

# **AMMONIA EMISSIONS IN ROMANIA**

**‘ABATING AMMONIA EMISSIONS IN THE UNECE AND EECCA REGION IN  
THE CONTEXT OF THE NITROGEN CYCLE’, 29 FEBRUARY 2012, SAINT  
PETERSBURG**

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# Legislative framework

Romania ratified:

- ✓ CLRTAP - Law no 8/1991;
- ✓ Protocol to Abate Acidification, Eutrophication and Ground-level Ozone, hereby called “Gothenburg Protocol” - Law no 271/2003;

Provisions of the Gothenburg Protocol → undertaken into the European Union legislation.

# Institutional arrangements and regulatory framework

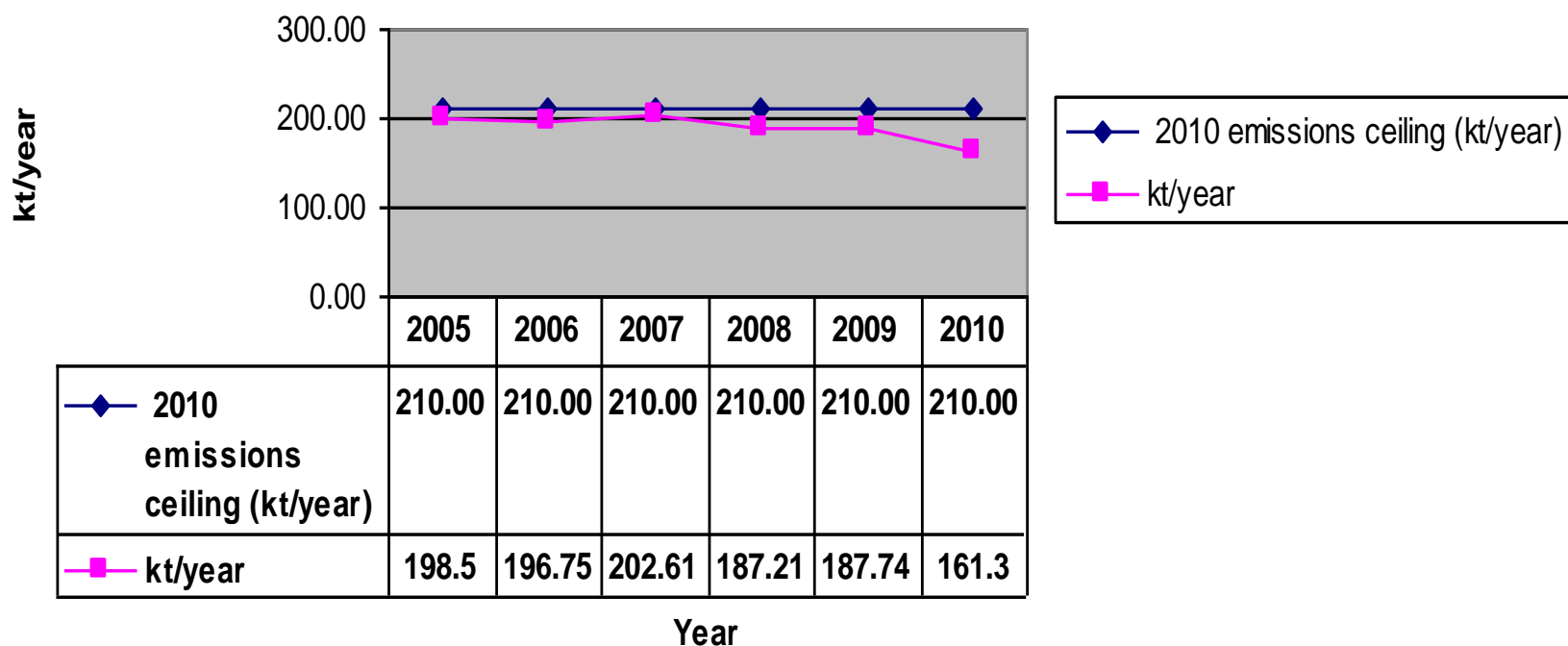
- ✓ **Policy making** → Ministry of Environment and Forests *in collaboration* with Ministry of Agriculture and Rural Development;
- ✓ **Implementation and regulation** → National Environment Protection Agency, regional environment protection agencies (8) and local environment protection agencies (34);
- ✓ **Control and inspection** → National Environmental Guard with local infrastructure.

