2014 UNECE Inventory Reporting Guidelines

The revised guidelines to report emissions and projections

Workshop on Emission Inventories in Azerbaijan

11 - 13 November 2014

Katarina Mareckova , Umweltbundesamt GmbH

Content

- Why
- General principles
- Process
- Implementation

Emission Reporting under CLRTAP

- **The Guidelines** describe the formal rules of reporting:
  - what needs to be reported
  - which pollutants,
  - by when…
  - how often
  - which data format – which templates…

- **The EMEP/EEA Inventory Guidebook** provides technical guidance on the methods and emission factors to use, how to calculate emissions, projections, KCA, uncertainties etc.

- All documents are available at the CEIP website: http://www.ceip.at/reporting_instructions

Reasons for updating the 2009 Guidelines

- To ensure **improved information on emissions for the work of EMEP** and the Convention by strengthening reporting practices, quality and best practice requirements
- To implement **changes arising from recent amendments of LRTAP protocols:**
  - Gothenburg (2012) (e.g. strengthened IIR and PM2.5 reporting, voluntary BC reporting, emission inventory and/or ceiling adjustments, etc)
  - Heavy metals (2012)
  - POPs (2009 - PCBs)
- To implement changes agreed to the EMEP grid by the EMEP EB
- To ensure continued **alignment with UNFCCC/IPCC** for reporting post-Kyoto CP1
- To simplify current text and to correct errors in the existing Guidelines

General principles

- Changes to text only where necessary
- Reporting requirements consistent with the politically-agreed Protocol changes
- Technical definitions or requirements are not changed
- Alignment with UNFCCC definitions on:
  - emission source codes (CRF/NFR)
  - ‘TCCCA’ quality criteria, and
  - notation keys

Process

- TFEIP/EIONET meeting 2013 – draft proposal (May 2013)
- Updated draft of Guidelines and Annexes distributed to ad-hoc ‘working group’ and EMEP centers for comments (June 2013)
- Updated proposal submitted to EMEP Steering Body (Jul/Aug 2013)
- Technical proposal agreed at EMEP SB (Sept 2013)
- *Legal check of Reporting Guidelines text*
- Adoption of final Guidelines and annexes at CLRTAP Executive Body meeting (Dec 2013) (ECE/EB.AIR/122/Add.1, decisions 2013/3 and 2013/4)
- **Published on CEIP website in early 2014 for implementation from 2015 onwards**

2014 Emission Reporting Guidelines

Published on CEIP website:
http://www.ceip.at/reporting_instructions

- Document **ECE/EB.AIR.125**
- Annexes (reporting templates) for the revised 2014 reporting guidelines as ZIP archive

NEWS: 2014 Reporting guidelines

At its thirty-second session (Geneva, 9–13 December 2013), the Executive Body for the LRTAP Convention adopted revised **guidelines for reporting emissions and projections data under the Convention** (ECE/EB.AIR/122/Add.1, decisions 2013/3 and 2013/4).

Revised 2014 Reporting guidelines (ECE/EB.AIR.125 [PDF, 194KB]) are adopted for **application in 2015 and subsequent years**. The document is a revised version of the 2009 Guidelines for Reporting Emission data under the Convention (ECE/EB.AIR/97), which were approved by the Executive Body in 2008 (ECE/EB.AIR/96, para. 83 (b)).

Here you can download the Annexes for the revised 2014 reporting guidelines [ZIP, 439KB].

ADVANCE VERSION

ECE/EB.AIR/125

Economic and Social Council

Distr.: General
13 March 2014

Original: English

Economic Commission for Europe

Executive Body for the Convention on Long-range Transboundary Air Pollution

Guidelines for Reporting Emissions and Projections Data under the Convention on Long-range Transboundary Air Pollution

Prepared by the Task Force on Emission Inventories and Projections

Summary

At its thirty-second session (Geneva, 9–13 December 2013), the Executive Body for the Convention on Long-range Transboundary Air Pollution adopted guidelines for reporting emissions and projections data under the Convention (ECE/EB.AIR/122/Add.1, decisions 2013/3 and 2013/4).

