TFEIP User Engagement Introduction

Jeroen Kuenen (TNO)

TFEIP meeting, 18-20 April 2023, Oxford

User Engagement – Introduction and Rationale

- The TFEIP community combines the knowledge from emission inventory teams across Europe
  - Together we have an enormous amount of information regarding sources, magnitude and location of the emissions for a wide range of pollutants: a wealth of information!
- Given the importance of emissions for policy (emission reduction commitments) the application of our knowledge has a strong focus on following guidelines and reporting
  - The use of our emission data for other purposes, in particular in further environmental assessments, is often only a second priority
  - But emission experts have a lot more to offer than just what is in the reported data
- Making the gap between the emission inventory community (here together as the TFEIP) and the users of our emission data smaller is a win-win situation for everyone!
  - When you produce a dataset, you want it to be used
  - Provide the AQ modelling community with more and higher quality information
  - Verification of emission data needs modelling tools and comparison with measurements

User Engagement within TFEIP

- For many years, there has been a wish to develop better linkages to users of emission data
  - Make known what we have to offer & receive feedback from users
- In TFEIP, we started this initiative in 2022 as announced during last years' web-conference
  - Stimulate exchanges between the communities, both in form of discussions and sharing of information
  - Group of ~ 12 people has formed who contribute – both from TFEIP and other gremia! *Want to join? Please let me know!*
  - Take stock of developments outside of TFEIP
- Collaboration with other groups is crucial to make this work!

Atmosphere Monitoring Service
atmosphere.copernicus.eu

LRTAP
Long-range Transboundary Air Pollution

FAIRMODE
Forum for air quality modelling in Europe

User Engagement: first topics

Last year we identified two main work items:

1. Improving guidance in the Guidebook that is not sector specific but relevant for making use of the emission data
   - "Spatial emission mapping" chapter has been revised as part of the 2023 EMEP/EEA Guidebook update

2. Provide additional information for modellers which is not explicitly part of emission inventory (reporting)
   - Speciation profiles, e.g. for PM and NMVOC
   - Fine timescale emissions (how to go from annual to daily/hourly)
   - Typical emission (injection) height for all sources
   - Other relevant information

Agenda for this morning

Timing	Topic	Presenter(s)
09.00	Introduction	J. Kuenen (TNO)
09.15	Guidebook chapter on spatial emissions mapping	J. Kuenen (TNO)
09.30	Feedback from EDGAR workshop	M. Muntean (JRC)
09.40	Reported emission data for modelling as prepared by CEIP	S. Schindlbacher (CEIP)
10.00	Reported emission data for modelling as prepared by CAMS	J. Kuenen (TNO)
10.20	Questions/discussion	
10.30	End of session & Coffee break	
11.00	The future of emissions reporting (recent questionnaire) *Presentation of results followed by discussion*	TFEIP Co-Chairs and Secretariat
12.00	Lunch break	

Note: all times are BST (UK time)

Any questions?

jeroen.kuenen@tno.nl

TFEIP User Engagement EMEP/EEA Guidebook

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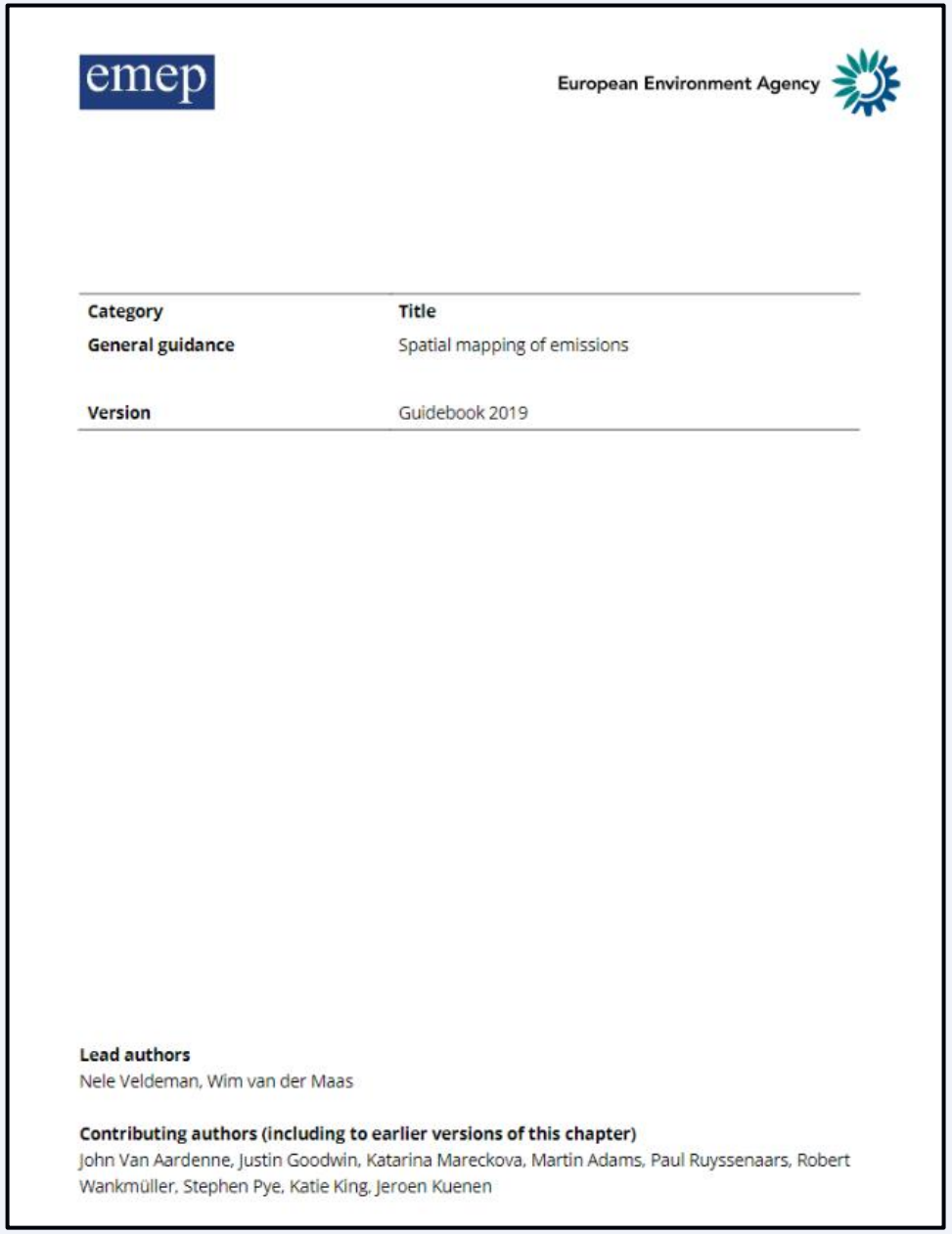
Updates to the EMEP/EEA Guidebook (2023 edition)

