emep 2012

Sonja Vidič

EMEP SB Chairperson

Convention on Long-range Transboundary Air Pollution

emep Co - operative programme for monitoring and evaluation of the long-range transmissions of air pollutants in Europe

LRTAP Long-range Transboundary Air Pollution

Focused discussion

- Long-Term Strategy (LTS) for the Convention
- Implementation plan for the LTS
- Workplans to be linked to the strategic goals
- Visibility: web profiling, publications, leaflets, booklets
- Mapping systems, incompatibilities, efficiency
- Enhance coordination and cooperation within UNECE countries
- **EMEP Grid , Resolution and Projection**
- EMEP-WGE cooperation
- Revised mandate for HTAP
- Geographical outreach beyond UNECE region
- CLRTAP work and EU policy sinergies
- CLRTAP and cooperation with other UNECE Conventions

Decision 2011/14

Action Plan for the Implementation of the Long-term Strategy for the Convention

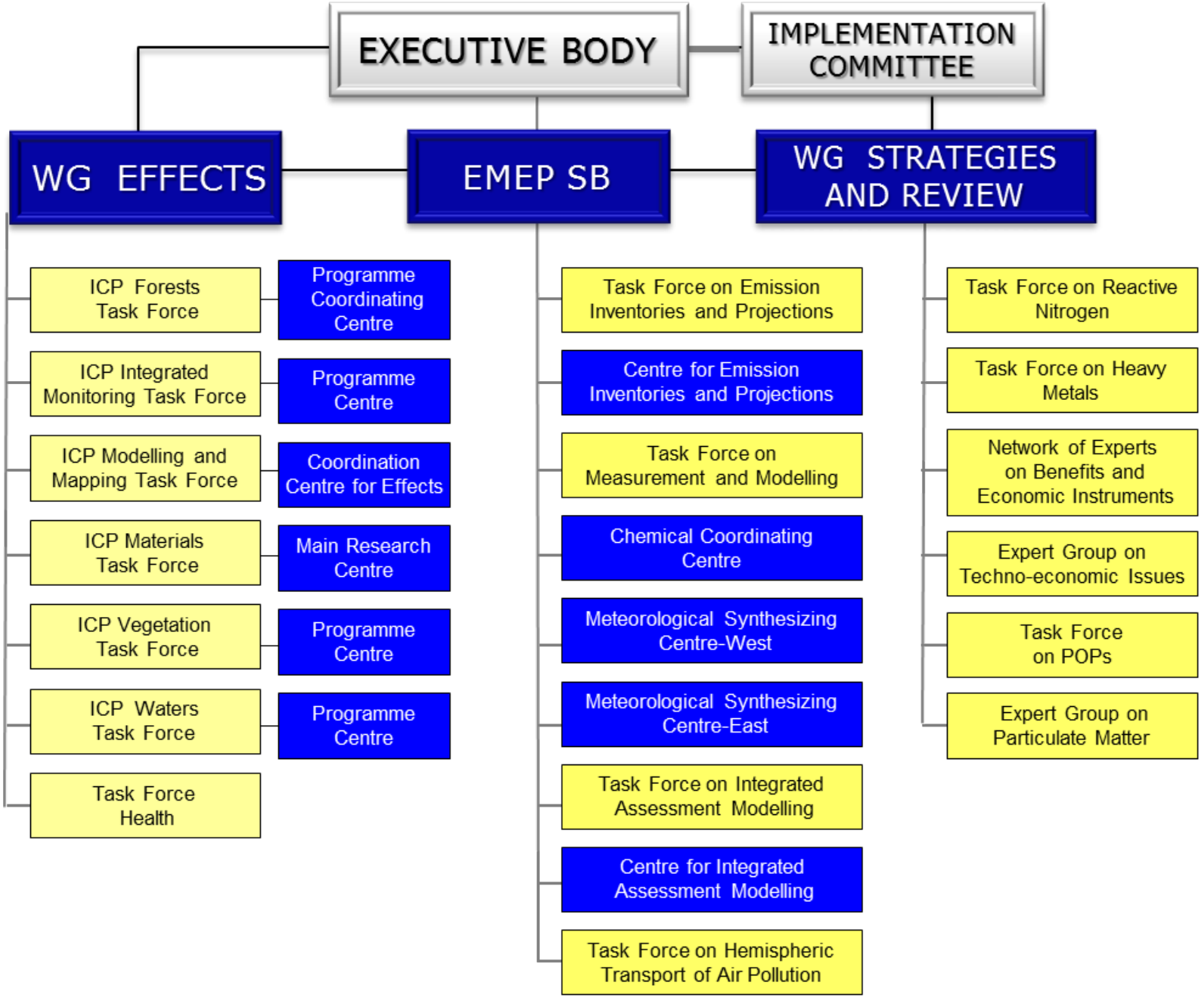
I. Improve ratification and compliance

II. Prioritize work and increase efficiency of operation of the Convention

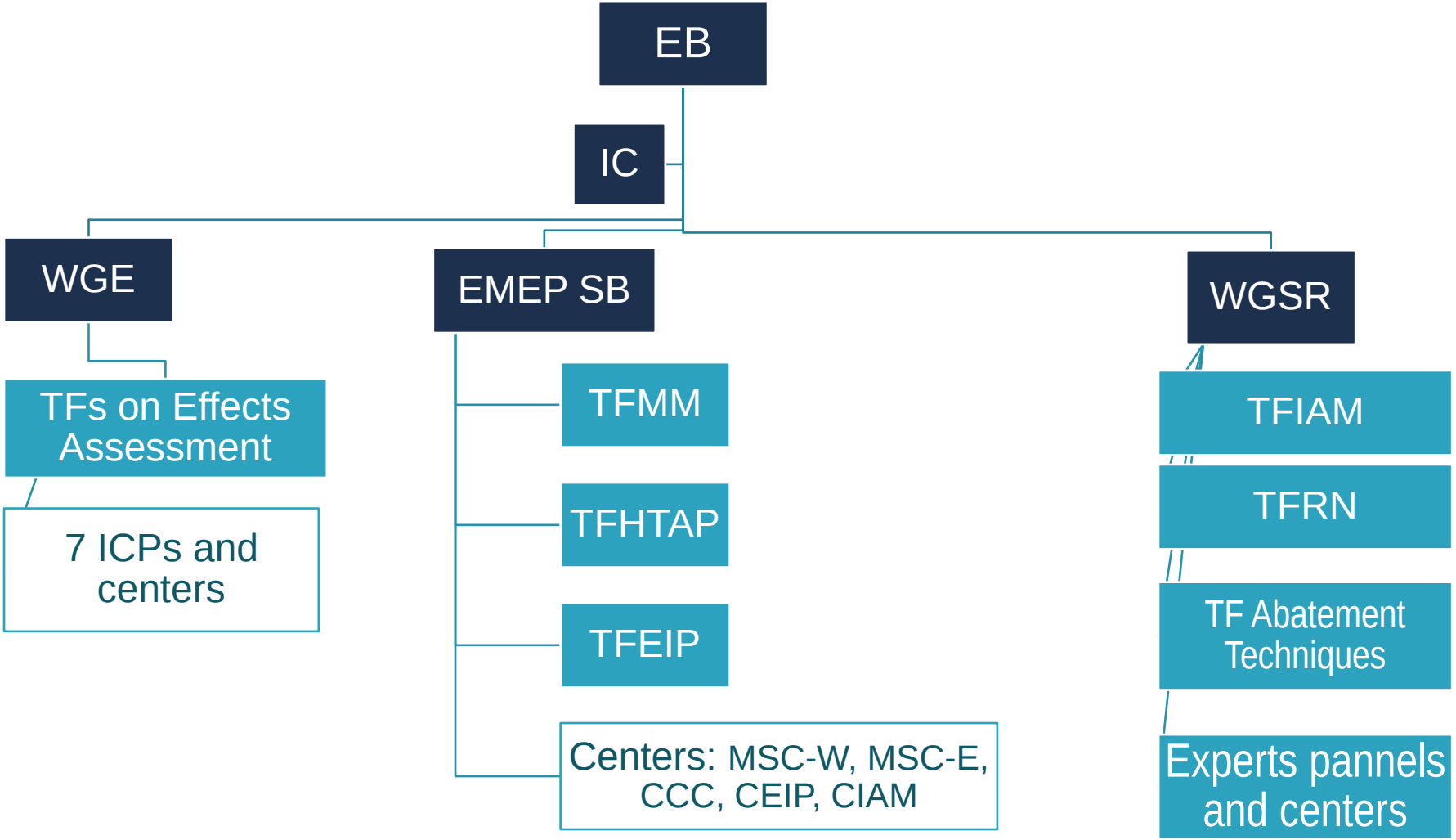
III. Future direction of Protocols

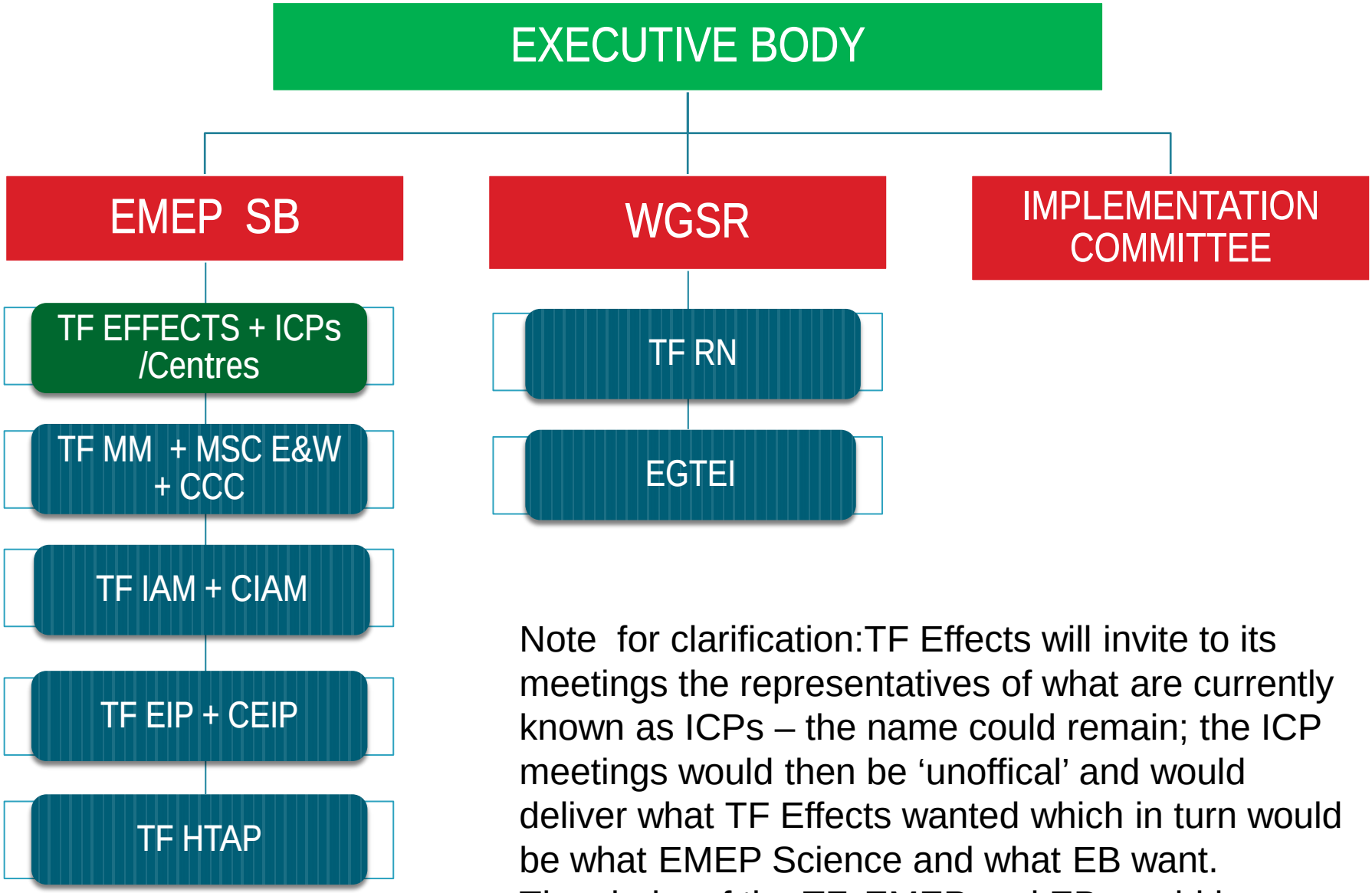
IV. Links with climate change and delivery of co-benefits

V. Outreach, communication and resources


EXECUTIVE BODY
IMPLEMENTATION COMMITTEE
WG EFFECTS
EMEP SB
WG STRATEGIES AND REVIEW
ICP Forests Task Force
Programme Coordinating Centre
ICP Integrated Monitoring Task Force
Programme Centre
ICP Modelling and Mapping Task Force
Coordination Centre for Effects
ICP Materials Task Force
Main Research Centre
ICP Vegetation Task Force
Programme Centre
ICP Waters Task Force
Programme Centre
Task Force Health
Task Force on Emission Inventories and Projections
Centre for Emission Inventories and Projections
Task Force on Measurement and Modelling
Chemical Coordinating Centre
Meteorological Synthesizing Centre-West
Meteorological Synthesizing Centre-East
Task Force on Integrated Assessment Modelling
Centre for Integrated Assessment Modelling
Task Force on Hemispheric Transport of Air Pollution
Task Force on Reactive Nitrogen
Task Force on Heavy Metals
Network of Experts on Benefits and Economic Instruments
Expert Group on Techno-economic Issues
Task Force on POPs
Expert Group on Particulate Matter

