



# Convention on Long-range Transboundary Air Pollution

## 1998 Protocol on Heavy Metals

Brinda Wachs, United Nations  
Economic Commission for Europe  
(UNECE)



## ***1979 Convention on Long-range Transboundary Air Pollution (1)***

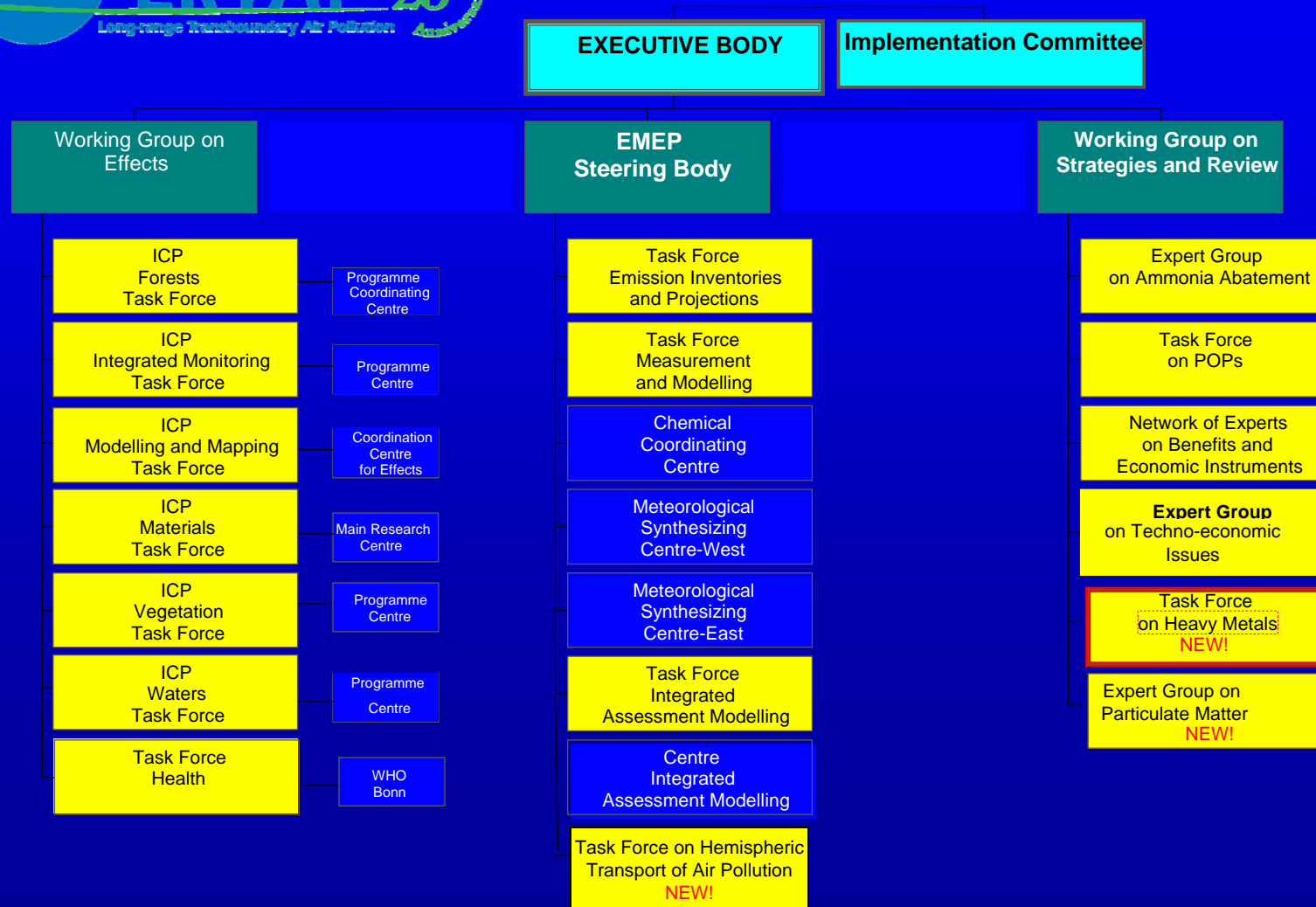
- ❖ Sets out general principles of cooperation for air pollution abatement**
- ❖ Creates institutional framework for collaborative research**



## ***1979 Convention on Long-range Transboundary Air Pollution (2)***

- ❖ Provides interface between science and policy to combat air pollution**
- ❖ Operates by consensus among parties to the Convention and its 8 Protocols**

# CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION





## ***1998 Aarhus Protocol on Heavy Metals***

- ❖ **Covers 3 metals: cadmium, lead and mercury**
- ❖ **Entered into force December 2003**
- ❖ **Ratified by 28 Parties**



## ***1998 HMs Protocol : AIMS***

- ❖ To control emissions of HMs caused by anthropogenic activities subject to long-range transboundary atmospheric transport**
- ❖ Likely to have significant adverse effects on human health or environment**