The present document contains the guidelines document as adopted for application in 2015 and subsequent years. The document is a revised version of the Guidelines for Reporting Emission data under the Convention (ECE/EB.AIR/97), which were approved by the Executive Body in 2008 (ECE/EB.AIR/96, para. 83 (b)). The revised Guidelines were prepared by the Task Force on Emission Inventories and Projections and include technical changes approved at the thirty-seventh session of the Steering Body to the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (Geneva, 9–11 September 2013), as well as further changes proposed and agreed to by the Executive Body at its thirty-second session.

GE.14-

Please recycle

Key changes - Structure

Guidelines

- Information on definitions contained in one ‘definitions’ section (previously scattered throughout the Guidelines text and in annexes)
- New section on ‘reporting of adjusted national inventories’ added

Annexes

- Information to be reported **annually is** grouped in Annexes I-III
  - template for emissions,
  - IIR; and
  - notification form
- Information to be reported less frequently is grouped in Annex IV-VII
  - projections,
  - gridded emissions,
  - large point sources;
  - and adjustments (if relevant)

Methods for caclulation of EI

- Parties shall as a minimum use the methodologies provided in the **latest version of the EMEP/EEA Guidebook (2013)**... to estimate emissions and projections for each source category
- (Guidebook 2009 available also in Russian)

- Parties can use, as an alternative to the EMEP/EEA Guidebook, **national or international methodologies** that they consider better able to reflect their national situation, provided that the methodologies produce more accurate estimates than the default methods, are scientifically based, are compatible with the EMEP/EEA Guidebook and are documented in their IIRs.

Pollutants (2015 onwards)

- **Substances for mandatory reporting**
  - Sulphur oxides (SOx)
  - Nitrogen oxides (NOx)
  - Ammonia (NH3)
  - PM2.5 and PM10
  - Carbon monoxide (CO)
  - Cadmium (Cd), mercury (Hg) and lead (Pb)
  - PAHs (1-4), dioxins/furans, PCBs, HCB

- Voluntary reporting (‘encouraged/as appropriate’)
  - black carbon (BC) where available
  - total suspended particulate matter (TSP)
  - additional heavy metals (As, Cr, Cu, Ni, Se, Zn)

Reporting of AP emission inventories

- Annual reporting, deadline **15 February** (Annex I)
- Shall cover ***full time series (1990 to X-2)*** for the main pollutants, HMs and POPs, as well as the relevant reference year(s) where applicable for Parties
- From year 2000 onward: $PM_{2.5}$ and PM_{10}, and where available BC
- Encouraged to voluntarily report data for years prior to 1990 (or 2000 for PM)
- Annual reporting should include ***activity data*** for the sectors identified in the reporting template
- **Recalculated data** should be included in any reported emission time series:
  - A complete time series, including the base or reference year and all other years for which emissions and projections are to be reported, should be calculated using the same methodologies throughout the time series to ensure that the inventory reflects real changes in emissions rather than changes in methodologies.

NFR14 sector classification

to be used 2015 onwards

Current NFR09	Changes NFR14
1 Energy	1 Energy
2 Industrial process	2 Industrial processes and product use
3 Solvent and product use	-
4 Agriculture	3 Agriculture
6 Waste	5 Waste
7 Other	6 Other
11 Natural sources	11 Natural sources

Pollutants

- Main pollutants SOx, NOx, CO, NMVOC, NH3
- TSP, PM10, PM2.5, BC
- Heavy metals: Pb, Cd, As…..
- POPs: PCDD/F, PAHs, PCB

Table for reproting of emissions – NFR2014

ANNEX 1: National sector emissions: Main pollutants, particulate matter, heavy metals and persistent organic pollutants

NFR 2014-1

COUNTRY:		(as ISO2 code)
DATE:		(as DD.MM.YYYY)
YEAR:		(as YYYY, year of emissions and activity data)
Version:		(as v1.0 for the initial submission)