Maintain what is well functionning with a more clear distinction between scientific work (TF, ICPs and centers) and more policy-oriented work by EB and subsidiary bodies





Note for clarification:TF Effects will invite to its meetings the representatives of what are currently known as ICPs – the name could remain; the ICP meetings would then be ‘unoffical’ and would deliver what TF Effects wanted which in turn would be what EMEP Science and what EB want.
The chairs of the TF, EMEP and EB would be responsible for the delivery.

EMEP-WGE co-operation

- More direct exchange of information
- Focus and direction, more efficient work
- Developments to support WGE work (resolution, modelling of sea sulphates and basic cations, support to dynamic modelling)
- Concentrate on most relevant issues
- Joint workshops and meetings

- Create one scientific body (emep-wge),

TF HTAP 2012 - 2015 and Beyond

The focus of the Task Force's work remains on characterizing regional vs. extra-regional influences on air quality and its impacts.

- While *HTAP 2010* presented the significance of intercontinental transport with very coarse resolution, goal now is **to improve the resolution by linking analyses at the global and regional scale.**

New developments:

- Nesting regional analyses within global analyses, working with regionally-focused efforts including AQMEII, MICS, and POLMIP.
- Greater emphasis on model-observation comparison
- **Improving assessment of impacts in terms of air quality standards, human health, crop and ecosystem damage, and climate effects**
- **Providing policy-relevant information as frequently as possible.**

Themes of Cooperative Activities Under TF HTAP

Emissions Inventories and Projections

Expansion of the Data Network and Analysis Tools

Source Apportionment and Source/Receptor Analysis

Model-Observation Evaluation and Process Diagnosis

Assessment of Health, Ecosystem, & Climate Impacts

Assessment of Climate Change Impacts on Pollution

Initial focus is on laying the foundation for new cooperative simulations and analyses.

EMEP grid, resolution, projection

FROM POLAR STEREOGRAPHIC TO LAT/LONG

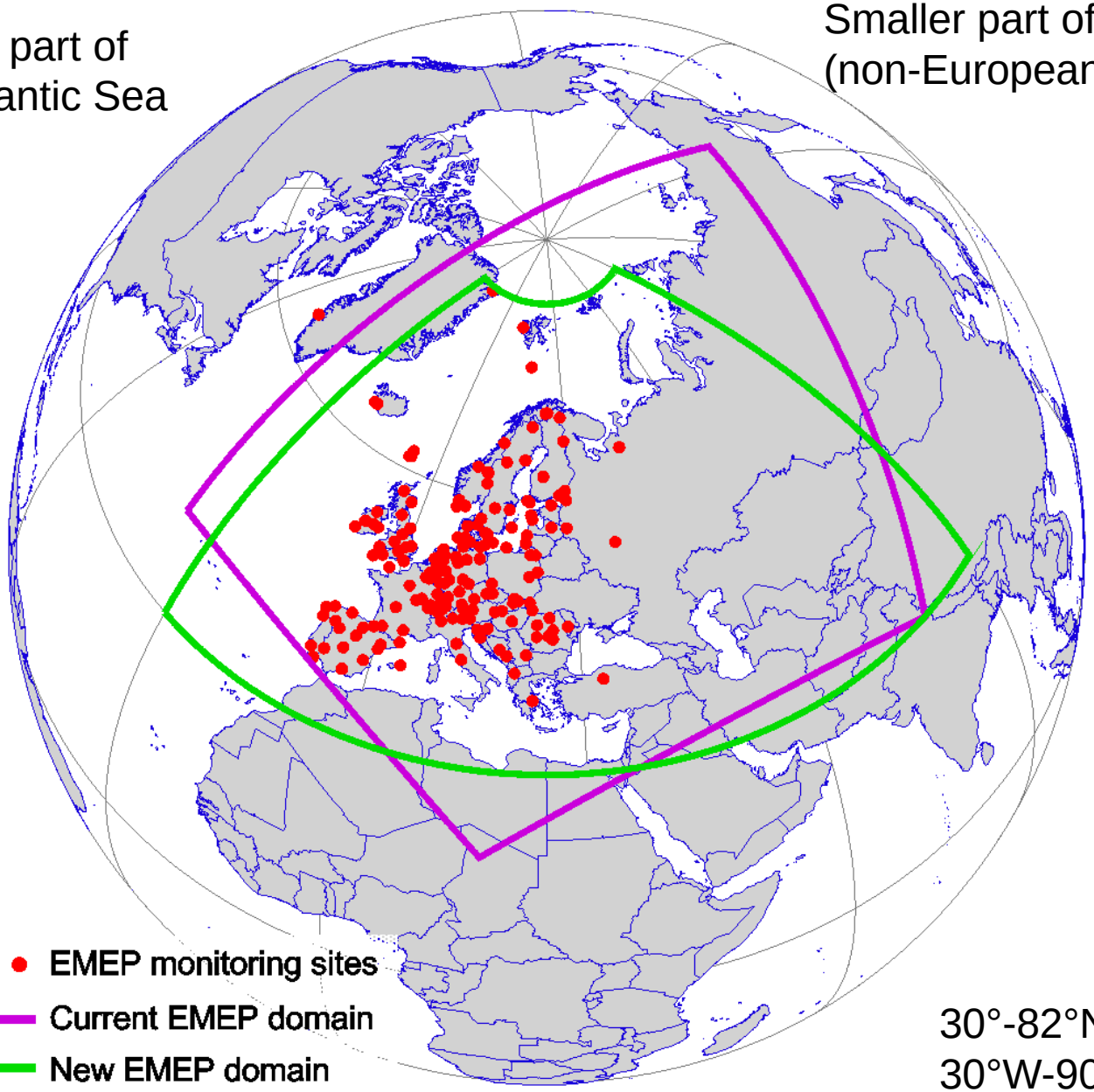
	Pros	Cons
Lat/lon	1. Consistent model studies from regional to global scale	1. Strongly varying grid size
	2. Most used grid in scientific community (e.g. TFHTAP, Climate Community) i.e. easier exchange of data (Increased usefulness of EMEP data)	2. Transition phase to another projection implies substantial change of software, creating addition error sources. 'Cut' in trend series
	3. Easily comparable to other emission data (e.g. EDGAR, TNO,APMoSPHERE)	
Polar-stereographic	1. Grid size does not vary significantly over the model domain	1. Different from common projection of other input data such as meteorology, land use, population density etc.
	2. All the systems/input data set up for this	

