REQUIREMENTS TO LIVESTOCK IN THE CONTEXT OF 2 U CONVENTIONS

Framework Convention on Climate Change and Convention on Long-range Transboundary Air Pollution)

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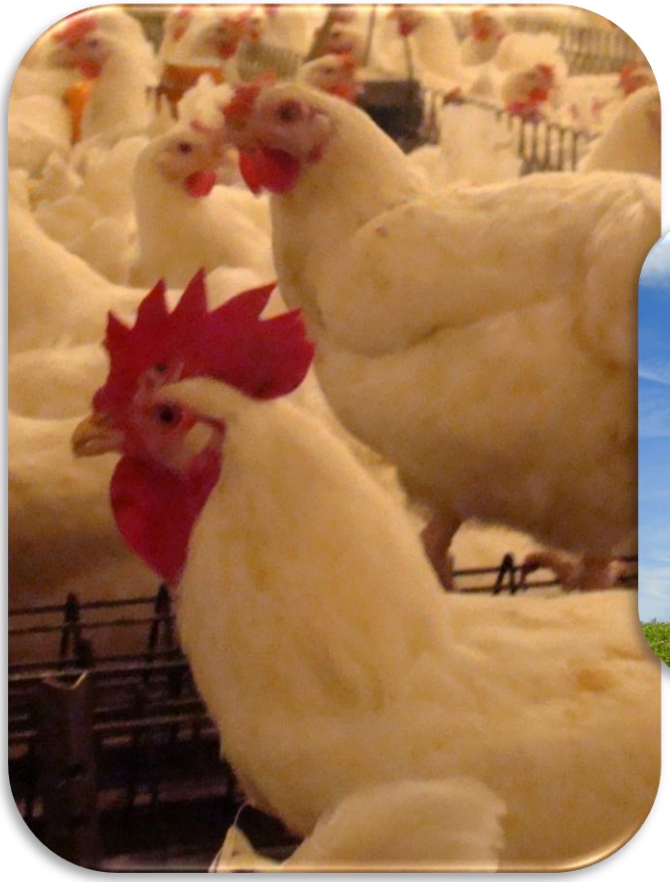

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LEGISLATIVE FRAMEWORK
OF UKRAINE FOR CONTROLLING EMISSIONS OF POLLUTANTS IN AMBIENT AIR

Laws of Ukraine:
"On Environmental Protection",
"On Air Protection" and
"On ensuring sanitary and epidemiological welfare of population"

UN Framework Convention on Climate Change:
adopted 1996;
Kyoto Protocol to the Convention - signed Ukraine 1999, and ratified by Verkhovna Rada of Ukraine in 2004.

UN Convention on Long-range Transboundary Air Pollution

adopted 1979; entry into force 1983.

Protocol concerning the Control of Emissions of Nitrogen Oxides

- ratified by Verkhovna Rada of Ukraine in 1989.

Categories of emissions sources in the agricultural sector of Ukraine, tons of CO_2-eq