XML Export for all entered years

Add a new year

: :	*NFR sectors to be reported*			Main Pollutants (from 1990)				Particulate Matter (from 2000)				Other (from 1990)	Priority Heavy Metals (from 1990)			Additional Heavy (from 1990, voluntary			
				NOx (as NO_2)	NMVOC	SOx (as SO_2)	NH_3	$PM_{2.5}$	PM_{10}	TSP	BC	CO	Pb	Cd	Hg	As	Cr	Cu	N
NFR Aggregation for Gridding and LPS (GNFR)	**NFR Code**	**Longname**	**Notes**	**kt**	**kt**	**kt**	**kt**	**kt**	**kt**	**kt**	**kt**	**kt**	**t**	**t**	**t**	**t**	**t**	**t**	**t**
A_PublicPower	1A1a	Public electricity and heat production																	
B_Industry	1A1b	Petroleum refining																	
B_Industry	1A1c	Manufacture of solid fuels and other energy industries																	
B_Industry	1A2a	Stationary combustion in manufacturing industries and construction: Iron and steel																	
B_Industry	1A2b	Stationary combustion in manufacturing industries and construction: Non-ferrous metals																	
B_Industry	1A2c	Stationary combustion in manufacturing industries and construction: Chemicals																	
B_Industry	1A2d	Stationary combustion in manufacturing industries and construction: Pulp, Paper and Print																	
B_Industry	1A2e	Stationary combustion in manufacturing industries and construction: Food processing, beverages and tobacco																	
B_Industry	1A2f	Stationary combustion in manufacturing industries and construction: Non-metallic minerals																	
I_Offroad	1A2gvii	Mobile Combustion in manufacturing industries and construction: (please specify in the IIR)																	
B_Industry	1A2gviii	Stationary combustion in manufacturing industries and construction: Other (please specify in the IIR)																	
H_Aviation	1A3ai(i)	International aviation LTO (civil)																	
H_Aviation	1A3aii(i)	Domestic aviation LTO (civil)																	
F_RoadTransport	1A3bi	Road transport: Passenger cars																	
F_RoadTransport	1A3bii	Road transport: Light duty vehicles																	
F_RoadTransport	1A3biii	Road transport: Heavy duty vehicles and buses																	

Informative inventory report (IIR)

- Annual reporting (Annex II)
- Deadline 15 March latest (encouraged to submit with emissions reports by 15 Feb)
- **Objective: Documentation and references**
- Submission of an IIR is ‘strongly encouraged’, and should be submitted annually. However certain elements of the report may be updated less frequently, as appropriate.

Projections

- 4-yearly reporting from 2015 onwards (Annex IV)
- Deadline 15 March
- Projections shall be regularly updated
- Reporting for years **2020, 2025, 2030** and where available also for 2040 and 2050
- Quantitative information on projection parameters should be reported as well
- A ***'with measures'*** projection should be provided, and where relevant, a ***'with additional measures***' projection
- Projections should be **consisten**t with the latest inventory
- Projections should, as far as appropriate, be consistent with those compiled under the UNFCCC (National communications)

Reporting of Gridded and LPS data

Spatial resolution of emissions :

Gridded data (Annex V)

- 4-yearly reporting from 2017 onward for the year X-2
- Deadline **1 May**
- Grid of 0.1 x 0.1 long/lat degrees for all mandatory pollutants
- A Party may report in 50 x 50 km 'until it is technically and economically feasible to switch to a grid of 0.1 x 0.1 degrees'

LPS data (Annex VI)

- 4-yearly reporting from 2017 onward for the year X-2
- Deadline **1 May**

Resubmission

- **Resubmissions** due to errors should be received within four weeks from the original due date for submission, and must include a clear explanation of the changes made.

- Resubmissions received later than four weeks from the due date for submission may not be considered for use in EMEP activities for that reporting period.