- Only GB chapter concerned for this topic is “Spatial emissions mapping”
  - Draft chapter + Annex (Excel) available for review at the TFEIP website
  - Main changes presented here

- General update has been long time ago – multiple references to outdated datasets
  - Take stock of newly available datasets
- As part of the 2020 & 2021 NECD inventory reviews (gridded & LPS data), EU Member States have been reviewed for their gridded & LPS data
  - Resulted in a better understanding of the completeness, consistency and quality of the reported gridded inventories as well as the large point sources

Guidebook chapter ‘Spatial emissions mapping’

- Chapter received its last significant update as part of the 2013 EMEP/EEA Guidebook update
  - Only small modifications/additions were made since then
- Ensure more up-to-date descriptions of the methodology to be used for spatial disaggregation of emissions
  - Guidance & Examples – always up to the Parties to generate the point source & spatially resolved emissions
- Take stock of some of the lessons learned as part of the 2020/2021 NECD inventory reviews



emep

European Environment Agency

Category	Title
General guidance	Spatial mapping of emissions
Version	Guidebook 2019

Lead authors
Nele Veldeman, Wim van der Maas

Contributing authors (including to earlier versions of this chapter)
John Van Aardenne, Justin Goodwin, Katarina Mareckova, Martin Adams, Paul Ruyssenaars, Robert Wankmüller, Stephen Pye, Katie King, Jeroen Kuenen

Guidebook chapter ‘Spatial emissions mapping’ – main changes

- General textual/editorial updates made to the chapter
- Methods section have been reviewed and updated
- The need for proper documentation of the methodology used for gridding emissions has been emphasized
- References to datasets and legislation updated to more up-to-date versions
  - For instance: E-PRTR now replaced with the Industrial Emissions Portal (EEA)
- Two extensively described examples removed as the approaches involved outdated or currently unavailable datasets (road transport distributions with TRANSTOOLS, TREMOVE, etc.; industrial distributions using employment statistics was not fully understood)
- Overview of spatial emissions data at European (or global) level has been updated, removing outdated or not-maintained datasets from the overview
- Annex (Excel format) with a table suggesting possible proxy parameters for gridding emissions for each NFR category, using either Tier 1, Tier 2 or Tier 3 approach

Example

- Annex Table (in Excel) provides detailed recommendations/suggested approaches for spatially distributing emissions for each relevant NFR category

				Best quality----------à----------à----------Approximate estimate		
NFR code	**NFR sector name**	**GNFR sector**	**Cat.**	**Tier 3**	**Tier 2**	**Tier 1**
1A1a	Public electricity and heat production	A_PublicPower	A	Reported point source data or national totals disaggregated using plant-specific capacity or other activity statistics	Industrial land cover data combined with other data sources, e.g. employment data for a specific industrial branch by NUTS or other region	Industrial Land cover
1A1b	Petroleum refining	B_Industry	A			
1A1c	Manufacture of solid fuels and other energy industries	B_Industry	B			

Notes
A combination of tiered approaches might be needed depending on the availability of a complete dataset of point sources. Where only partial datasets are available for point sources use proxy data most relevant to sub-sectors to map diffuse remainder. It is highly recommended to use a Tier 3 methodology where possible, and only use Tier 1 or Tier 2 in cases where emissions could not be allocated to point sources.

Your feedback

- Draft chapter has been reviewed by the group that contributes to the User Engagement community prior to the TFEIP review
- No specific comments received to date from the wider TFEIP community – but we are aware of the limited time available to review this
- In case of substantial comments, please let me know by mid-May at the latest

Work plan for upcoming year

- Finalise the updated Guidebook chapter as necessary
- Draft the additional information for modellers which is not explicitly part of emission inventory (reporting)
  - Not part of the EMEP/EEA Guidebook, hence does not need to follow the timelines for these updates
- Continue liaise with the modelling community (CAMS, FAIRMODE, etc.) and promote collaborations with the emission inventory community

Any questions, thoughts or ideas?

Please bring them up now or contact me at

jeroen.kuenen@tno.nl