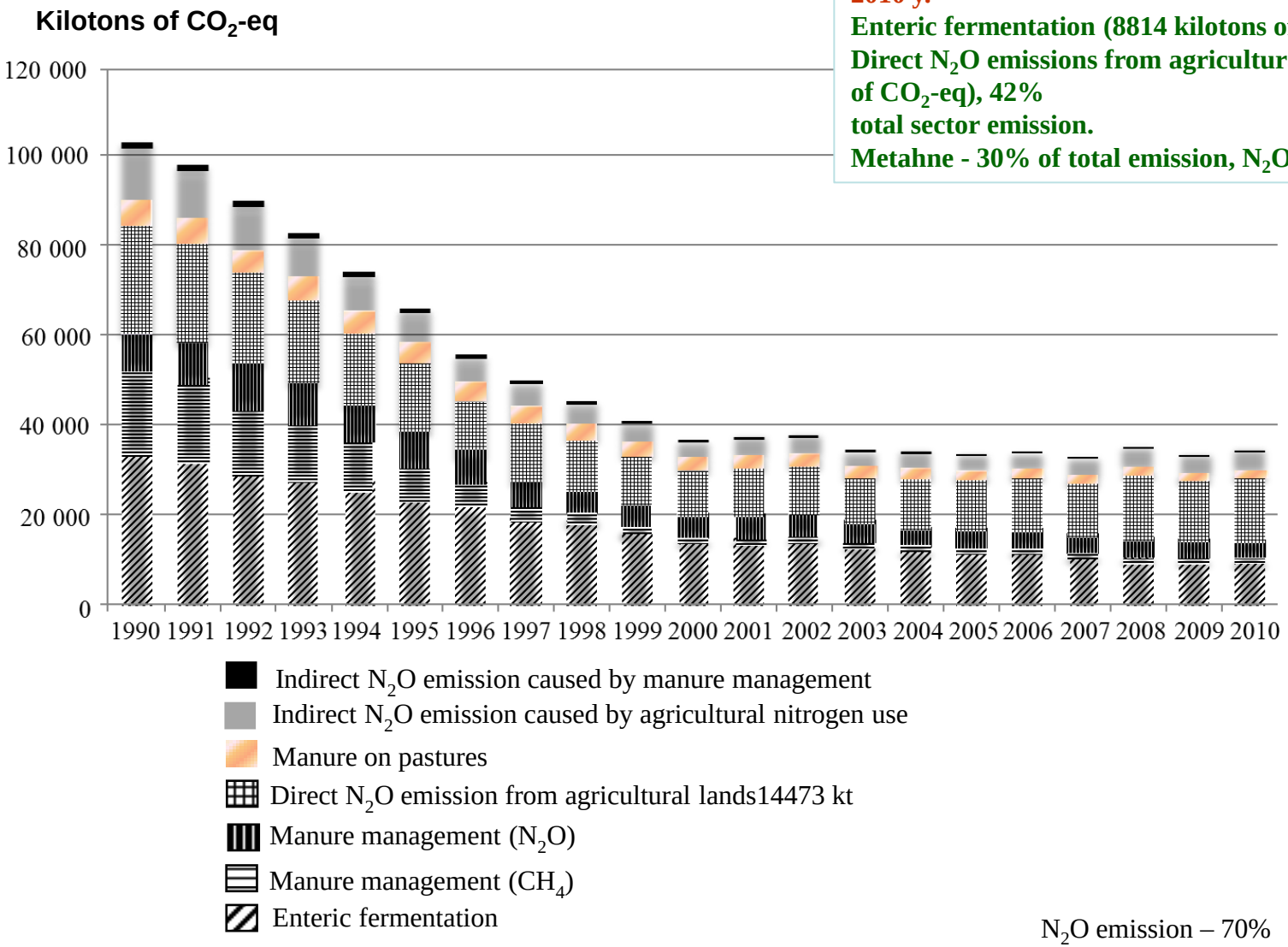
(established by PCC Intergovernmental panel on climate change)

(National inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases in the Ukraine)

4.A Enteric fermentation;
4.Ba Manure management (CH_4);
4.Bb Manure management (N_2O);
4.C Rice Cultivation;
4.D1 Direct N2O emissions from agricultural soils;
4.D2 manure on pastures;
4.D3 Indirect N_2O emissions from nitrogen use in agriculture;
4.G Indirect N_2O emissions from manure management.

Pic.3 **Change of emissions of greenhouse gases in agriculture sectors**

2010 y.
Enteric fermentation (8814 kilotons of CO_2-eq) 26%
Direct N_2O emissions from agricultural lands (14473 kilotons of CO_2-eq), 42%
total sector emission.
Metahne - 30% of total emission, N_2O – 70% of total emission.



