

To: WGSR
From: Peringe Grennfelt, Rob Maas
Subject: CLRTAP Assessment Report 2016
Date: 26 May 2014

In December the EB decided to add to the work plan of WGE, EMEP and WGSR for 2014 and 2015 the publication of a CLTRAP Assessment Report in 2016 (point 1.9 of the Work Plan).

The Assessment Report should bring together current scientific knowledge on air pollution, remaining challenges, benefits of further abatement measures and synergies with other policy areas. The report should reflect issues and priorities set out in the Long Term Strategy. The Assessment Report will consist of two parts.

Part I of the Assessment report is policy oriented. The messages in this part should be clear to policy makers, including financial and economic experts. The content will be a list of Questions & Answers (see annex 1 for our first ideas). This part will be less than 40 pages and should also be available in Russian.

Part II of the Assessment report will describe the current science and follow a more traditional table of contents, from historical and future trends in emissions and concentrations up to impacts on health, ecosystems and the economy. This part will be approximately 150 pages and lay the foundations for the information in part I. Part II is more focussed on the scientific community and should be based on interdisciplinary co-operation between Centres and scientific bodies under the Convention.

We propose to focus the 2016 Assessment report on the main pollutants of the Gothenburg Protocol and plan an Assessment report on heavy metals and POPs around 2018.

The WGSR is requested to give further guidance:

1. What should the Assessment Report try to achieve?
2. What policy questions should get priority?
3. How should the balance in the report be between forward looking challenges and describing past achievements?
4. Should the report be accompanied with brochures or webpages for the larger public or with national policy briefs or fact sheets?
5. As in the work plan no budget for the Assessment Report is reserved, how do the Parties suggest to cover the co-ordination costs (approximately €250.000) and translation costs? We assume that contributions from Centers can be covered from the budget of the Centers.

Annex 1: CLTRAP Assessment Report – 2016

PART I – Summary for policy makers

Which policy questions will the report answer? (Additional questions may occur)

1. Summary (6p)

How can air pollution abatement beyond the Gothenburg Protocol contribute to our health and the sustainability of ecosystems and society?

- a. How does air pollution affect our human wellbeing, our resource base and our economy?
 - i. How important is current and future air pollution for our health?
 - ii. To what extent is air pollution affecting biodiversity and ecosystem services?
- b. Which further action could increase well-being and economic performance?
 - i. What are the costs and benefits of emission reductions, today and tomorrow?
 - ii. Which pollutants and sources need to get priority?
- c. Which further actions can the Convention take in order to improve air quality in the EECCA countries?
- d. Which other policy objectives would be served by further action on air pollution? , e.g. climate change, promoting healthy lifestyles or sustainable city design, energy security, 'green agriculture', resource efficient economies, etc.?
- e. Which new opportunities emerge from the globalization of air pollution (market potential for green technology, lower production leakage to countries with less stringent standards?)

2. To what extent is the air pollution problem solved? (8p)

- a. Which improvements in emissions, air quality and effects have occurred over the last decades? Were emissions reductions within the UN ECE region in line with international commitments?
- b. How would today's world have looked like, if no abatement would have been taken in the past decades?
- c. What have been the main driving forces in reducing emissions?
- d. What were the benefits of international cooperation? To what extent is air pollution still an international problem? Who are currently the net exporters of air pollution? Who are net receivers?
- e. Which abatement measures contributed mainly to improved health and ecosystems protection? What sectors proved to be more difficult to tackle?
- f. Why did the forest in Europe not die? Have we solved the acid rain problem? To what extent are lakes and soils in Europe recovering?
- g. How important is eutrophication? What are the impacts of nitrogen to ecosystem services and biodiversity?
- h. Will ozone be a threat to food security? To what extent is ozone affecting forest growth and carbon sequestration?

3. What role does science & technology play in CLRTAP? (5p)

- a. What were significant changes in science in the past decades?
- b. To what extent do modelled concentrations and deposition fit the observations?
- c. How reliable are the reported emissions? Do we have appropriate methods for verifying agreed emission reductions?
- d. What is the advantage of an effect-based and multi-pollutant approach? What is to be gained with further broadening the scope towards climate impacts and the impacts of heavy metals and POPs?
- e. How have control technologies developed over the last decades? Can we expect further progress? Are there still unexplored cost-effective technologies for the abatement of transboundary air pollution?

4. Future options: Where to go from here? (8p)

- a. Will emissions continue to decline, even with continuous growth in human activities, (such as traffic, energy use and food production)?
- b. What is needed to meet the long term target of no significant impacts for health risks and ecosystems? What happens to ecosystems and their services if we won't act?
- c. What is the contribution from climate change policies for achieving the long term air pollution objectives?
- d. What are the economic impacts of future air pollution control? Will jobs get lost?
- e. What are the costs and benefits (for health, ecosystems, agriculture and materials)? Will additional measures affect economic growth?
- f. Who has to pay? And who will benefit?

