

Task Force on Integrated Assessment Modelling, Copenhagen, 22-23 April 2013

**UPDATE ON THE ACTIVITIES
UNDER THE UNECE CONVENTION ON
LONG-RANGE TRANBOUNDARY AIR
POLLUTION (LRTAP)**

**Secretariat of the LRTAP Convention,
UNECE, Geneva, Switzerland**

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE



OUTLINE

- Amendments to the Gothenburg Protocol
- Amendments to the Protocol on Heavy Metals
- Other developments in the framework of the Convention



Amendments to the Gothenburg Protocol

- Adopted by Parties to the 1999 Protocol to Abate Acidification, Eutrophication and Ground-Level Ozone (Gothenburg Protocol) at the 30th session of the Executive Body on 4 May 2012
 - National emission reduction targets for 2020 – compared to 2005 base year - for key air pollutants: sulphur and nitrogen oxides, ammonia and volatile organic compounds
 - Adoption – for the first time – of reduction targets for fine particulate matter - PM_{2.5}
- Addressing short-lived climate forcers: PM and ozone precursors



Amendments to the Gothenburg Protocol

- Inclusion of black carbon (soot) as an important component of PM_{2.5} (air pollutant and short-lived climate forcer); new tasks and obligations with respect to BC include:
 - i) development of national emission inventories
 - ii) atmospheric modelling
 - iii) monitoring of adverse impacts on health and the environment
 - iv) cost-benefit analysis
 - v) prioritizing PM_{2.5} mitigation measures with a focus on BC reductions
 - vi) evaluation of mitigation measures for black carbon after entry into force of the amendment (art.10.3)
- Setting a uniform set of air pollutant standards for stationary and mobile sources (Emission Limit Values)



Amendments to the Gothenburg Protocol

- Introduction of flexibilities to encourage accession by the countries of Eastern Europe, the Caucasus and Central Asia (article 3 bis on Flexible transitional arrangements and the annex VII on timescales under article 3)
- Introduction of a procedure for adjusting emission reduction commitments and inventories (Decision 2012/3 at EB-30)
- Possibility to apply the adjustment procedure pending entry into force of the amendment (Decision 2012/4 at EB-30)
- Guidance for adjustments under the Gothenburg Protocol to emission reduction commitments or to inventories for the purposes of comparing total national emissions with them (Decision 2012/12 at EB-31)



Amended Gothenburg Protocol: Entry into force

- The amended Gothenburg Protocol will enter into force when 2/3 of its 26 Parties accept the amendments.
- The EU (-59, -42, -6, -28, -22% for SO₂, NO_x, NH₃, VOCs and PM_{2.5}, respectively), Belarus, Croatia, Norway and Switzerland already announced their reduction commitments.
- The US provisionally indicated a similar level of ambition with respect to abatement commitments to that of the EU.
- The Russian Federation and other countries of Eastern Europe, the Caucasus and Central Asia indicated their intention to ratify the revised GP in the near future.



Guidance documents to the Gothenburg Protocol

- At its 31st session, the Executive Body adopted:
 - Guidance document on control techniques for emissions of sulphur, nitrogen oxides, volatile organic compounds and particulate matter (including PM10, PM2.5 and black carbon) from stationary sources
 - Guidance document on economic instruments to reduce emissions of regional air pollutants
 - Guidance document on national nitrogen budgets
 - Guidance document on preventing and abating ammonia emissions from agricultural sources



Amendments to the Protocol on Heavy Metals

- Adopted by Parties to the 1998 Protocol on Heavy Metals at the 31st session of the Executive Body on 13 December 2012
- More stringent emission limit values for emissions of PM and cadmium, lead and mercury
- Extension of the emission source categories for the three heavy metals to the production of silico- and ferromanganese alloys
- Building on approach of Gothenburg Protocol, inclusion of considerable flexibilities to enable accession of countries in Eastern Europe, the Caucasus and Central Asia



Amendments to the 1998 Protocol on Heavy Metals

- Adoption of expanded Guidance document on “Best available techniques for controlling emissions of heavy metals and their compounds from the source categories listed in annex II”
- Agreement to revisit the issues of mercury-containing products and emission limit values for heavy metals at EB session 2014, following adoption of global legally binding agreement on mercury; and to maintain work of Parties and Task Force on Heavy Metals on mercury-containing products



Other developments in the framework of CLRTAP

- **Bill Harnett replaces Richard Ballaman as chair of WGSR**
- **Discussion on reorganisation of the Convention continues**
- **Workplan: more visibility on web and newspapers!**
- **Science article by Reis et al.**
- **Workshop 10-12 Oct 2012 on global scenarios with TFHTAP**
- **Workshop 13-14 Oct 2012 on global Nitrogen scenarios**

POLICYFORUM

ATMOSPHERIC SCIENCE

From Acid Rain to Climate Change

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Updated air pollution science and policies address human health, ecosystem effects, and climate change in Europe.