N_2O emission – 70%

Part of Agriculture in total greenhouse gases emission
(9%)

Main emission sources	Share of emission, %
Animal enteric fermentation	26
Agricultural lands	59

Change of emission in agriculture, 1990 – 2010

Years	Change, %	Reasons of change
Compared with 1990	67 – decrease	
Compared with 2009	3 – increase	1. Increase of use of nitrogen fertilizers from 634,9 to 774,7 kt (on 22%). 2. Increase of pigs (on 10%) and зщгдекн (on 7%) numbers in all types of farms.

PROTOCOL TO ABATE ACIDIFICATION, EUTROPHICATION AND GROUND-LEVEL OZONE

Ukrainian government adopted the Concept to Abate Acidification , Eutrophication and Ground-level Ozone.

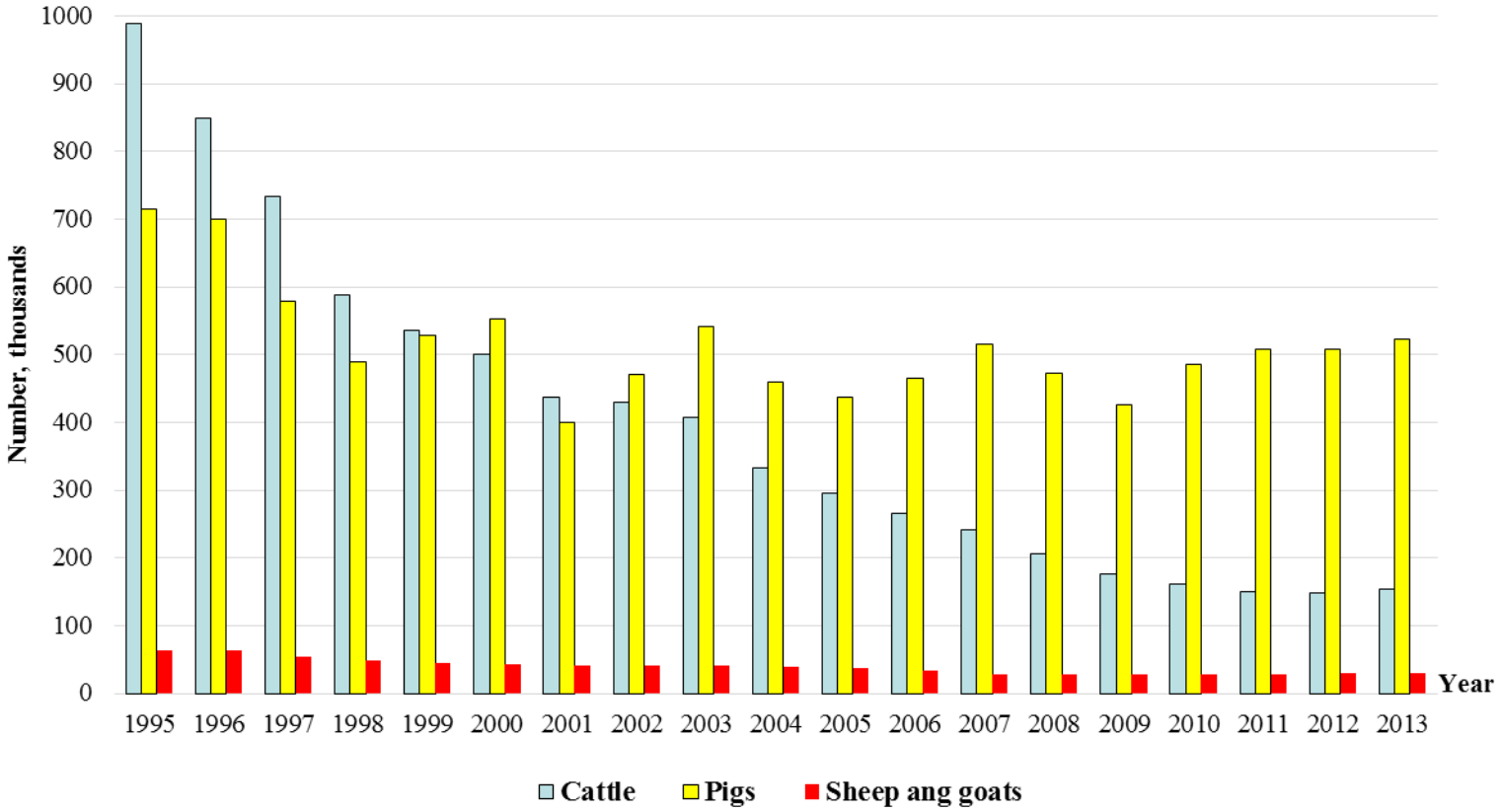
Directions for reduction of emissions of air pollutants that lead to acidification, eutrophication and formation of ground-level ozone in 2005-2015 are developed .

