CLEAN AIR FROM OUR FARMS

Strengthening the NEC to help reduce Methane and Ammonia emissions from farming
BACKGROUND

The quality of the air we breathe affects our health and our environment. Agricultural emissions in Europe contribute to several environmental problems such as plant damage, eutrophication, acidification, acid rains (that damage plants, lakes and biodiversity), greenhouse gas emissions and ozone formation. However, these emissions also lead to health issues, such as respiratory diseases and result in a shorter life expectancy for humans. According to reported data, more than 90% of EU ammonia emissions (2011) come from agriculture and around 40% of the total EU emissions from agriculture in 2012 are methane emissions. The agricultural sector was responsible for over 10% of EU total greenhouse gas emissions in 2012. Furthermore, in a recent Commission study showing the projection of GHG emissions reduction towards 2050, the agricultural sector, compared to the other sectors, practically will not reduce its emissions.

The National Emissions Ceilings Directive (NECD) is central to EU air pollution legislation and is the key instrument to control transboundary air pollutants. In 2013, a revision was proposed by the European Commission. This revision is part of the implementation of the Thematic Strategy on Air Pollution and it sets national Emissions Reduction Commitments (ERCs) for all Member States for 2020 and 2030. It constitutes an important but in sufficient step towards the achievement of the objectives of the 7th Environmental Action Programme (EAP): i.e. to reduce air pollution to below the critical loads and levels for ecosystem protection, and to protect effectively human health against risks from air pollution. The NECD revision proposal sets new targets for the four initial pollutants, including ammonia (NH₃). And it also for the first time includes limits for PM₁₀ and methane (CH₄).

This paper lists EEB recommendations to strengthen the NEC proposal on a number of critical points related to ammonia and methane emissions reduction ambitions. Cost-effective measures are available to reduce ammonia and methane emissions from the agriculture sector and should be promoted.
WE CAN DO MORE!

EEB RECOMMENDATIONS TO STRENGTHEN THE NEC ON AGRICULTURAL EMISSIONS

A European Parliament study acknowledged that the EU and the Member States (MS) will have to adopt further mitigation measures specifically focused on the farming sector in order to fulfill their global climate commitments11.

In light of the considerable negative effects on health and environment, including a high burden on Europe’s economy, the European Commission’s revision of the NEC needs to be strengthened with regard to agricultural emissions reduction efforts. The EEB considers the following elements as essential12:

• Ambitious Methane ERCs must be set for 2020 and 2025 and should be made legally binding and form a linear trajectory towards the achievement of the 2030 ERCs. 13
• Ammonia’s emissions reduction commitments should be made more ambitious and legally binding also for 2025.
• MS develop codes of good practice and/or specific action programmes to be made mandatory for farmers as part of the national air pollution control programmes (NAPCPs).
• Annex III should include additional measures in order to better address the entire agricultural sector.
• Flexibility mechanisms, especially any form of pollution compensation scheme allowing trade-off between pollutants14, should be rejected.

12 For more detail, see the EEB position paper on the NEC Directive revision (October 2014).
13 IIASA, TSAP Report 11, February 2014, page number 11. By 2030 current legislation results in 25% of reduction although around 50% reduction is possible.
The European Union can significantly reduce agricultural emissions, but only if the legislative tools are correctly drafted. Several cost-effective pollution control measures can contribute to this and many of these are rightfully included in the proposed NECD revision (further measures need however to be promoted in Annex III). These measures should also be considered in the implementation of the CAP 2014-2020 (in particular Rural Development programs) and of the COP 21 “solutions agenda”.15

Keeping in mind what the major sources of emissions are, the EEB believes that the new measures should focus on livestock16, soils (50% of EU total agricultural emissions11) and manure management (one sixth of the EU total agricultural emissions11). In addition, croplands, which occupy more than half the territory of the EU, emit large amounts of volatile pollutants due to fertilizers and pesticides’ use. Hence, the Member States and the European Parliament must ensure that:

- **Best Available Techniques (BAT) measures** for the control of emissions from agriculture are integrated as general minimum requirements,

- **Methanisation**, from manure is promoted
- **Covered storage** for manure is developed, to limit the brewing process and reduce emissions.
- **Better management of fertilizers** should be encouraged: **trade** for organic input, promotion of crops with **less input needs, reduction and efficiency** use ➔ **trailing** shoe spreader (machine that incorporates the manure directly in the soil, hence less contact with air), **use landscape (hedges)**, **look at the weathercast** conditions (avoid rainy days), use the Solid-liquid separation method (see box below) and spread uniformly (no high dose in one location).
- **Agroecology** is encouraged ➔ **restore land and damaged grassland**, look for more autonomy in animal alimentation (more local productions, less imported proteins), reduce deforestation, reforest, develop methanisation.
- **Landscape elements** (hedges, grove, grass strip...) are maintained and developed at farm level.
- **Amino acids** are added in cattle alimentation (this lowers the gross proteins content and leads to reduce nitrogen quantities in manure). Mixed feeding (dry and humid18) or **tannins, fatty acid, or flaxseed** are added in fodder (avoid methane formation in ruminant stomach).19

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**EXAMPLES OF MEASURES TO BE PROMOTED**

Focus on **cost effectiveness of METHANISATION**

Collecting gases and residues from the fermentation has many environmental and economic benefits:
- Use of fermentation residue as fertilisers.
- Some farmers have completely stopped using chemical inputs.
- Heat the farm buildings, or supply houses.
- Possible additional sources of income through electricity sales.

Focus on **cost effectiveness of SOLID-LIQUID SEPARATION OF ANIMAL MANURE**

This method helps in a better management of manure spreading. It consists in a separation of liquid and solid manure. It is used in order to obtain a higher nitrogen concentration and reduces ammonia’s emissions.

The use of a manure separator allows for:
- Using less manure during the spreading.
- The manure to enter the soil better so the fertilization of the soil is more effective and less ammonia emission occurs. Hence, less fertilizer bought and used.
- Less spreading decreases the tractor’s use and thus reduces fuel consumption.

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15 The 21st Conference of the Parties to the United Nation for Climate Change (COP 21) Paris December 2015
16 Cattle enteric Fermentation (microbial fermentation breaks down food into soluble products and Methane is produced in the rumen) represent 85% of the EU agriculture methane emissions (ref: European Parliament study “measures at farm level to reduce greenhouse gas emissions from EU agriculture” http://www.europarl.europa.eu/RegData/etudes/Note/join/2014/513997/IPOL-AGRI-NT(2014)513997_EN.pdf
18 For example to feed the cows hay in the fields, so that they don’t eat just wet grass.
20 For a farm of 60 head of cattle. It could procure electricity to almost 30 European households http://shrinkthatfootprint.com/average-household-electricity-consumption
21 Also called: anaerobic digestion. It is a biologic process, bacteria in absence of oxygen will degrade organic compound. Gas (methane) and digest will result of this process. The gas can be use for energy production and the digest can be use as a natural fertilizer.