

CLRTAP Scientific Assessment Report 2016

What should the report achieve?

- Incentive for additional policy, and/or:
- Increase status in scientific community, and/or:
- Increase public concern?

Form:

- I. Summary for Policy Makers (SPM ~ 40p):
Answer policy relevant questions (see REVIHAAP, Urbino-questions, Science Assessment for TSAP) → *what questions should get priority?*
- II. Scientific Report (~ 150p)
- III. Brochure(s), (national) fact sheets?

Means:

- Lead authors per paragraph/chapter
- Support from centres and national experts?
- Co-ordinator !

CLRTAP Scientific Assessment Report 2016

SPM-content:

- 1. How can air pollution abatement contribute to health and sustainability?**
- 2. To what extent is the air pollution problem solved?**
- 3. What is the role of science & technology in air pollution policy?**
- 4. Future options: where to go from here?**
- 5. Do we need a global approach?**
- 6. What role van CLRTAP play in improving local air quality?**

Time plan

- Jul.-Sep: Ensure financial support (Sep 2014).
Identify main authors
- Further discussions on the scientific part at EMEP/WGE meetings in Sep.
- Oct.-Nov. 2014: meeting with main contributors to the scientific part
- Sep. 2015: Preliminary report to be discussed at the EMEP/WGE meeting
- Summer 2016: Final report

CLRTAP Scientific Assessment Report 2016

Discussion:

- 1. Looking backward or forward?**
- 2. Focus on methodology or policy conclusions?**
- 3. Limit to transboundary air pollution or (also) broaden the context (synergy with local/global climate policy, food policy)?**
- 4. Based on work by centers or on national contributions?**
- 5. Focus on major pollutants and/or HM/POPs?**
- 6. Focus on long term targets and/or ratification in EECCA?**
- 7. How to finance the report?**

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)

- What air pollution improvements can be gained with an ambitious energy, traffic and agricultural policy?
- How cost-effective is a combined international approach to mitigating air pollution, climate change and protection of ecosystems?
- Can air pollution abatement play a role in limiting climate change and protecting the Arctic?
- Will climate change decrease the resilience of ecosystems to air pollution? Will climate change natural emissions?
- What could be gained in terms of health and ecosystems benefits by technology transfer to Asia and EECCA countries?
- What would Europe and America gain from measures in Asia and EECCA countries?
- 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?

Part II:

1 Introduction

Problem description, policy development, challenges (problems solved, remaining concerns, emerging problems)

2 Science - understanding & modelling the processes

- 2a Particles - new insights on sources, atmospheric processes and effects to humans and climate
- 2b Emission sources (anthropogenic, by sector)
- 2c Biogenic emissions
- 2d Atmospheric processes, different scales
- 2e Atmospheric transport & chemistry; deposition modelling
- 2f Health impacts (mechanisms, RR, local exposure)
- 2g Ecosystem impacts from ozone, nitrogen, H⁺ (CL, recovery)
- 2h Other impacts (crops, materials, ..)
- 2i Climate-air interactions; global perspective
- 2j Abatement options and costs

3 Measurements and trends of air quality and effects

3a Emissions

3b Emission trends decoupling; trends in GDP, PJ, km

3c European air quality & deposition - networks

3d Local air quality

3e Comparison air quality measurements and modelling

3f Monitoring ecosystems, forests, lakes

3g Comparison of impact measurements and modelling

4 The future - Projections and needs for meeting long term objectives

4a Emissions

4b Concentrations & deposition

4c (Local) health benefits

4d Ecosystem impacts

4e Abatement measures & costs - Integrated assessment

5 Widening the scope

5a Global scale air pollution

5b SLCPs

5c Nitrogen

5d Local vs transboundary air pollution

6 Integrated assessments

6a Towards long term sustainability

6b Healthy and sustainable cities