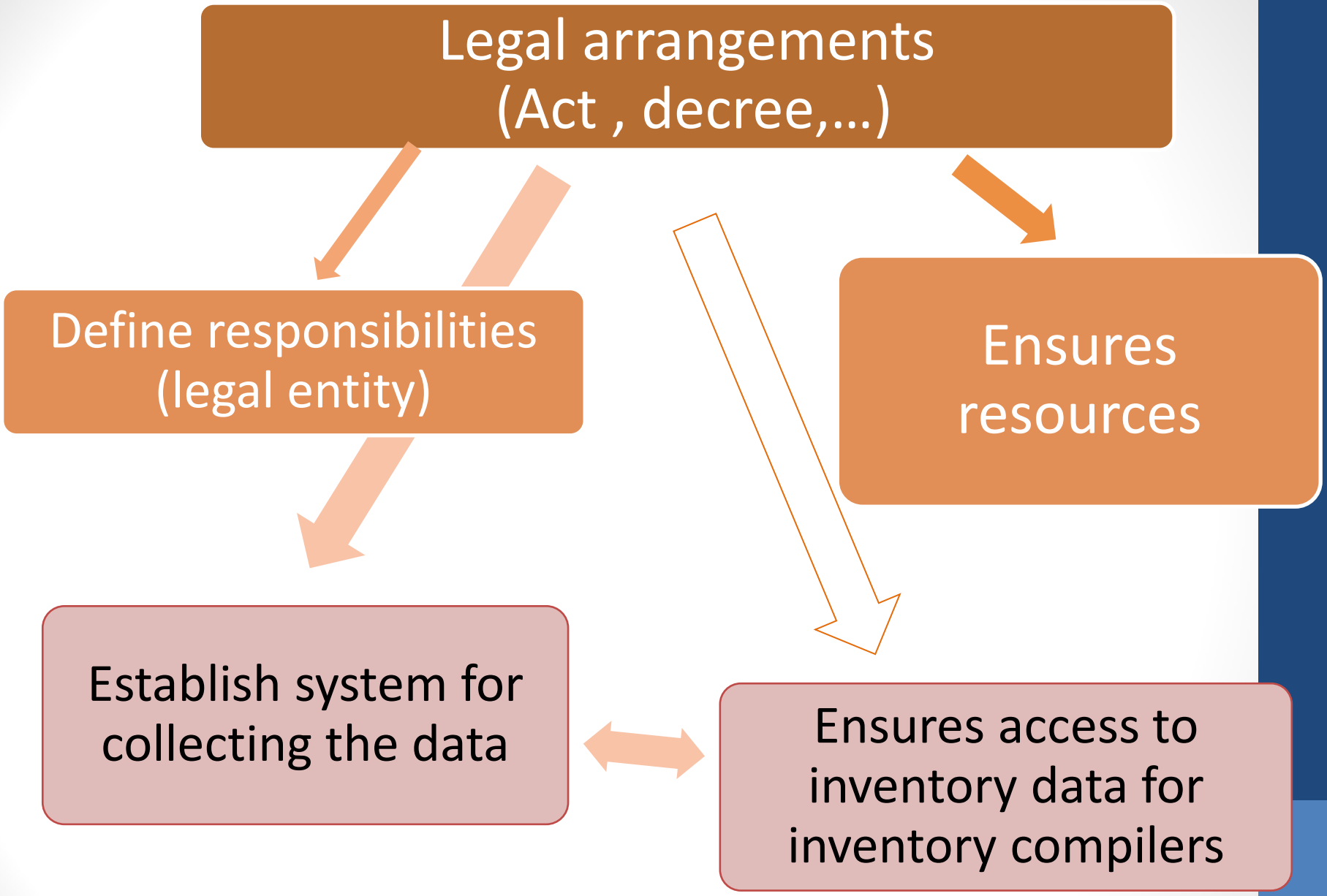
Reporting templates - 2014

Paragraph 40(b). Reporting templates

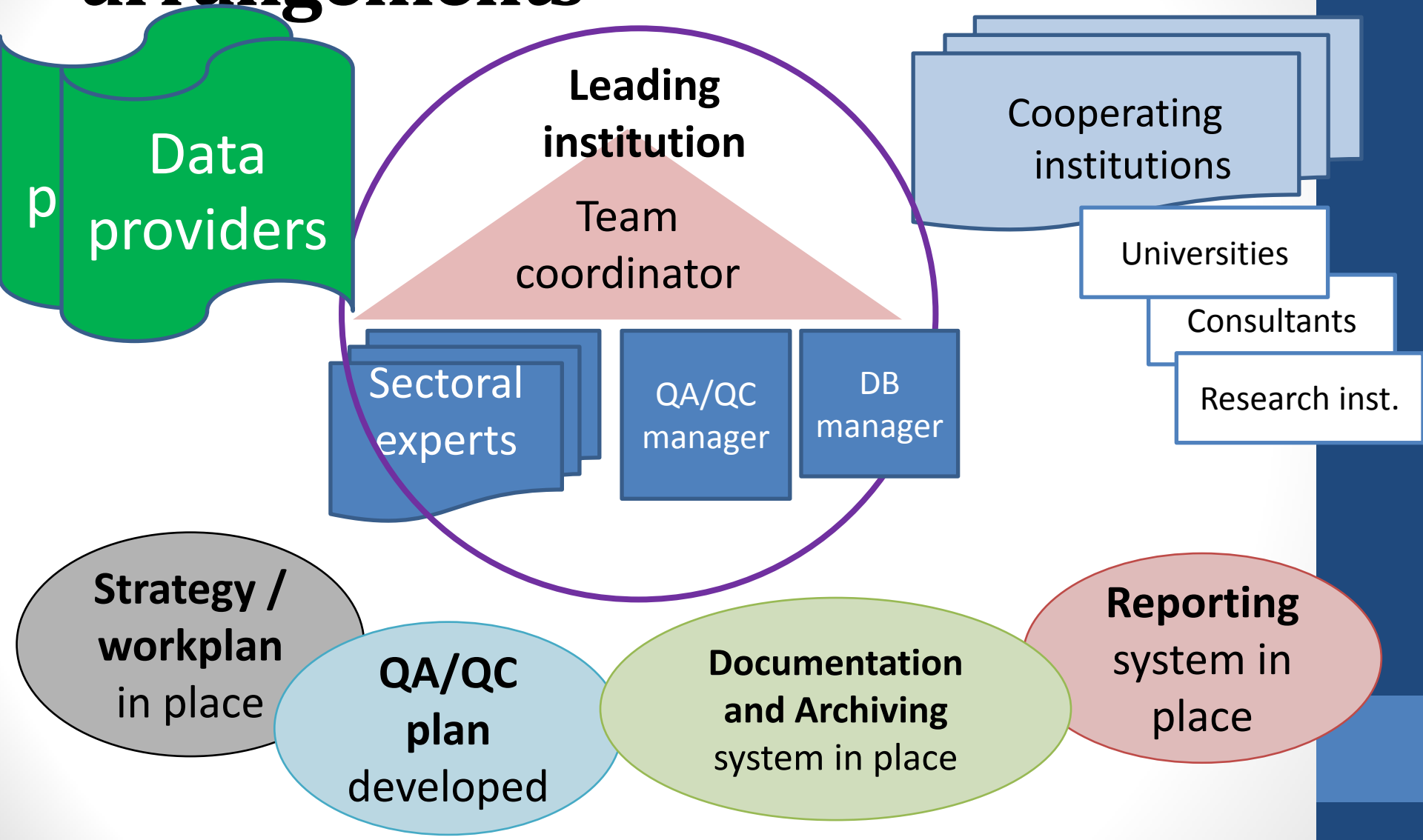
- Parties shall use the reporting templates provided in **annexes I-VII** to the reporting Guidelines (ECE/EB.AIR.125)

- **Submissions reported in formats other than the agreed templates can not be considered for use in EMEP activities**