## ***1998 HMs Protocol : BASIC OBLIGATIONS (1)***

- ❖ Parties must reduce total annual emissions into the atmosphere of Cd, Hg, Pb over base year (1990)**
- ❖ Timescale to apply BAT and ELVs for new and existing stationary sources and product controls**



## ***1998 HMs Protocol : BASIC OBLIGATIONS (2)***

- ❖ Parties must also develop policies, programmes, measures to fulfil obligations and report on these every 2 years**
- ❖ Reports on strategies and policies for HMs abatement on website**

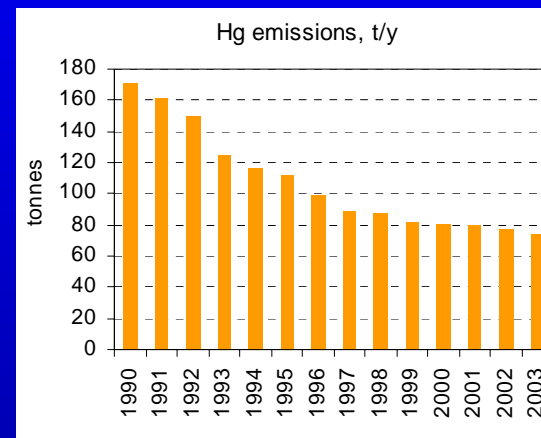
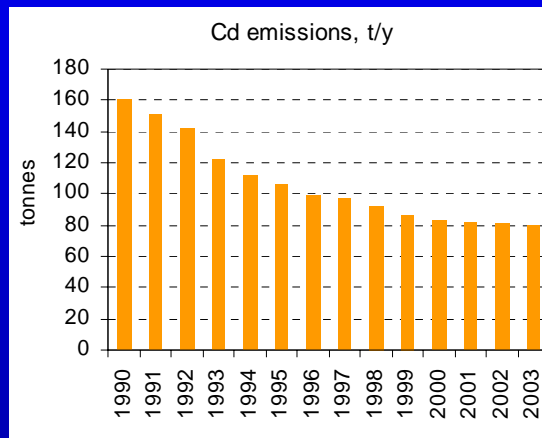
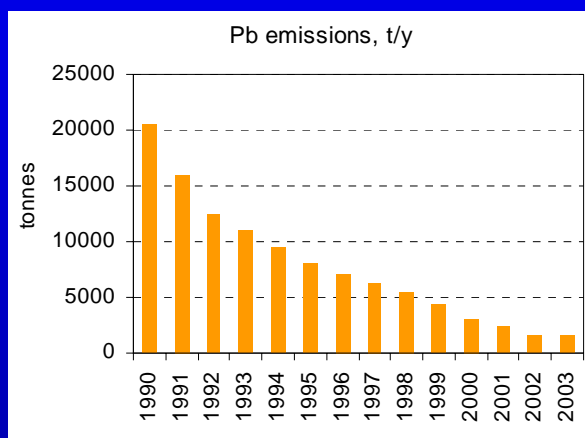


## ***1998 HMs Protocol : Emission Limit Values (Annex V)***

- ❖ **ELVs address all particle bound metals, not only Cd, Hg and Pb**
- ❖ **Protocol thus addresses dust (PM) and HMs all in one shot...**

# Emission trends

Data for Pb, Cd and Hg at least for 1990 and 2003: 24 countries



Emission reductions:

**Pb – 13 times**

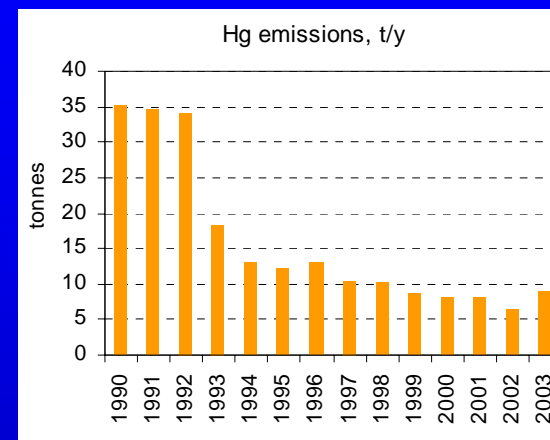
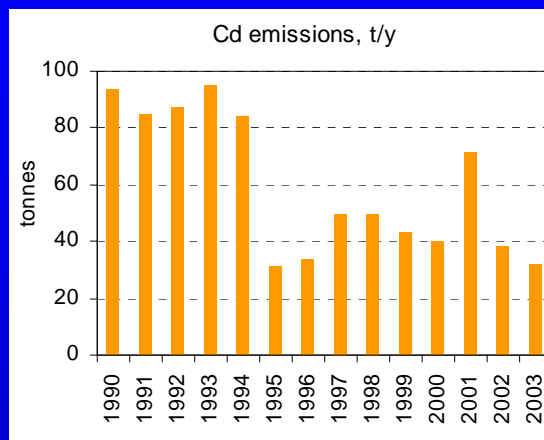
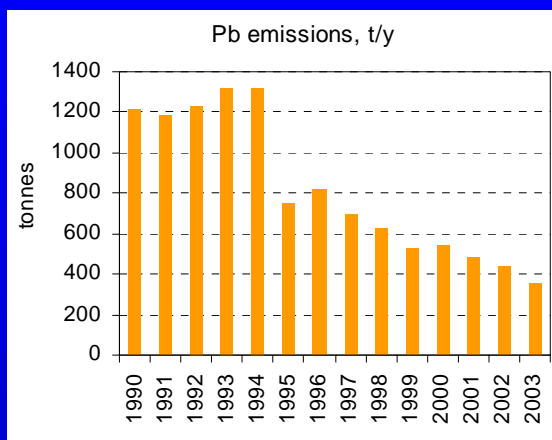
**Cd – 2 times**

