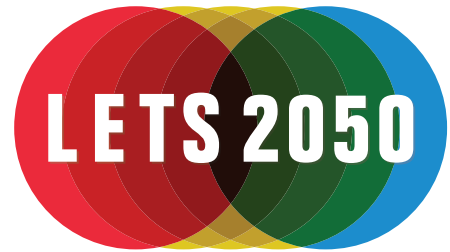


Author: Berglund M, Wall A, Höjgård S,
Kaspersson E, Rabinowicz E
& Wilhelmsson F
Language: Swedish
Document status: AgriFood Economics Centre, Report 2010:3
Contact: fredrik.wilhelmsson@agrifood.lu.se



Abstract

Efficient Policies to Reduce Greenhouse Gases from Farms

Agriculture-related activities account for approximately 15 percent of the greenhouse gas emissions in Sweden. This report addresses the twofold issue of what measures can be taken to reduce the emissions and what policy instruments can be used to induce farmers to adopt the measures. Accordingly, the focus is on emissions from farms and the measures that may be implemented at farm level.

The measures include: improved nitrogen use, reduced tillage systems, growing of catch crops in combination with spring cultivation, cultivation of protein feed, covering/treatment of liquid manure, anaerobic digestion of stable manure, reduced age at first calving and changing of heating systems. The policy instruments taken up are legislation, taxes, subsidies and emission trading. The report illustrates the extent to which implementation of the measures can reduce emissions on an individual farm. It also discusses the types of farms/situations for which the respective measures may be suitable.

Emissions tend to vary considerably from farm to farm because of differences in local conditions. Hence, policies should allow farmers the choice of measures that are most appropriate for their farms. The implication here is that legislation and subsidies may not be the most effective policy instruments except in very special cases. Taxes and emission trading, both of which influence the cost of greenhouse emissions, but leave the choice of measures to the farmer, are generally more successful; i.e., they are more suitable for steering choice towards more effective measures.

Greenhouse gases from biological processes in the soil are difficult to measure and monitor. Moreover, the current state of knowledge is quite simply inadequate when it comes to establishing the full extent of the emissions and the measures to reduce them. This conflicts with the notion of incorporating agriculture into a system of emission trading based on the individual farm's actual emissions and emission reductions. On the other hand, it is difficult to find an argument for special treatment of emissions resulting from the use of fossil fuel on farms. As has been done in other sectors, taxation of fossil fuels may well persuade the agricultural sector to adopt measures to reduce carbon dioxide. More expensive fuel can also mean less emission from the ground if soil treatment is reduced. The emissions from livestock farming (ruminants and storage and treatment of manure) are relatively easy to measure and therefore easy to tax.

Please do not cite without permission

Date: 10-01-2011