

Key activities of CEIP

Review of inventories under CLRTAP, examples of review results



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CONTENT



- Main activities
- Review Stage 1 & 2
- Stage 3 centralised in-depth review
- Assessment of IIRs /Transparency
- New gridding system / challenges
- Lessons learned / plans for improvement

<http://www.ceip.at/review-of-inventories/>

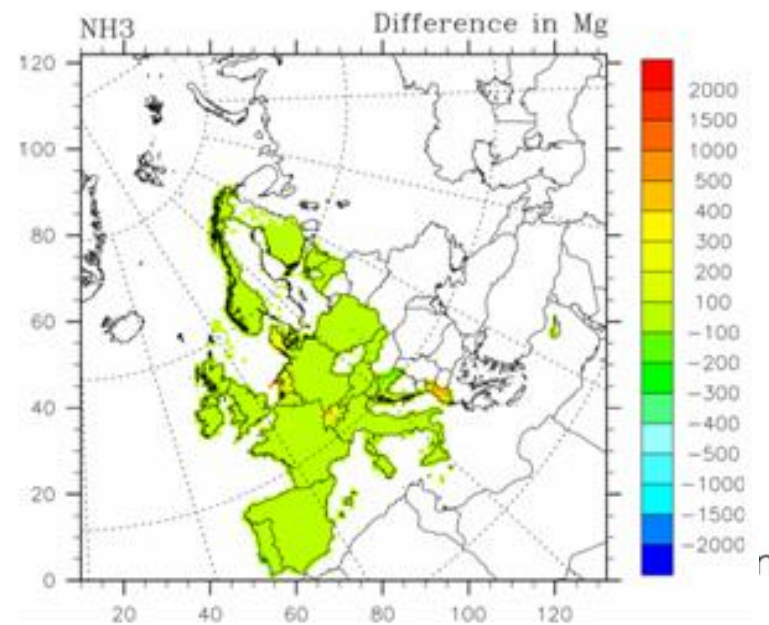
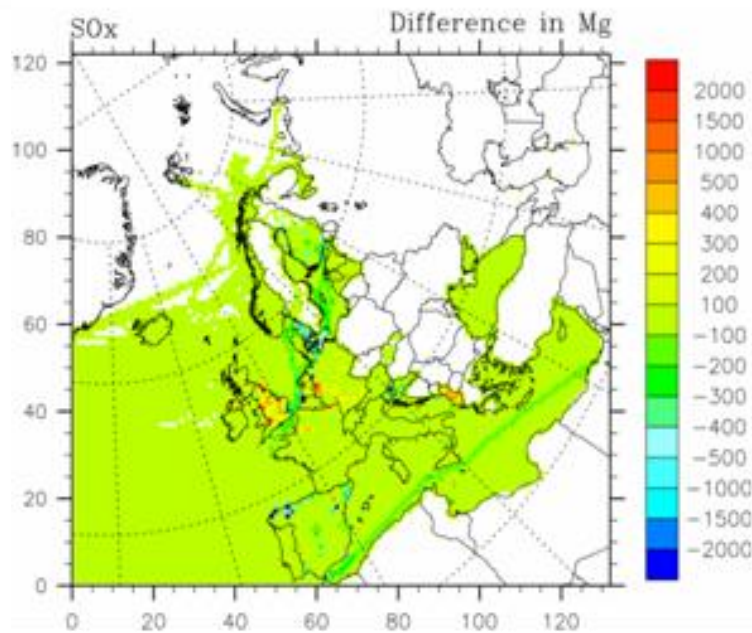
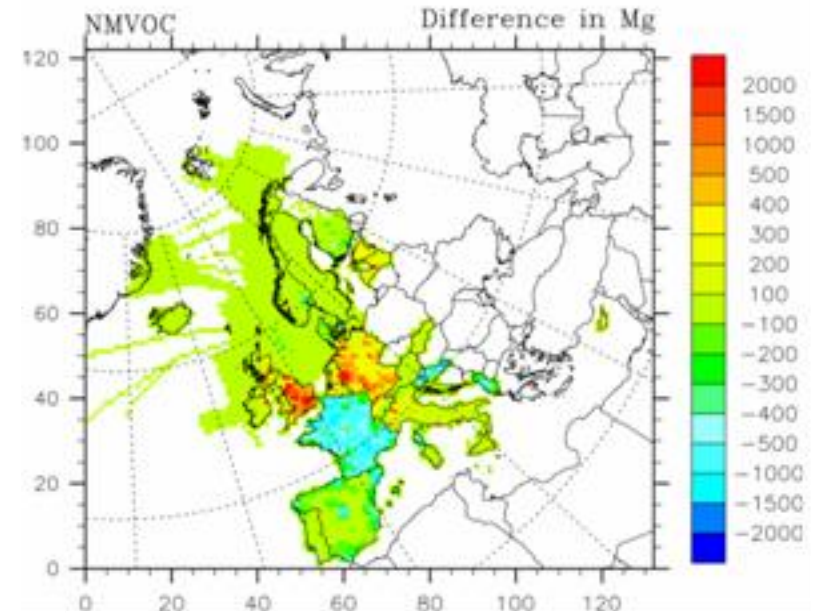
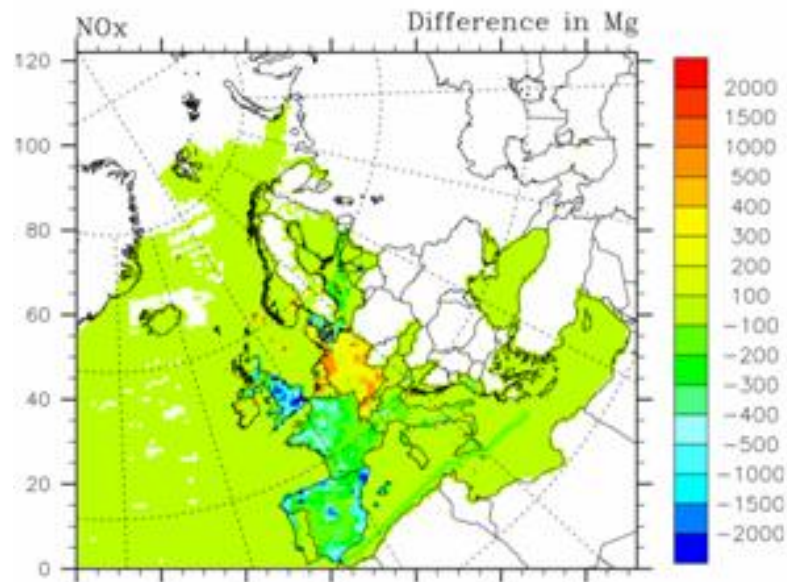
<http://www.ceip.at/review-results/>