# General country information about ammonia emissions (1)

- ✓ 2010 NH<sub>3</sub> national emissions ceiling → 210 ktonnes/year (acc. Annex II of GP);
- ✓ Agriculture sector → counting almost 85% of the *total national NH<sub>3</sub> emissions*;
- ✓ *Methodology* for estimating and reporting emissions → “*EMEP/EEA air pollutant emission inventory guidebook-2009*”;
- ✓ Use of *statistical activity data for the following group of activities*:
  - ✓ livestock feeding and housing;
  - ✓ manure storage;
  - ✓ field-applied manure;
  - ✓ fertilizer application (NH<sub>3</sub>).

# General country information about ammonia emissions (2)

NH3 emissions trend



# Reference national regulatory system (1)

- ✓ EU Directive 1/2008 regarding Integrated Pollution Prevention and Control (IPPC) → integrated environment permit;
- ✓ Ministerial Order no 1789/2007 → environmental permit.

## Reference national regulatory system (2)

Environmental permits establish:

- ✓ Techniques;
- ✓ Quantities, composition and management of waste, including manure;
- ✓ Requirements of Code of good agricultural practices;
- ✓ Elaboration an agricultural chemistry study before scattering slurry.

# Share of small and large farms (1)

- ✓ Individual farms, with a little number of animals;
- ✓ Total number of agricultural holdings with agricultural area in use and livestock (2007) → **3,254,242** out of which:
  - ✓ 3,252,011 individual agriculture holdings
  - ✓ 2231 units with legal personality.
- ✓ Total number of agricultural holdings only with livestock (2007) → **79,560** out of which:
  - ✓ 79,244 are individual agriculture holdings;
  - ✓ 316 units with legal status.



## Share of small and large farms (2)

In 2010 were inventoried:

- ✓ 126 pig and sows farms;
- ✓ 225 poultry farms;
- ✓ 166 cattle farms, with a capacity of more than 100 places, of which 158 dairy farms.

# Share of solid and liquid manure

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Acc. to data provided by the Ministry of Agriculture and Rural Development →

- ✓ 79% solid manure;
- ✓ 21% liquid manure.

# Reference situation of animal housing types

- ✓ *Individual farms* → the animals are housed in stables during winter and in outdoor enclosures during summer;
- ✓ *Intensive rearing farms* → only cattle and sheep are housed in outdoor spaces during summer, pigs and poultry being mostly housed in stables and coops also during summer period complying with the animal welfare conditions foreseen in BREF Document.