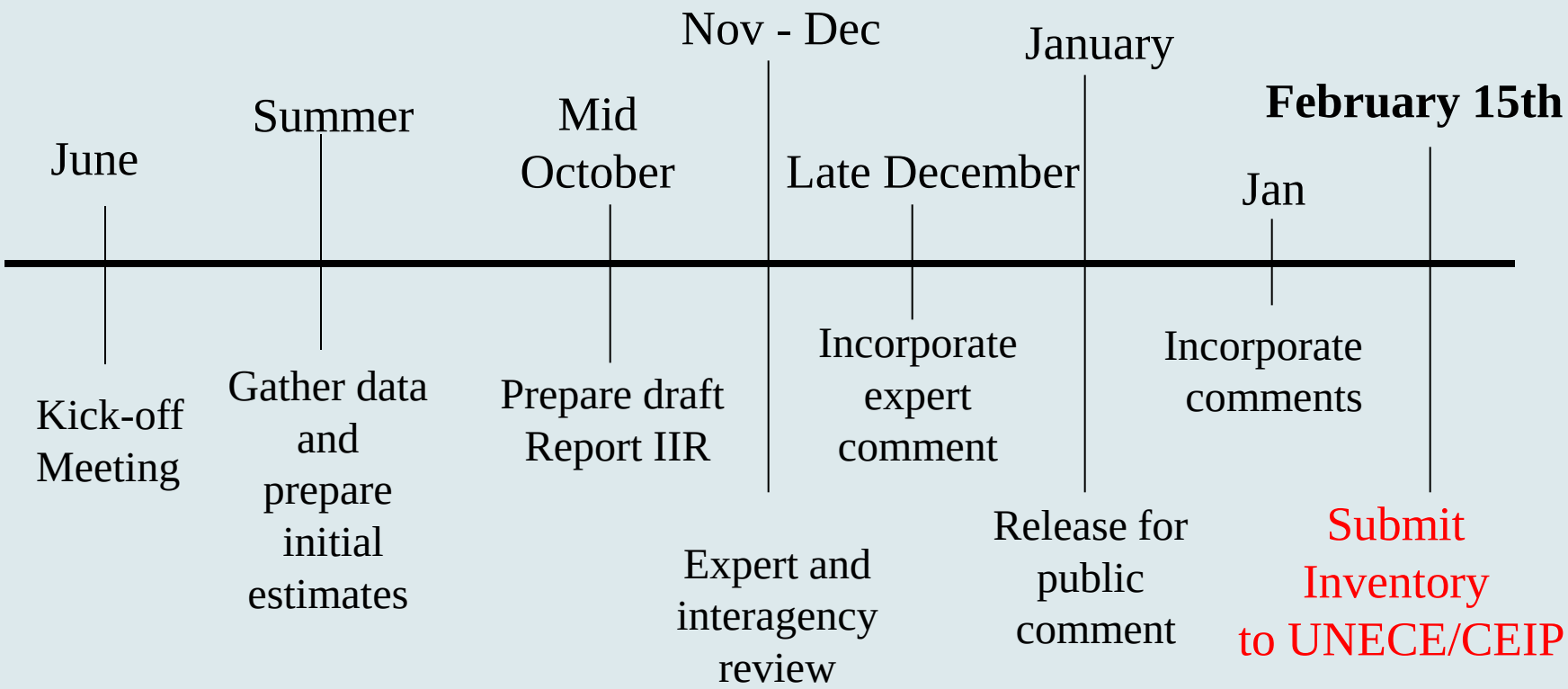
- The templates contain the new Nomenclature For Reporting (NFR14), ensuring alignment of emission source definitions with UNFCCC.
  There are changes to both - NFR numbering and sector names.


Legal arrangements
(Act , decree,…)
Define responsibilities
(legal entity)
Ensures
resources
Establish system for
collecting the data
Ensures access to
inventory data for
inventory compilers

Institutional and procedural arrangements



Example: Inventory Cycle



Tasks in Inventory preparation

- ✓ Identify key categories – priorities
- ✓ Identify and collect AD
- ✓ Select methods and EFs (Reporting gudelines ,....)
- ✓ Calculate emissions, document all steps
- ✓ Recalculate previous estimates if needed
- ✓ Complete reporting tables
- ✓ Apply QA/QC procedures
- ✓ (Assess uncertainties)
- ✓ Draft inventory report
- ✓ Archive all materials
- ✓ Identify areas for improvement

Key products

- AP/GHG Inventory
- Documen-tation, NIR
- Archiving system
- Improvemen t plan

Reporting 2015 onwards - Summary

The Executive Body for the LRTAP Convention adopted at its thirty-second session (Geneva, 9–13 December 2013) revised **guidelines for reporting emissions and projections data under the Convention** *(ECE/EB.AIR/122/Add.1, decisions 2013/3 and 2013/4).*

- ***Inventory :*** **15 February** annually (4 weeks for resubmission)
- ***IIRs*** : **15 March latest** (15 Feb encouraged)
- ***Projections*** *report:* **15 March 2015** and every 4 years (2020, 2025, 2030 if available 2040 and 2050)
- **Gridded data** (fine resolution) and LPS **: 1st May 2017** and every 4 years

NFR09 -> NFR14
10 SNAP -> 13 GNFR
Revised pollutants: + BC
Revised IIR template
Revised Annexes for reporting

CEIP umweltbundesamt

Areas for discussion

- What is needed to set up sustainable reporting
- ARE RESPONSIBILITIES WELL DEFINED
- Do the experts have access to data
- Are