KEY ACTIVITIES 2012

- ✓ Support to Parties (www.ceip.at)
- ✓ Review of inventories, feedback to Parties
- ✓ Production of gridded emissions (50x50)
- ✓ Update of historical gridded emission 2000 - 2009
- ✓ Improved *Review report 2012*
- ✓ Improved stage 3 review process
- ✓ Status of reporting to SB, EB, IC
- ✓ Testing of new long/lat grid scale (0.2 x 0.2)

All products delivered as planned

UPDATE OF HISTORICAL EMISSIONS (2000)



Quality control

Data check of reported emissions inventories is established under different Conventions and Protocols

- Automated tests on imported data
- Semi-automated tests on completeness, consistency and comparability
- In-depth review of methods, EF and AD, and documentation

Quality parameters

T TCCCA

Timeliness

Transparency

Consistency

Comparability

Completeness and

Accuracy

MAIN OBJECTIVES OF THE REVIEW



- a) complement the reporting guidelines in supporting Parties to compile and submit high quality inventories
- a) support Parties in meeting their reporting obligations under the Protocols
- b) increase confidence of policymakers in the data used for air pollution modelling

Actual review system:

- ✓ Standard tests: all Parties **annually**
- ✓ Detail review: each Party at least once in **5 years**
(10 Parties can be in-depth reviewed in one year)

REVIEW PROCESS

Cooperation of CEIP and EEA



✓ **Stage 1** - automated tests (since 2004?), Country reports posted on the web during March

✓ **Stage 2** - S&A country reports posted in May
<http://www.ceip.at/review-results/review-results-2012/>

✓ **Stage 3** – Centralised in - depth review of selected inventories (since 2008)

✓ **IIR Awards** (since 2010)

Review Guidelines EB.AIR/GE.1/2007/16

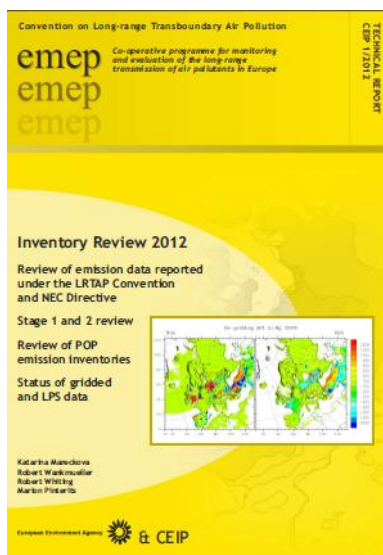
Methods and procedures for the technical review of air pollutant emission inventories reported under the Convention and its protocols

