

# Costs of regulating ammonia emissions from livestock farms near Natura 2000 areas

## - Analyses of case farms from Germany, Netherlands and Denmark

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### Abstract

Natura 2000 areas are designated in order to protect particular habitats and species. Some are particularly sensitive to deposition of nitrogen caused by ammonia emissions from livestock farming. This paper compares the costs of reaching the ammonia emission targets for different livestock farms near Natura 2000 sites in the Netherlands, Germany and Denmark. The selected case farms are a finisher farm and a dairy farm, and the distances to Natura 2000 sites are 400 and 2,000 metres. The findings suggest that farms 400 metres from a Natura 2000 site in the Netherlands face lower and less costly constraints than in the other countries. Now with the new decisions regarding the PAS system this might change.

Keywords: Natura 2000, ammonia emissions, abatement costs, livestock regulation, nitrogen deposition

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### 1. Introduction

Natura 2000 areas are designated according to the EU Birds and Habitats Directives, with the objective to protect particular habitats and species. A variety of these habitats and species are particularly sensitive to deposition of nitrogen, caused by ammonia emissions from livestock farming.

The purpose of this paper is to compare the regulatory framework applied in the three countries (Denmark, The Netherlands and Germany (Schleswig-Holsten)); derive from the regulation the required emission reductions for selected case farms and assess the corresponding costs. The paper will also consider how the countries strike a balance between general national regulation and more site-specific regulation taking into account the local depositions from projects. Can the costs be prohibitively high in a given location

such that farms cannot expand their livestock operations on-site?

### 2. Case farms

The selected case farms are a finisher farm and a dairy farm, which expand the current operation by 100%. The reduction requirement has been calculated in relation to the general BAT level (Best Available Technology) for two distances (400 and 2000 meters from Natura 2000).

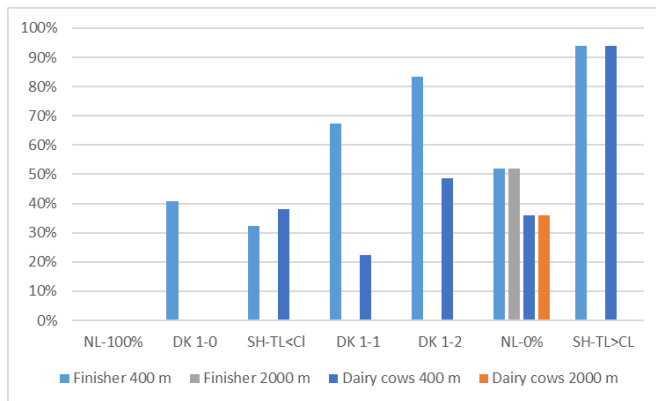


Figure 1. Reduction requirements (%) compared to the BAT emission level for case farms with finishers, dairy cows and broilers in Denmark (DK), the Netherlands (NL) and Schleswig-Holsten (SL) 400 and 2000 metres from Natura 2000 areas.

Note: CL= critical load and TL = Total Load in SH. In NL 0% and 100% is related to no room or yes to room for development. In DK 1-0 stands for type 1 nature with no neighbours.

#### 4. Results

It is very costly and technically difficult to find solutions that can reduce emissions enough to meet the strict requirements for farms that are located within 400 metres distance from Natura 2000 sites. This is true for all three countries. When the conditions are less strict, there are no costs for the Dutch farms, whereas the case farms in Schleswig-Holstein face the highest costs even when the total load is lower than the critical load. When a farm is located 2000 m from Natura 2000 the rules in the Netherlands are the strictest. Now with the new decisions regarding the PAS system this might change.

#### References

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