5. Do we need a global approach? (6p)

- a. What air pollution improvements can be gained with an ambitious energy, traffic and agricultural policy?
- b. How cost-effective is a combined international approach to mitigating air pollution, climate change and protection of ecosystems?
- c. Can air pollution abatement play a role in limiting climate change and protecting the Arctic?
- d. Will climate change decrease the resilience of ecosystems to air pollution? Will climate change natural emissions?
- e. What could be gained in terms of health and ecosystems benefits by technology transfer to Asia and EECCA countries?
- f. What would Europe and America gain from measures in Asia and EECCA countries?
- g. Are there new issues within the UN ECE region that can become important? What would be the impact of 'game changers' such as shale gas, CCS, geoengineering?

6. What role can CLRTAP play for improvement of local air quality? (6p)

- a. How important is transboundary air pollution for protecting human health in cities? Is air pollution becoming mainly a local problem?
- b. What local synergies are possible between mitigating air pollution and climate change? What would be the health impact of low carbon and pollution free neighbourhoods?

- c. What could be the role of air pollution policies in increasing the resilience of cities against fast climate change and extreme events?
- d. How could healthy diets, reduction of food waste and increased efficiency of the use of nutrients in food production contribute to reduction of air pollution and the protection of ecosystems?
- e. How universal are the remaining challenges? Is a common cost-effective solution possible? Could economic instruments be effective?
- f. What is the cost-effectiveness of additional air pollution measures compared to other measures to protect health?

ANNEX 2: Contents of Part II

	Lead	When	Means
Part I: Summary for policy makers Key questions Key messages	Editors in chief	2016-5 2014-7 2015-12	<i>1 full time units</i>
Part II:			
1 Introduction Problem description, policy development, challenges (problems solved, remaining concerns, emerging problems)	Editors in chief	2014-12	
2 Science - understanding & modelling the processes (See science assessment report TSAP) Particles - new insights on sources, atmospheric processes and effects to humans and climate	EMEP/WGE	2015-9	<i>0.5 full time units</i>
2a Emission sources (anthropogenic, by sector)	MSC-W/CIAM		existing articles
2b Biogenic emissions	CEIP/CIAM		existing articles
2c Atmospheric processes, different scales	MSC-W		existing articles
2d Atmospheric transport & chemistry; deposition modelling	MSC-W		existing articles
2e Health impacts (mechanisms, RR, local exposure)	TFH/CIAM		existing reports
2f Ecosystem impacts from ozone, nitrogen, H+ (CL, recovery)	WGE		existing reports, ECLAIRE
2g Other impacts (crops, materials, ..)	WGE		?
2h Climate-air interactions; global perspective	MSC-W/CCE/HTAP		ECLIPSE; ECLAIRE
2j Abatement options and costs	CIAM/EGTEI		
3 Measurements and trends of air quality and effects	EMEP/WGE	2015-9	<i>0.5 full time units</i>
3a Emissions	CEIP/CIAM/TFEIP		
3b Emission trends decoupling; trends in GDP, PJ, km	CIAM/TFIAM		EC4MACS
3c European air quality & deposition - networks	MSC-W/CCC/TFMM		
3d Local air quality	CIAM/TFMM		
3e Comparison air quality measurements and modelling	MSC-W/TFMM		
3f Monitoring ecosystems, forests, lakes	WGE		
3g Comparison of impact measurements and modelling	WGE		
4 The future - Projections and needs for meeting long term objectives	CIAM/TFIAM	2015-9	<i>1 full time units</i>
4a Emissions	CIAM/TFIAM		GAINS
4b Concentrations & deposition	CIAM/CCE		GAINS
4c (Local) health benefits	CIAM/TFIAM		GAINS
4d Ecosystem impacts	CIAM/WGE		GAINS
4e Abatement measures & costs	CIAM/TFIAM		GAINS
Integrated assessment?			
5 Widening the scope	CIAM/TFIAM/HTAP	2015-9	<i>0.5 full time units</i>
5a Global scale air pollution	MSC-W/CIAM/HTAP		ECLIPSE/GAINS
5b SLCPs	CIAM/TFIAM		ECLIPSE/GAINS
5c Nitrogen	TFRN/ECLAIRE		
5d Local vs transboundary air pollution	CIAM/TFMM		
6 Integrated assessments	CIAM/TFIAM	2015-9	
6a Towards long term sustainability			
6b Healthy and sustainable cities			

sum = 4 full time units