REVIEW RESULTS S1 AND S2

<http://www.ceip.at/review-results/review-results-2012/>

Results are password protected

EEA & CEIP report
Inventory Review 2012



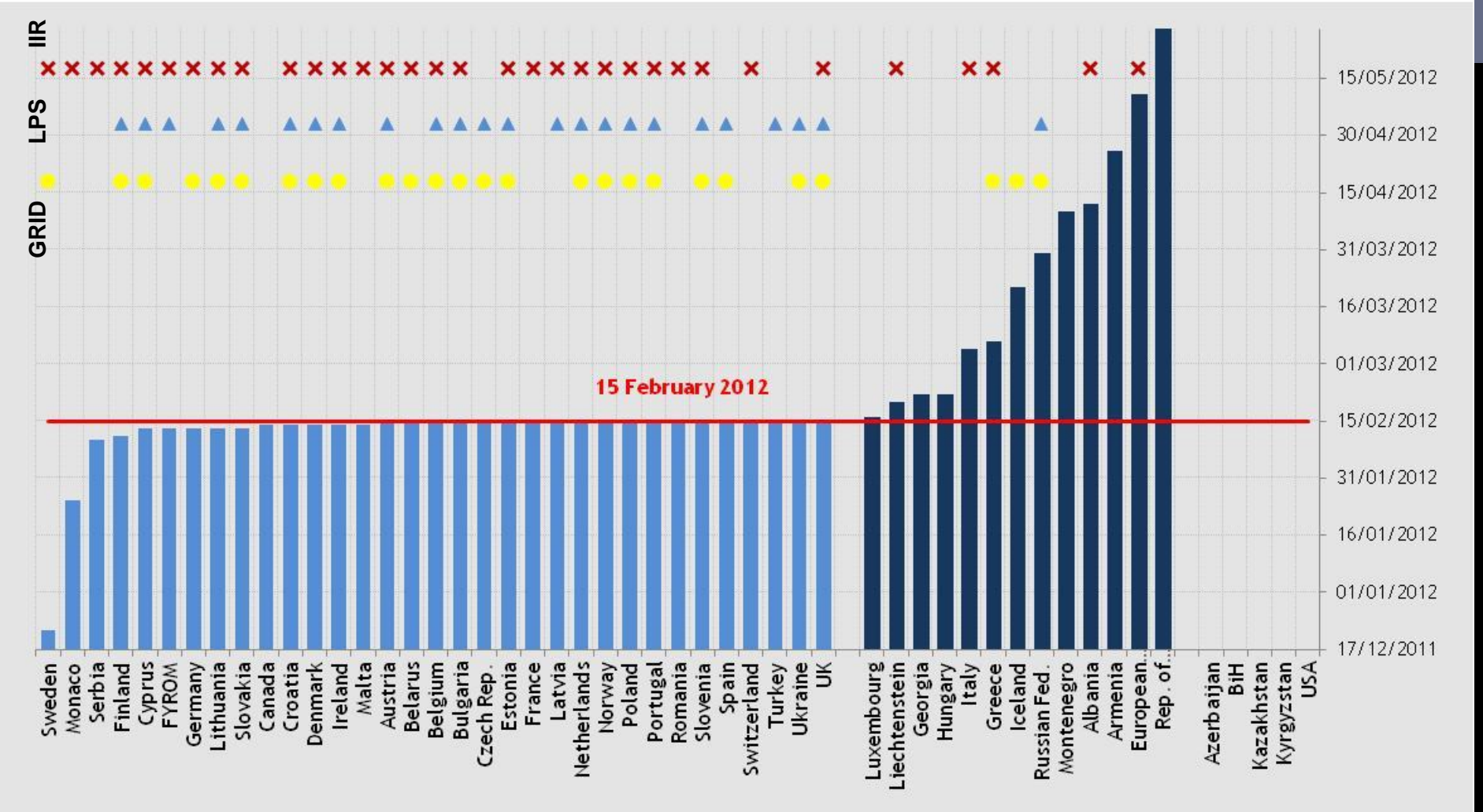
Review results 2012

In this section you can display / download stage 1 and stage 2 review data for your country as soon as it is available. You can also deliver comments to the stage 2 review and answers to IEF test questions. The access is password protected. User names and passwords were already provided to [CEIP contact points](#), but will be provided again in 2012.