The Convention on Long-Range Transboundary Air Pollution (CLRTAP) under the United Nations Economic Commission for Europe (UNECE) was established in 1979 to control damage to ecosystems and cultural heritage from acid rain, initially in Europe (1). Extended by eight protocols, most recently the Gothenburg Protocol (GP) signed in 1999, it has been key for developing cross-border air pollution control strategies over the UNECE region, which includes the United States and Canada. We describe how recent amendments to the GP reflect improved scientific knowledge on pollution, environmental relations, and links between regional air pollution and global climate change.

environmental objectives were used to calculate an economically efficient distribution of effort between countries. The science-policy dialogue became intense in the 1990s, in particular through the Task Force on Integrated Assessment Modelling (TFIAM) and the Working Group on Strategies and Review (WGSR). It was the science that convinced policy-makers that a focus on individual pollutants was leading to suboptimal solutions and that a multipollutant, multieffect approach would be more cost-effective.

The GP, which entered into force in 2005, marked a new approach, scientifically supported and economically justified. Compared with previous international commitments on improving air quality, which contained flat rate reductions for separate pollutants, this effects-based approach identified an optimal allocation of targets among countries to reduce several damaging pollutants simultaneously, leading to considerably lower costs. Each country agreed on emission ceilings to be met for the key pollutants, while retaining some flexibility in how these were to be attained (5). The GP, with its target year 2010, has formed the basis for both international (e.g., European Union) and national policies. Most countries have been able to fulfill commitments in terms of emission reductions with corresponding improvements in air quality.

Revising the GP

The Parties to the Protocol agreed to substantive amendments to the GP in May 2012 (6). For the first time in a multilateral environmental agreement, specific account was taken of the adverse effects of particulate matter (PM) on health. The revision includes commitments

science and end with further requests to scientists. Scientists are present in negotiation meetings, and policy-makers participate in scientific meetings and thus can make sure that the science remains focused on the needs of the policy process.

Science played a major role in establishing CLRTAP, substantiated through the European Monitoring and Evaluation Programme (EMEP) and the Working Group on Effects (WGE). In the early stages, the main

Substantial emissions reductions have been achieved under CLRTAP (see the chart). Air quality has improved, and deposition of acidifying (fig. S1) and eutrophying (fig. S2) compounds in excess of critical loads (2, 3) has been widely reduced. The largest reductions can be seen for sulfur dioxide: Since 1990, several European countries have reduced emissions by close to 80%. Sulfur deposition, once the main cause of the acidification of lakes and soils, has markedly diminished. Although emission reductions were, to a large extent, achieved by cost-effective measures proposed by science, they were also helped by autonomous developments, such as the transition of Eastern European economies (4).

Much of the success of CLRTAP in integrating science and policy is because scientific results, assessments, and technological solutions form an integral part of the aen-

Actual 2010
GP-2010 commitment
GP-2020 commitment

Pollutant	Actual 2010	GP-2010 commitment	GP-2020 commitment
SO ₂	-80%	-80%	-80%
NO	-40%	-40%	-40%
NMVOC	-50%	-50%	-50%
NH	-20%	-20%	-20%
PM	-30%	-30%	-30%

Emission reductions and commitments for 2020 under the revised GP. These commitments enter into force upon ratification of the revised protocol by each signatory. All percentage changes are relative to 1990 emissions. Targets of the original GP for 2010 are also shown. GP commitments for nonmethane volatile organic compounds (NMVOCs) for 2020 are above actual emissions for 2010, which were low because of the economic situation in Europe and the related reduction in industrial output and construction. See table S2 for details.

