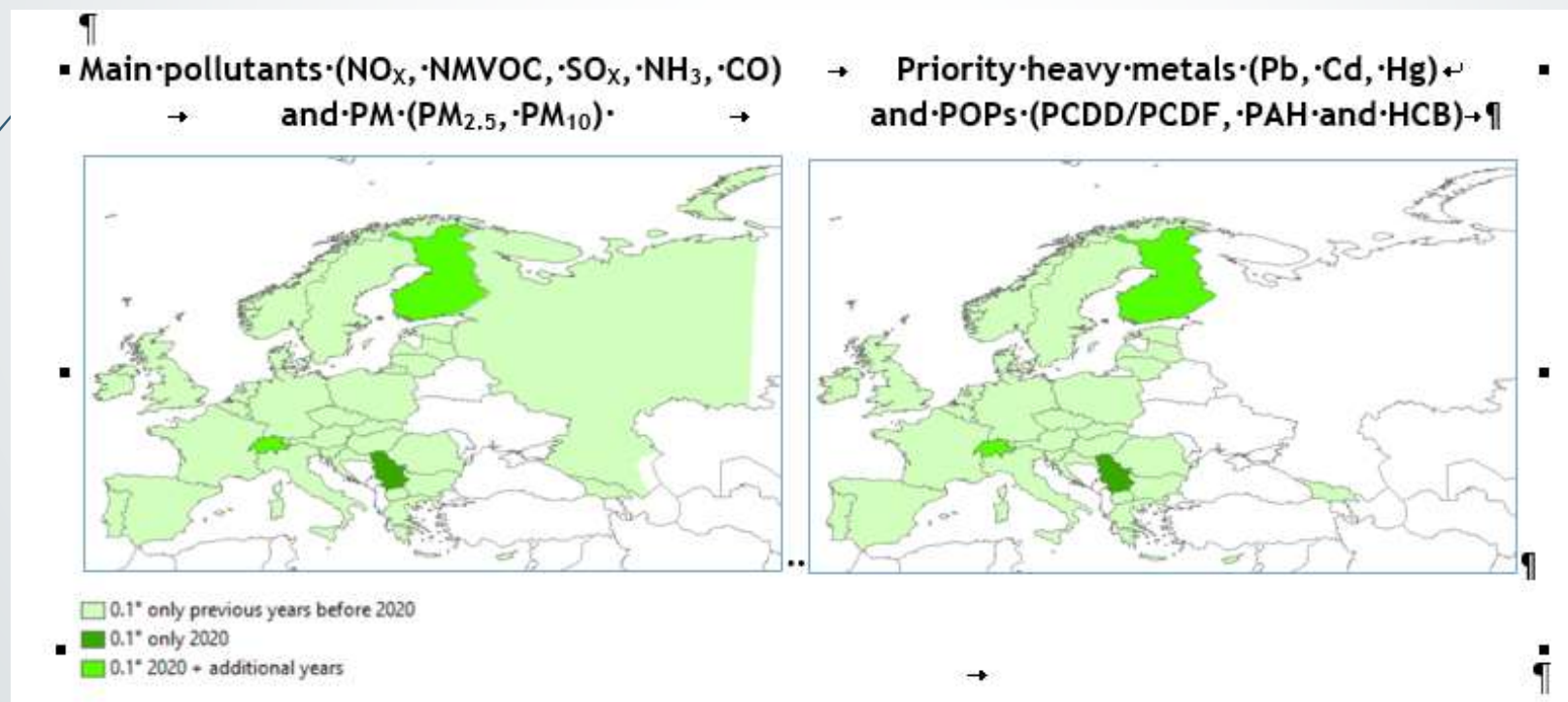
14

- **Gridded emission data for modellers** in 0.1°x 0.1° long/lat distribution on GNFR sector level
  - Main pollutants, CO, PMs, BC - years [1990](#) to 2020
  - HMs and POPs - year 2020
- Gap-filling took into account the **impact of the COVID-19 pandemic** on 2020 emissions, using business as usual scenarios for 2020 (ECLIPSE\_V6b data set) and COVID-19 adjustment factors that were calculated by Guevara et al. (2022)<sup>1</sup>
- **Gap-filling process** and the use of reported data is documented in the Reports: “Methodologies applied to the CEIP GNFR gap-filling 2022”  
<https://www.ceip.at/ceip-reports>

<sup>1</sup><https://essd.copernicus.org/preprints/essd-2022-31/essd-2022-31.pdf>

## Gridded Emission Datasets – data for modelers

- Gridded data is part of the four-year reporting obligation and was not due in 2022
- **35 countries** in total reported sectoral gridded emissions in 0.1° x 0.1° long-lat resolution until June 2022 (either in 2021 or 2022)
- Reported gridded sectoral data in 0.1° x 0.1° (long/lat) resolution covers 80% of the grid cells of all reporting Parties



Source: Inventory review 2022, Technical report 02/2022 (in preparation)

09.09.2022

# Workplan 2022/2023

- ✓ CEIP provided recommendations for which Parties the reported data should be used for GNFR sector C. Results of the review were considered.
- ✓ CEIP contributed to the workshop “Condensables in Air Convention reporting” organized by the European Commission in cooperation with the EMEP Steering Body and CEIP (Brussels, 26–27 April 2022).
  - ➡ The workshop was attended (remotely, or in person) by approximately 90 experts from 36 Parties
- ✓ Detailed information on how the Parties to the Protocols fulfil their reporting obligations was provided to the UNECE secretariat and the Implementation Committee (March, May and August)
- ✓ Gap-filling for shipping emissions was refined
- ✓ Contribution to the streamlining of the adjustment application process for adjustment applications for the Emission Reduction Commitments

# Plans for end of 2022 and 2023

- Contribute to the up-date of the Guidebook; mainly commenting
- Improving spatial distribution of emissions, assuring consistency across pollutants, especially for regions where incomplete gridded data is reported to CEIP. New data sources will be explored jointly with IIASA/CIAM
- Cooperation with Arctic Council and AMAP
- Comparison of EMEP gridded emissions with other sources (CAMS, Fairmode)



# Contact and Information

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