A | B | C | D | E | F | G | H | I | K | L | M | N | P | R | S | T | U

Party	Stage 1 Status reports	Stage 2 review data	Stage 2 review questions and comments
ALBANIA	Stage 1 Report	Recalculations Time series Trend Graphs: Main PM HM POP	Country comments IEF Test
ARMENIA			
AUSTRIA	Stage 1 Report	Recalculations KCA for CLRTAP KCA for NECD Inv. comparison Time series Trend Graphs: Main PM HM POP	Country comments IEF Test
AZERBAIJAN			
BELARUS	Stage 1 Report	Recalculations KCA for CLRTAP Inv. comparison	Country comments

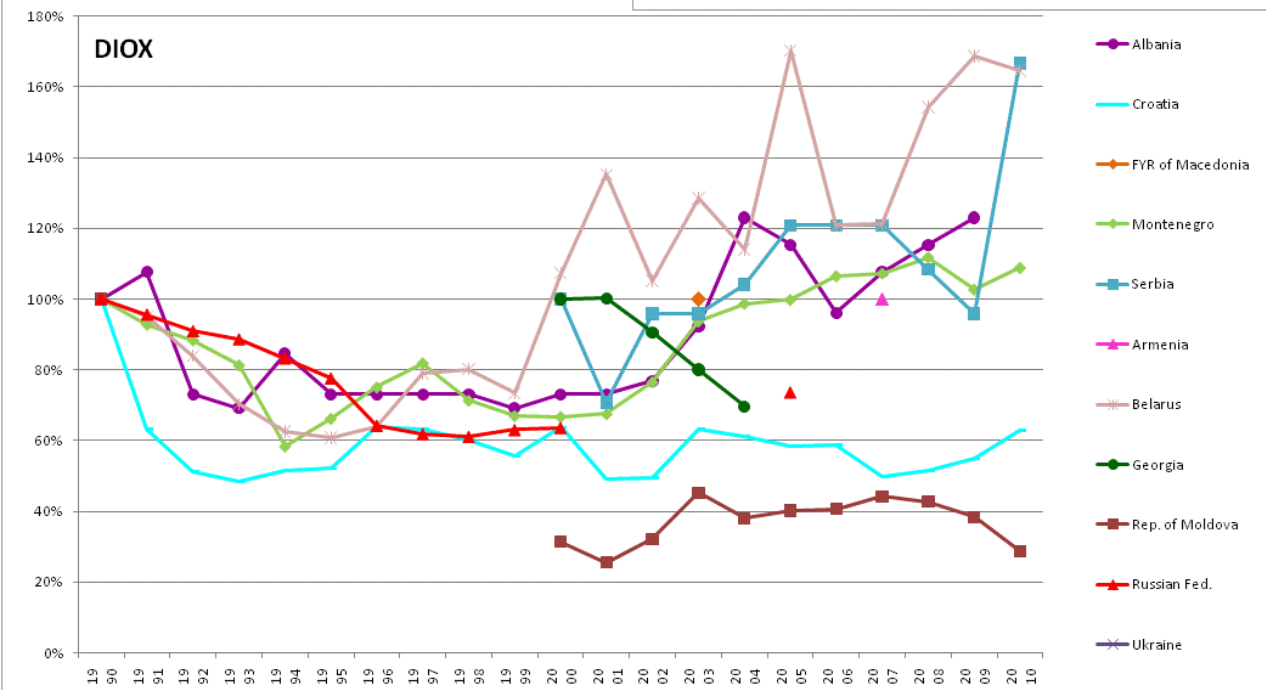
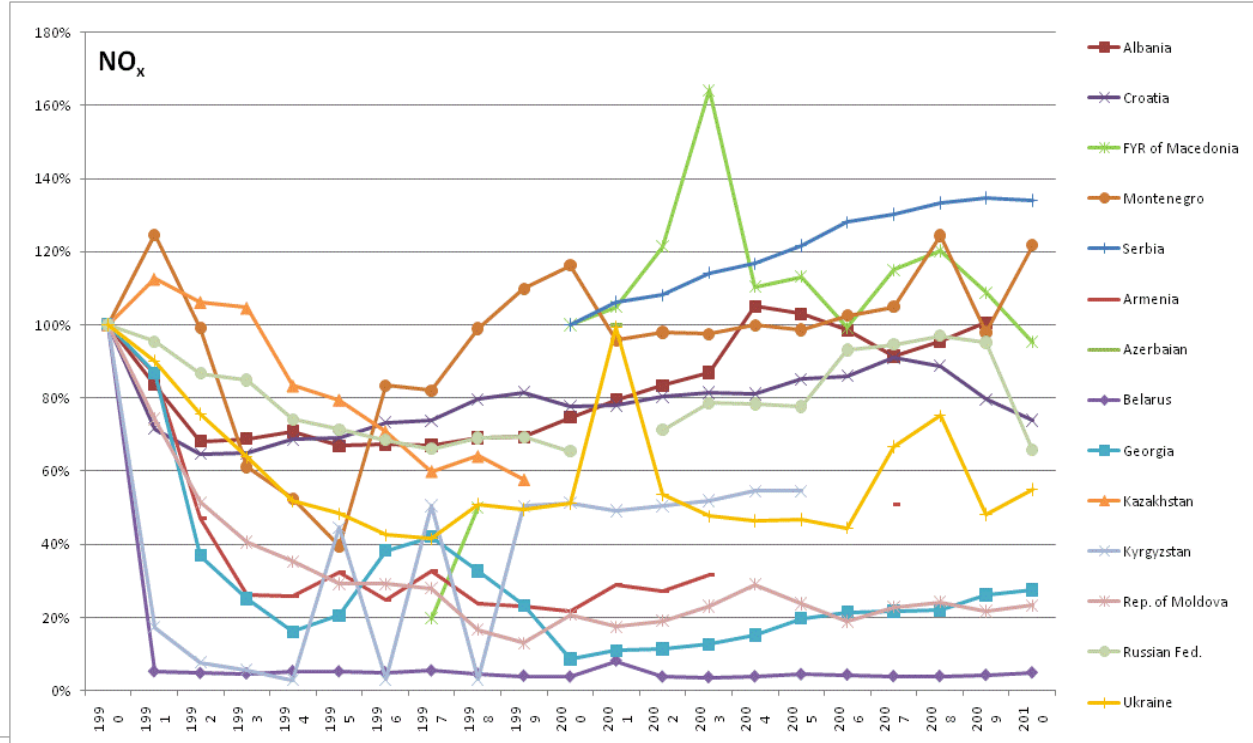
REPORTING UNDER THE CLRTAP IN 2012