Other developments in the framework of CLRTAP

•Upcoming review of the recommendations by the ad hoc group of experts on the Action Plan for the implementation of long-term strategy:

- Consideration at upcoming 51st session of the Working Group on Strategies and Review, 30 April – 3 May
- Decisions by EB at 32nd session, 9-13 December 2013

•Development of the 2014-2015 workplan

- Alignment with long-term strategy, targeting Convention's priorities
- Input by different Task Force in new format, identifying link of planned activities/outputs with long-term strategy
- Decision on workplan to be taken by EB at 32nd session



Related Activities

- **Stakeholder Expert Group meetings on the revision of the NEC-directive (2025?) - Brussels**
- **Meeting on Health effects of Air Pollution (30 January 2013)**
- **Seminar Clean Air for Nature (Brussels 20 March 2013)**
- **Air Policy-Science Meeting (Dublin 15 April 2013)**
- **FP7: ECLAIRE, ECLIPSE, PEGASOS, ...**
- **ETC-ACM hindsight report**
- **Clean Air and Climate Coalition**

EEA Technical report | No 14/2012

Evaluation of progress under the EU National
Emission Ceilings Directive
Progress towards EU air quality objectives

ISSN 1725-2237



Other developments in the framework of CLRTAP

WHO Press Release:

International Agency for Research on Cancer



World Health
Organization

PRESS RELEASE
N° 213

12 June 2012

IARC: DIESEL ENGINE EXHAUST CARCINOGENIC

Lyon, France, June 12, 2012 -- After a week-long meeting of international experts, the International Agency for Research on Cancer (IARC), which is part of the World Health Organization (WHO), today classified diesel engine exhaust as **carcinogenic to humans (Group 1)**, based on sufficient evidence that exposure is associated with an increased risk for lung cancer.

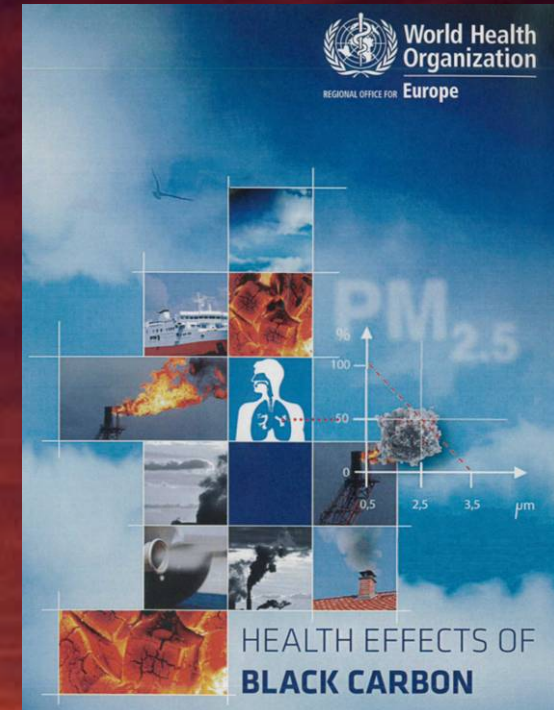
Other developments in the framework of CLRTAP

- “Health Effects of Black Carbon”

Report prepared by the Joint WHO/LRTAP Task Force on Health Aspects of Air Pollution ; April 2012 available at:

<http://www.euro.who.int/en/what-we-publish/abstracts/health-effects-of-black-carbon>

- Policy paper on the Health effects of Particulate Matter presented to the Executive Body, 31st session (ECE/EB.AIR/2012/18)



For further information

<http://www.unece.org/env/lrtap/welcome.html>

- on amendments to the Gothenburg Protocol and the Protocol on Heavy Metals, see “Amended Protocols” section of webpage



Taking international air pollution policies into to the future

A science-policy workshop for experts and scientists, policy makers and negotiators, international organisations and industry

Gothenburg, Sweden, 24-26 June 2013.

Purpose: to set the scene for future international and global air pollution policies and how we can achieve improved air quality and ecosystem health and at the same time ensure positive benefits for climate change, biodiversity and other related policy areas.

Organised by the Swedish Environmental Protection Agency and the IVL, in collaboration with international organisations such as the Convention on Long-range Transboundary Air Pollution (CLRTAP), the European Commission, Global Atmospheric Pollution Forum and the European Environment Agency.

<http://www.saltsjobaden5.ivl.se>