In the framework of implementation of the Concept an action plan was developed to reduce emissions of pollutants into the air, which leads to acidification, eutrophication and formation of ground-level ozone in 2005-2015.

A draft version of Rules of Good Agricultural Practice to help reduce ammonia emissions and utilization of biogas is developed.

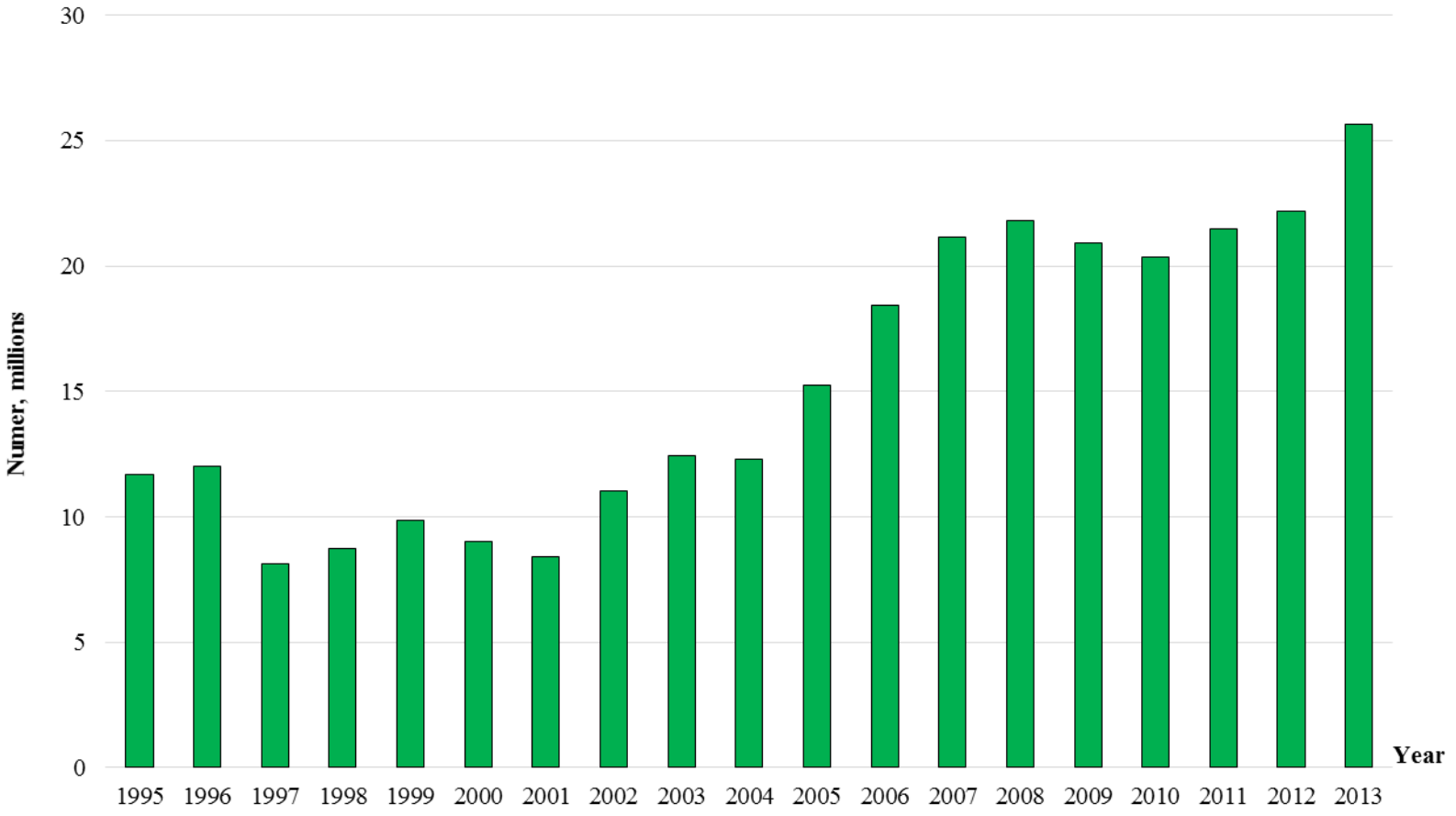
Ecological assessment of the functioning of livestock and poultry in the Kiev region