<http://www.ceip.at/overview-of-submissions-under-clrtap/2012-submissions/>

- 45 (86%) submissions from 51 Parties (41 in 2010, 43 in 2010),
34 Parties within deadline - 33 resubmissions

REPORTED EMISSION TRENDS IN EECCA AND WB



*Note:
BiH, Azerbaijan,
Ukraine, Kazakhstan
and Kyrgyzstan did not
report Diox/f*

S2 – REVIEW OF REPORTED SHIPPING EMISSION

Examples of findings:

- For SO_x, NO_x and PM₁₀ emissions from international shipping dominate emissions from domestic shipping
- For NMVOC situation is opposite – reason seem to be small vessels operating close to the coast
- Calculated IEF differ quite significantly between the countries
-



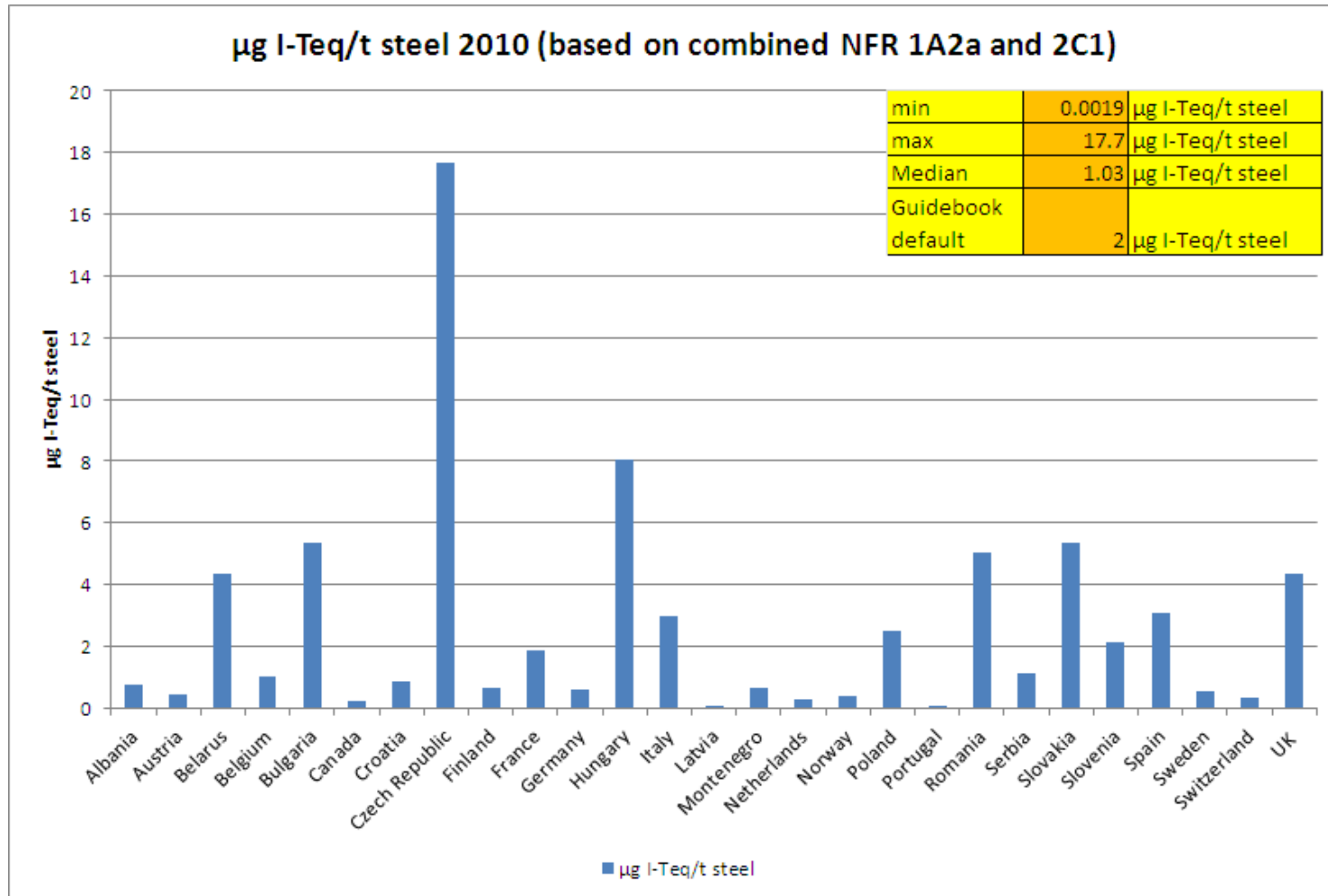
S2 - REVIEW OF POPs

A FEW EXAMPLES OF FINDINGS

- Varying numbers of POPs inventories are submitted (from **25 PCBs** to **35 PAHs**) which suggests that a number of inventories are missing, particularly for PCB and HCB.
- There is a high level of inclusion for sources where activity data and viable emission factors/emission monitoring are readily available
- A significant number of the inventories are **dominated by a single source** (>50% of total emission), which will mean the EFs used and approach for that source will have a big impact on overall estimates. This is particularly the case for the HCB inventories where 25% of the reported inventories are containing 3 or fewer sources.
- There is a lack of consistency in the identification of sources and magnitude of sources for HCB inventories submitted under CLRTAP with 17 different main sources recorded in the 28 inventories submitted.
- Equally the EMEP guidebook has a lack of viable emission factors for a number of sources which may lead to further omissions or confusion with national emission estimates.