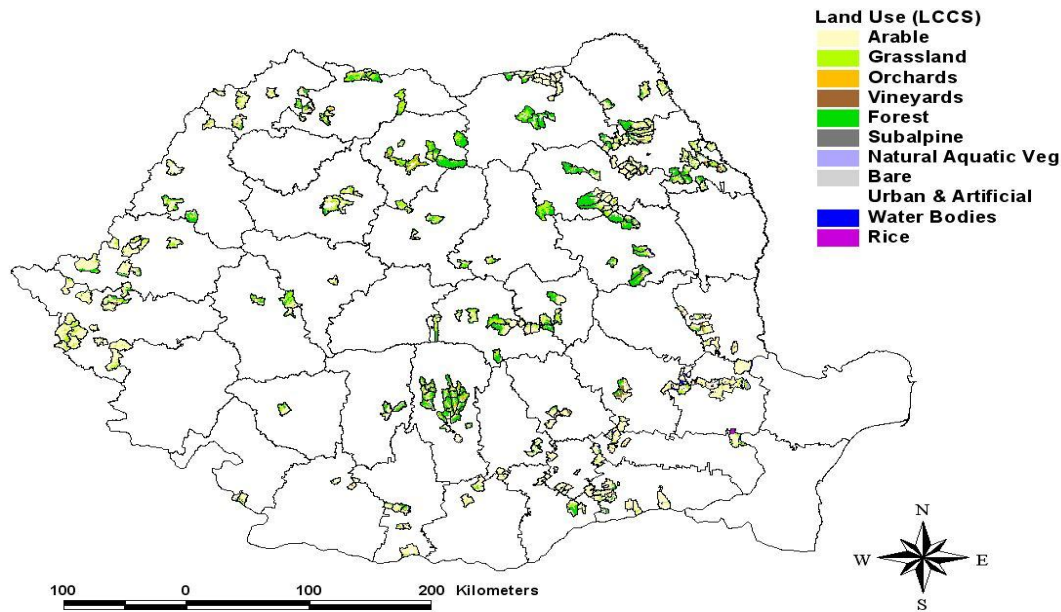
# Manure application techniques

- ✓ *Complying with* → requirements of Reference Document (BREF) for Intensive Rearing of Poultry and Pigs;
- ✓ *Slurry and solid manure* → usually eliminated in a mechanized way (*commonly used management systems*) for intensive rearing holdings and in a manual way for individual farms.

# Ammonia hot spot areas

- ✓ Performed a diagnosis of **areas vulnerable to pollution by nitrates** and elaborated a list of localities where there are sources of nitrates from agricultural activities.

**Nitrate Vulnerable Zones** - Source: Department of Water Management, Ministry of Environment and Forests



# Successful activities until now (1)

- ✓ Farming modernization programme;
- ✓ Support scheme for energy crops - 2007-2009;
- ✓ Project on “Rehabilitation and Irrigation Sector Reform”;
- ✓ National Strategy to improve work organization and operation of national grasslands;
- ✓ Code of farm practices;
- ✓ Code of good agricultural practices;

## Successful activities until now (2)

- ✓ Standards for Good agricultural and environmental condition (GAEC);
- ✓ National Program for Rural Development (PNDR 2007-2013);
- ✓ Sustainable development strategy for the mountain;

## Successful activities until now (3)

- ✓ Primary economic instruments and market-based programmes:
  - ✓ direct support schemes for farmers;
  - ✓ state aid in zootechnics;
  - ✓ national payments directly complementary (PNDC);
  - ✓ other forms of support.



## Successful activities until now (4)

- ✓ Competitive Grants Scheme (CGS), subcomponent of the *MAKIS Project - Modernizing Information and Knowledge in Agriculture*;
- ✓ Marketing and management of farms "Integration fermentation anaerobic and capturing methane in the management of effluents in farm dairy to reduce pollution and achieve a fertilizer values";
- ✓ Agro-environment.

# Problems faced and solutions chosen

- ✓ *Need* → provide more realistic and comprehensive ammonia emission inventory;
- ✓ Problem → lack of activity data from farm practice surveys;
- ✓ *Solution* → contracted a study which developed a data collection system, data collection methods, as well as a proper set of questionnaires;
- ✓ *Outcome* → starting data collection process this year using the study resulted tools;

## Problems to be addressed in the future in connection with the country's obligations to the Gothenburg Protocol

- ✓ Statistical analysis/surveys show that the *number of cattle* is expected to *increase* in the period 2010 to 2020;
- ✓ NH<sub>3</sub> emissions need to be *controlled* → development of new production capacity based on systems/technologies/practices of modern growth, feeding and housing low-NH<sub>3</sub> emissions.

# What should be done in research and in practical sphere?

- ✓ *Establishment a national system for research studies development* generating a national critical load and level data set on different environmental receptors as human health, forests, surface waters, crops, natural and semi-natural vegetation;
- ✓ *Strengthening of the national capacities and expertise* in the field of reactive nitrogen assessment and management;
- ✓ *Increasing of the awareness among stakeholders* (central and local authorities, farmers etc.) concerning ammonia emissions abatement measures and techniques.

# Thank you for your attention !

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