Costs of reducing Greenhouse Gas Emissions from Danish Agriculture

Brian H. Jacobsen,
Institute of Food and Resource Economics, University of Copenhagen, Denmark

The present EU target for 2020 requiring reductions in Greenhouse Gas emissions of 20% sets a difficult task for Agriculture in countries like Denmark. The effects of reducing nitrogen application have, for more than a decade, reduced the Greenhouse Gas Emissions from Agriculture. The challenge now consists of further reductions where three options seem possible. Firstly, further reductions related to nitrogen losses and hence measures which have synergies with other legislation to improve water quality as required by e.g. the EU Water Framework Directive. The analysis indicates that taking low-productive land out of production is cost efficient. Secondly, there is some measures related to energy use and increased use of biogas and biofuels. It seems that the production of biogas based on maize is cost efficient. Thirdly, measures based on a levy on the emissions per farm, encouraging farmers to reduce the emissions at the farm level. This will encourage the use of reduced tillage systems and catch crops as well as changes in feeding patterns, primarily on dairy farms, as this is cost efficient. The presentation will evaluate whether a taxation system can be established which can induce the right behavioural changes at the farm level. The presentation will focus at the costs of implementing different measure within Danish agriculture. The presentation will finish with some thought on the wider context and the question whether agriculture can help to reach the future emission targets which will probably be set at the UN Climate Change Conference in Copenhagen at the end of 2009.

Keywords : Reducing CO2, Emissions, Green House Gas, Costs, Agriculture