-

EXAMPLE OF FINDINGS

PCDD/PCDF Derived emission factors for iron and steel production



STAGE 3 REVIEW

- ✓ **CEIP / EEA joint activity supported by TFEIP**
- ✓ **Broad involvement of all Parties is crucial for the success of S3**



S3 is detailed review of quantitative and qualitative information of selected inventories by pollutant and sector



S3 - EXPERIENCE 2008 - 2012

Interaction with Parties

- Most of the Parties did understand the advantage of independent review
- Most Parties responded on time and comprehensive
- A few Parties – IIR not provided, late responses, limited explanatory information after the review week
- It's challenge if Parties are **reviewed and parallel providing reviewers** to the ERT

<http://www.ceip.at/review-of-inventories/centralised-review-stage-3/>

S3 - EXPERIENCE 2008 - 2012

Review benefits

- **44 Parties reviewed since 2008** - in all inventories identified areas for improvement
- Most of the reviewed Parties implement recommendations of ERTs in next inventories i.e. completeness, consistency and transparency of reviewed inventories gradually improves
- **For reviewers provides a level of training on priorities for enhancing TCCCA of inventories**
- Motivates review experts to improve their own inventories and IIRs
- **Builds an enthusiastic network of motivated and informed experts**



S3 – CHALLENGES

- The **limited number of review experts** constitutes serious constraint to the successful conducting of the reviews
- **Not complete inventories** resp. not provided IIRs limits the review
- Interaction with Parties sometimes difficult
- Experienced lead reviewers are extremely important
- Minimal participation of experts from EECCA and South-East European countries in the review process