According to the statistical data, the area of agricultural land in the Kyiv region is 1513.7 thousands hectares, including arable land - 1282.3 thousand hectares.



Change of numbers of livestock in Kyiv region (1995–2013), thousands

According to the statistical data, livestock numbers change during 1995-2013 in Kyiv region has the same trends as all over Ukraine - decrease of numbers of cattle (from 988,8 to 154,9 thousands), small livestock (from 64.6 to 29.6 thousands) and pigs (from 715.2 to 523.5 thousands),



Change of numbers of poultry in Kyiv region (1995–2013 pp.), millions

Increase of numbers of poultry (from 11.7 to 25.6 millions).

Modern state of animal husbandry production (by example of Kyiv region)

	Cattle				Pigs		Sheep and goats		Poultry	
	total		Milking cows							
	Number, thousands	% of number at corresponding date of previous year	Number, thousands	% of number at corresponding date of previous year	Number, thousands	% of number at corresponding date of previous year	Number, thousands	% of number at corresponding date of previous year	Number, thousands	% of number at corresponding date of previous year
1.02.14	150,5	96,6	76,3	98,5	484,5	92,6	30,3	101,0	26401,4	101,2
1.03.14	155,0	96,9	78,0	97,9	481,8	91,2	32,9	104,8	26472,3	105,8

Numbers of agricultural livestock by categories on farms in Kyiv region (as on 1.01.2013), thousands

Agricultural livestock	All categories of farms	Agricultural enterprises	Private farms
Cattle	154,9	98,4	56,5 (36.5%)
Pigs	523,5	373,6	149,9 (28,6%)
Sheep and goats	29,6	6,1	23,5 (79,4%)
Horses	8,4	1,7	6,7
Poultry	25683,4	25683,4	–