Table 2. Characteristics of the current EMEP grid and some lat-lon grids. Quantitative values of the lat-lon grids correspond to the domain 30°N-82°N, 30°W-90°E

Grid type	Projection	Grid size	Number of grid cells	Size of grid cell at 40°N (Italy)	Size of grid cell at 60°N (Scandinavia)
Current EMEP	PS	159 × 135	~21,500	40 × 40 km^2	50 × 50 km^2
0.5° × 0.5°	lat-lon	240 × 104	~25,000	43 × 56 km^2	28 × 56 km^2
0.4° × 0.4°	**lat-lon**	**300 × 130**	**39,000**	**34 × 44 km^2**	**22 × 44 km^2**
0.2° × 0.2°	**lat-lon**	**600 × 260**	**156,000**	**17 × 22 km^2**	**11 × 22 km^2**
0.1° × 0.1°	lat-lon	1200 × 520	624,000	9 × 11 km^2	6 × 11 km^2

Changed part of
North-Atlantic Sea

Smaller part of
(non-European) Russia included



30°-82°N latitude
30°W-90°E longitude

Why higher resolution?

- Better comparison with measurements & more accurate results (e.g for ecosystem exceedances)

- Fine scale emissions and models already exists and are run on European domain – EMEP should be 'state of the art'

Different needs for different purposes

Table 3. Spatial resolutions of the model grid for different EMEP simulations

Simulations type	Scale	Grid resolution
Source-receptor relationships	EMEP region	0.2º × 0.2º- 0.4º × 0.4º
Regular simulations of pollution levels	EMEP region	0.1º × 0.1º - 0.2º × 0.2º
Research, national scale case studies	Sub-regions (e.g. EU), individual countries	0.1º × 0.1º or finer

Different strategies for gridding of emissions

Table 3: Pros and cons of different strategies for gridding of emissions.

Alternatives	Pros	Cons
1. 0.1° × 0.1°, Parties report gridded data + LPS (same system as today)	Relatively Easy to manage.	Limited flexibility. Not possible for all countries.
2. Gridding done by CEIP	Flexible wrt resolution/projection. Consistent data sets. Parties have to report LPS emissions	High work load for CEIP. Countries get less ownership to data. Need to develop procedures for QA/QC of gridded data.
3. Gridding done partly by CEIP, partly by countries	Flexible wrt resolution/projection	High work load for CEIP. Limited possibility for quality check of gridded data.