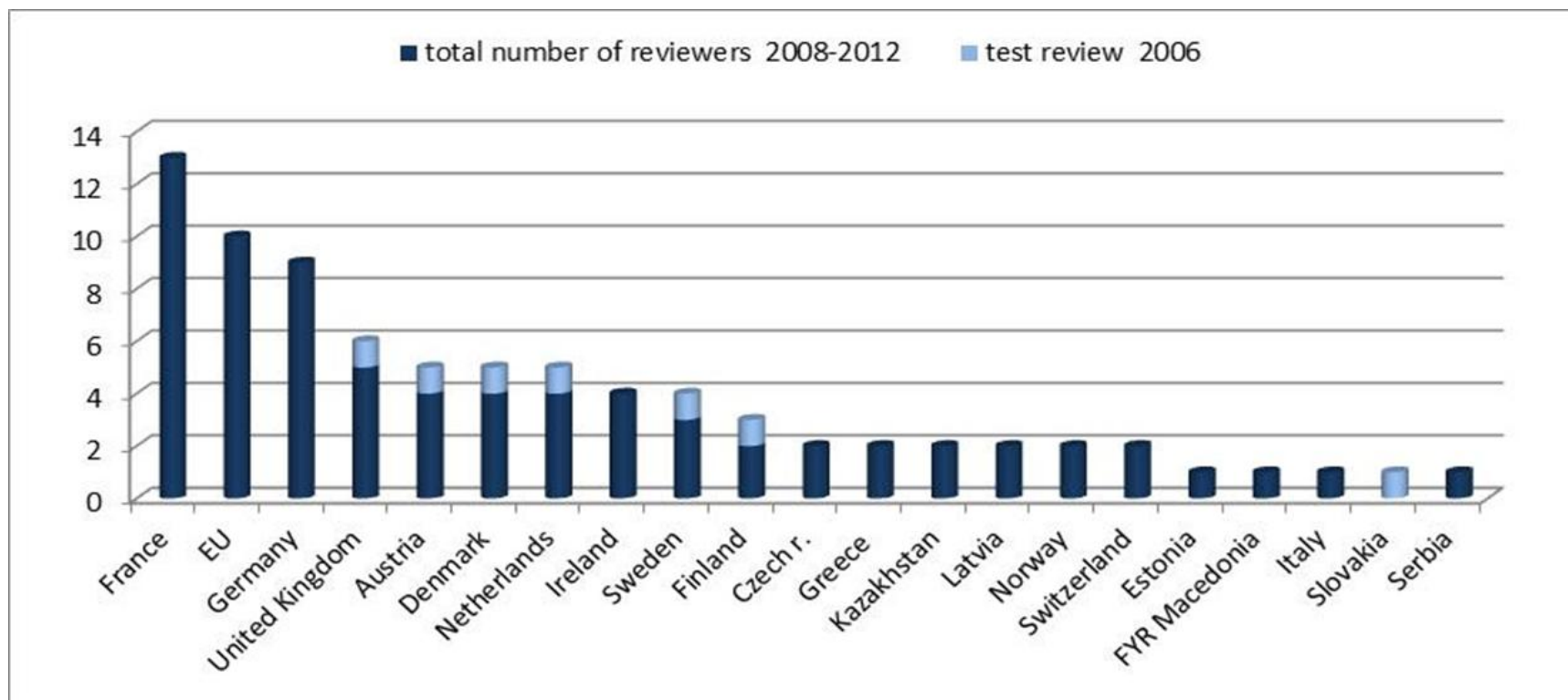
Review experts (10-15d):

Preparatory work and follow up activities

Review the inventory and complete transcripts and relevant chapters

LR – coordination of the team, compilation of the reports, assistance to less experienced reviewers

S3 - ROSTER OF EMISSION EXPERTS



good practice, uncertainties, and quality assessment and quality control (QA/QC)

- the roster currently contains a total of **65 inventory experts** (24 more comparing to 2008) from which **43** experts participated at least in one S3 review

ADJUSTMENTS – CHALLENGES

- a) **Set-up standardized procedures for review of adjustment provided by Parties**

Testing round / voluntary

- b) **Panel of very experienced inventory experts /rules**

Who will nominate/ select them?

Who will fund their work ?

- c) **Review plan**

S3 plan can be not changed ad hoc

- d) **Organization /documentation/technical support of the teams**

Resources to be planed for these activities

PLAN 2008 - 2012, 2013 ?

The review plan was approved by SB at 33rd session and updated at 34th and 35th sessions

2008	<i>France, Norway, Portugal and Sweden (voluntary round of stage 3)</i>
2009	<i>Belgium, Bulgaria, Denmark, Finland, Hungary, Ireland, Latvia, Lithuania, Poland and Spain</i>
2010	<i>Austria, Cyprus, Germany, Italy, Netherlands, Romania, Russian Federation*, Slovakia, Switzerland and United Kingdom</i>
2011	<i>Czech Republic, Belarus, Croatia, Estonia, Greece*, Iceland (2010), Luxembourg**, FYR Macedonia, Slovenia and Ukraine*</i>
2012	<i>Albania*, Georgia*, EU, Liechtenstein, Malta* Monaco, Rep. of Moldova*, Montenegro, Serbia and Turkey</i>
2013?	<i>Armenia*, Azerbaijan**, Bosnia and Herzegovina**, Kazakhstan**, Kyrgyzstan**, France, Norway, Portugal, Sweden and Bulgaria?</i>