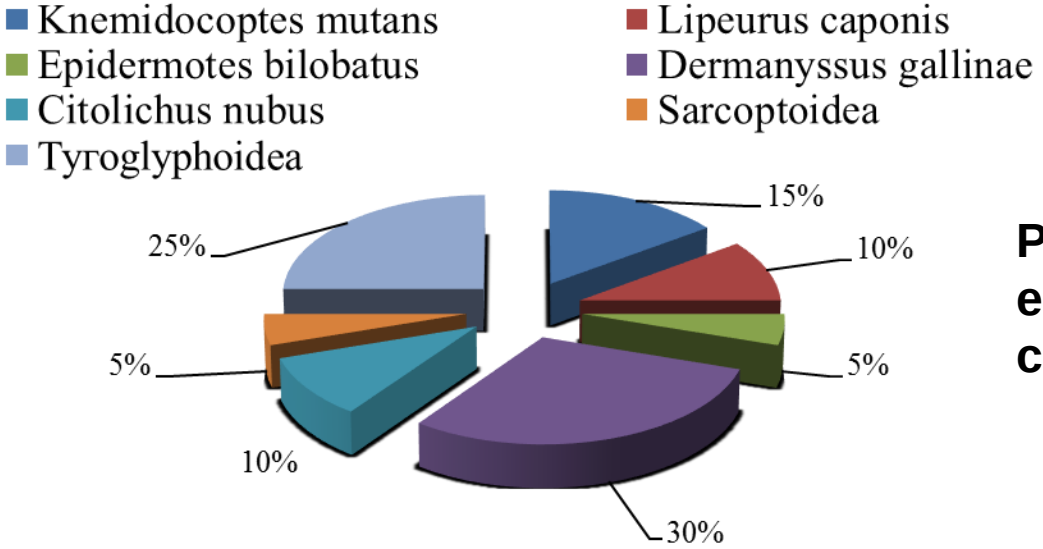
Calculated quantity of pollutants and ammonia emissions by poultry farm in Kyiv region (01.01.2013)

Poultry numbers, thousands	Solid wastes, t/year	Wastewaters, m^3/year	Ammonia, t/year
25683,4	987217.2	1523686.2	5761.7

Poultry mite
Dermanyssus gallinae

Granary mite
Tyroglyphidae

Bird lice
Lipeurus caponis



Proportion of species of ectoparasites at poultry farm complex

Table 9.3.4. **Ectoparasitess in poultry farm**

Sample /poultry age	Sampling place	Stage of insects	Number of acarus /10g	Acarus species
Litter / 30 days	floor	imago	7	*Dermanyssus gallinae*, *Epidermoptes bilobatus*
Litter / 45 days	floor	imago	55	*Knemidocoptes mutans*, *Tyroglyphoidea*, *Epidermoptes bilobatus*
Litter / after poultry removal	floor	imago, eggs	75	*Dermanyssus gallinae*, *Tyroglyphoidea*, *Epidermoptes bilobatus*
Litter / parent flock (120 days)	floor, cage battery of laying hen	imago, eggs	37	*Dermanyssus gallinae*, *Tyroglyphoidea*, *Epidermoptes bilobatus*, *Knemidocoptes mutans*
Poultry house wash	tray	imago	21	*Epidermoptes bilobatus*, *Tyroglyphoidea*

Obtain of organo-mineral fertilizers

Additives: aluminum salts, solvent, mineral salts

Approbation

Conclusions

Update the agricultural emission factors in Ukraine and to compare them with the EMEP/EEA Air pollutant emission inventory Guidebook within the CLRTAP.

Basing on the revised "UNECE Framework Code for Good Agricultural Practice for Reducing Ammonia" for proper agricultural practice, develop "Guide for proper agricultural practice…." for agricultural industry of Ukraine.

Report to The Presidium of National Academy of Agrarian Sciences main statements of future "Guide for proper agricultural practice that leads to decrease of ammonia emission".

Propose the implementation of "Guide for proper agricultural practice that leads to decrease of ammonia emission" to the Ministry of Ecology and Natural resourses of Ukraine

Thank you for your attention

Maydan, 2013

	1979 Conv. a	1984 EMEP b	1985 SO c	1988 NOx d	1991 VOCs e	1994 SO f	1998 POPs g	1998 HMs h	1999 Multi-eff.i
Ukraine	S+R	S+R	S+R	S+R	S	S	S	S	

a Convention on Long Range Transboundary Air Pollution (adopted 1979; entry into force 1983).
b Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range
Transmissions of Air Pollutants in Europe (1984; 1988).
c Protocol on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30 per cent (1985; 1987).
d Protocol concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes (1988; 1991).
e Protocol concerning the Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes (1991; 1997).
f Protocol on Further Reduction of Sulphur Emissions (1994; 1998).
g Protocol on Persistent Organic Pollutants (POPs) (1998).
h Protocol on Heavy Metals (1998).
i Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (1999).