**Hg – 2.3 times**



# Emissions of countries outside EMEP: USA, Canada

## Emissions of HMs in Canada in 1990 - 2003



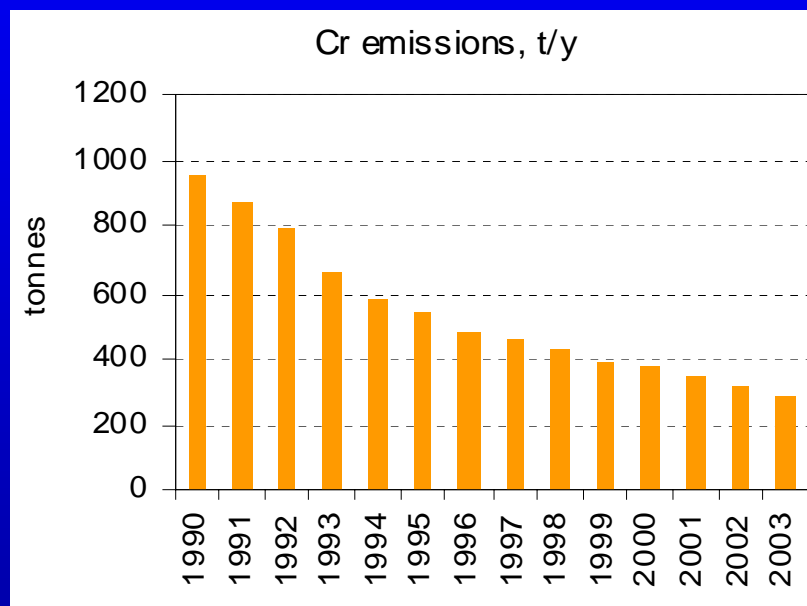
## Emission reduction in Canada and the USA:

	Pb	Cd	Hg
Canada (1990 - 03)	70%	66%	75%
USA (1990, 96, 99, 02)	49%	likely, decrease	48%



## Other metals (voluntary data)

Emissions from countries within EMEP



For at least 1990 and 2003:

Cr, As, Ni, Cu, Zn: 17 countries

Se: 13 countries

Decrease of emissions:

7% (Se) – 70% (Cr)

Cr emissions (1990-2003)





## ***Review and revision of 1998 HMs Protocol (1)***

- ❖ **Protocol reviewed for sufficiency and effectiveness: is it doing what it set out to do?**
- ❖ **Task Force on HMs, led by Germany, reviewed Protocol in 2006**



## ***Review and revision of 1998 HMs Protocol (2)***

- ❖ In-depth review by Convention's Implementation Committee**
- ❖ Checking all Parties on HM emissions and strategies/policies**



## ***Review and revision of 1998 HMs Protocol (3)***

- ❖ Have emission reductions been achieved?**
- ❖ Is there a basis for an effects-based approach?**



## ***Review and revision of 1998 HMs Protocol (4)***

- ❖ Based on review, Parties will develop further steps for reducing emissions of Cd, Hg, Pb**
- ❖ Work on CLs for HM effects on health and ecosystems**



## ***Review and revision of 1998 HMs Protocol (5)***

- ❖ Protocol provides guidance on adding metals or other amendments**
- ❖ Emission data on As, Cr, Cu, Ni, Se, Zi, but no impetus for adding new metals**



## ***Conclusions (1)***

- ❖ **Review completed and revision to begin in 2007**
- ❖ **Working Group on Strategies will lead revision process and possible re-negotiation if Parties wish**



## ***Conclusions (2)***

- ❖ Even with considerable reduction of emissions through effective measures, excess HMs remain due to current depositions**
- ❖ Further reductions are needed!**



***THANK YOU FOR YOUR ATTENTION!***

**CONVENTION WEB SITE:**

**<http://www.unece.org/env/lrtap>**