NEXT S3 REVIEWS - PROPOSAL

2013	Belgium, France , Latvia, Lithuania, Norway, Poland, Portugal, Republic of Moldova* ?, Romania, Sweden
2014	Bulgaria, Cyprus, Denmark, Finland, Hungary, Ireland, Italy, Kazakhstan, Russian Federation*, Spain
2015	Armenia, Azerbaijan, Belarus, Czech rep., Greece, Germany, Netherlands, Slovakia, Slovenia, and Ukraine
2016	Bosnia and Hercegovina, Croatia, Estonia, Kyrgyzstan, Luxembourg, FYR of Macedonia, Monaco, Switzerland, United Kingdom and Turkey
2017	Albania, Austria, Georgia*, EU, Iceland, Liechtenstein, Malta, Montenegro, Serbia

IIR AWARDS 2010-2012



CEI



amt ^U ^U

IIR AWARDS

**30 IIRs reported in
2012 = 5997 pg** in total

Quality of submitted IIRs
is **improving**

- transparency
- completeness
- consistency
- comparability
- design

CATEGORIES

1. **Most comprehensive**
2. **Transparency / user friendly search**
3. **Best looking**
4. **Progress / improvements**
5. **Best small country (< 5 mil.)**

**Reliability of reporting since
1995**

ASPECTS ASSESSED

Transparency / user
friendliness

Design

IIR Template

No. of pages

Reporting last 5 years

Reporting 1995-2012

Completeness of data
in WebDab

NIS/ Inst. arrangements

KCA

Completeness info.

Uncertainty info.

Trends explanation

Improvements

Methodology description

Recalculations expl.

Planned improvements

Documentation/ references

Projections

Gridded/ LPS

AWARDED PARTIES 2010-2012

2012

United Kingdom
Germany
The Netherlands
FYR Macedonia
Ireland

Denmark

2011

Finland
Estonia
Austria
Croatia
Switzerland

2010

France
Germany
The Netherlands
Croatia
Cyprus

REVIEW / LESSONS LEARNED

Since the review process started the quality of reported inventories and IIRs is continuously improving

Important preconditions

- Availability of Reporting guidebooks, guidelines and templates...
- Systematic review of inventories ...
- Standardized procedures...
- Active involvement of Parties
- National focal points / designated experts....
- Active involvement of “new” countries in review process motivates
- ...

CONCLUSIONS

Under CLRTAP we have seen many years of data improvements, voluntary capacity building and training exercises etc., but **fundamental quality problems still exist...**

Complete and consistent reported emission data are still not available for cca 50% of EMEP area

These problems probably will be not resolved in due time unless another steps change takes place....

Mandatory reporting of emission inventories for all Parties to the Convention

PREPARATION OF THE NEW GRIDDING SYSTEM / CHALLENGES

- **Produce gridded data in new resolution for selected pollutants**
 - Start to collect proxy data / create DB
 - Obtain emission data for *new areas to the extent possible*
 - *Test reported LPS data*
 - *The gridded data in long/lat may be developed in SNAP or GNFR*
- **Contribution of relevant EMEP centres to the process ...**
- **Cooperation with other projects/ institutions in Europe (EDGAR/JRC, RAINS, E-PRTR,...)**
- **Update of Reporting Guidelines and technical Annexes**
- **Time schedule for Parties**

PREPARATION OF THE NEW GRIDDING SYSTEM / CHALLENGES

- CEIP needs to develop new “*gridding process*” and “*gridding matrix*” for each pollutant and GNFR category (> 400) => **priorities** to be set up
- NEW EMEP area covers number of “*non CLRTAP*” countries

No. of grid cells will increase from 21 500 to approx. 624 000 (0.1 x 0.1)

Pollutants

- main pollutants and PM relatively complete
- Shipping emissions ?
- HMs POPs outside Europe? Black carbon?
- Nature emissions ?

Background data (population, roads, ...) in digitised form – Asia? Africa ? - blank cells?

GNFR (aggregated source categories) – do modellers need them all as defined now?

- e.g. 3 categories for waste but only 1 for industry

PLANED IMPROVEMENTS SUMMARY



- Tool to check consistency of reported time series by comparing “expert estimates”
- Consider options to present more complex *country specific information* at one place
- S3 – implement system for on line management of all documents
- Participation on development of new reporting guidelines, templates...
- Preparation of new gridding system...



THANK YOU

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