

DRAFT GUIDANCE DOCUMENT ON RECOVERY OF ECOSYSTEMS AND ON ENVIRONMENTAL AND HEALTH IMPROVEMENTS

Prepared by the Working Group on Effects

I. INTRODUCTION

Calculated improvements on health and nature resulting from the national emission ceilings in annex II to the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (the Gothenburg Protocol) if attained by all Parties by 2020 will be documented by the responsible subsidiary body of the Executive Body on the basis of Guidance document [to be numbered] within one year after the first day on which the present Protocol is open for signature as referred to in Article 1 (a) and (b). This subsidiary body may update the information when considered necessary.

II. RECOVERY OF ECOSYSTEMS

Acidification

1. Recovery from the adverse effects of acidification can be achieved when the critical load is not exceeded. When recovery is required by a specified year (target year) a deposition value (target load) is required to enable the chemical criterion to attain a non-critical value in the target year. The chemical criterion used for the critical loads calculations is linked to biological effects.

Eutrophication

2. Recovery from the adverse effects of eutrophication may be achieved when the critical load is not exceeded. When recovery is required by a target year, a target load is required to enable the chemical criterion to attain a non-critical value in the target year. The chemical criterion used for critical load calculations is linked to biological effects

III. ENVIRONMENTAL IMPROVEMENT

3. The environmental improvement within a Party of the adopted emission ceilings as given in annex II to the Gothenburg Protocol, is evaluated as the difference of a relevant indicator between its value in a base year (Table I.1) and its value in a target year (Table I.2). Values for environmental improvements are shown in Table I.3. The indicators are expressed as follows:

Acidification:

4. The ecosystem area where the critical load for acidification is exceeded as well as the average accumulated exceedance (AAE).

Eutrophication:

5. The ecosystem area where the critical load for nutrient nitrogen is exceeded, as well as the average accumulated exceedance, including potential changes to plant species diversity.

Direct effects of ammonia

6. The ecosystem area where the critical level of ammonia is exceeded.

Vegetation-related ground-level ozone exposure:

7. The area where the critical level of ozone for crops, forest trees and (semi-)natural vegetation is exceeded.

Health-related ground-level ozone exposure:

8. The share of the population for which the exposure to ground-level ozone exceeds the critical level for human health.

Particulate matter (PM):

9. The loss in life expectancy and morbidity due to exposure to PM.

Short-Lived Climate Forcing (SLCF):

10. The net sum of radiative forcing due to short-lived substances in the atmosphere of the EMEP domain.

Materials related to air pollution exposure

11. The mass loss per surface area of material for which the acceptable or tolerable level of corrosion is exceeded.

Table I.1. Environmental indicator values for emissions in [2000] [2010] [the base year]

Party	Acidity		Eutrophication			Ammonia	Ozone			PM		SLCF	Material
	Area (unit)	AAE (unit)	Area (unit)	AAE (unit)	Biodiv. (unit)	Area (unit)	Area (flux unit)	Area (concentration unit)	Pop. (unit)	Mortality (unit)	Morbidity (unit)	(unit)	(unit)
<p>Table I.1 consists of specific numbers for each of the environmental indicators for the emissions in the base year, for each individual Party within the EMEP domain, following the guidelines for reporting on the monitoring and modelling of effects of air pollution effects (ECE/EB.AIR/WG.1/2008/16).</p>													

Table I.2. Environmental indicators values for the emission ceiling in [the target year] [2020] [2030] as given in Annex II

Party	Acidity		Eutrophication			Ammonia	Ozone			PM		SLCF	Material
	Area (unit)	AAE (unit)	Area (unit)	AAE (unit)	Biodiv. (unit)	Area (unit)	Area (flux unit)	Area (concentration unit)	Pop. (unit)	Mortality (unit)	Morbidity (unit)	(unit)	(unit)
<p>Table I.2 consists of specific numbers for each of the environmental indicators for the emission ceilings in the target year for each individual Party within the EMEP domain, following the guidelines for reporting on the monitoring and modelling of effects of air pollution effects (ECE/EB.AIR/WG.1/2008/16).</p>													

Table I.3. Absolute and relative environmental improvements in the [target year] (Table I.2) compared to the [base year] (Table I.1)

Party	Acidity		Eutrophication			Ammonia	Ozone			PM		SLCF	Material
	Area (unit)	AAE (unit)	Area (unit)	AAE (unit)	Biodiv. (unit)	Area (unit)	Area (flux unit)	Area (concentration unit)	Pop. (unit)	Mortality (unit)	Morbidity (unit)	(unit)	(unit)
<p>Table I.3 consists of specific numbers and percentages for each of the environmental indicators as the difference of numbers in Tables I.1 and I.2.</p>													