



The climate heroes of the future?

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If farmers got the opportunity to trade CO₂ quotas in the EU, they would probably be able to become the climate heroes of the future- and make a profit at the same time.

The Food and Agriculture Organization of the United Nations, FAO, has estimated that agricultural activities account for approx 35 percent of man-made greenhouse gases in the world. As a consequence, FAO and other international, worldwide agricultural organisations have suggested involving the agricultural sector actively in the fight against climate change and giving the sector a central position in a global climate agreement.

This was also the main message from a historic conference about agriculture and climate held in 2009 in Copenhagen. It was the first time that agricultural leaders from the entire world had gathered to discuss this subject. Both former Minister for Energy and Climate, Connie Hedegaard, and

Minister for Food, Eva Kjer Hansen, were present at the conference to listen to their compatriots. Connie Hedegaard also found it very positive that the agricultural sector is now showing initiative and a will to lead the way.

Among the most important messages at the conference were the wishes to fix the price for greenhouse gases and to give farmers economic incentives to reduce the emission of greenhouse gases. The question is whether farmers can become the climate heroes of the future and make money on it at the same time.

The EU quota system

One obvious way to fix the price on greenhouse gases and to give farmers economic incentives is to allow them to trade greenhouse gases under the Kyoto

Agreement. Such a quota system has existed in the EU since 1 January 2005. The purpose of it is to reach the ambitious targets to reduce the emission of greenhouse gases in the EU with eight percent from 1990 to 2012 and 20 percent in 2020.

At the moment, only industry and power plants are included in the EU quota system. The three main sectors not included in the system are farmers, cars and housing. The agricultural sector makes up approx 10 percent of the EU's and 18 percent of Denmark's total greenhouse-gas emissions.

In this way, the agricultural sector can be expected to contribute substantially to the future reduction of greenhouse gases, both in the world as such, and in the EU and Denmark.

Standards have already been established at the EU

level concerning the average emission of CO₂ from produced cars. The transport sector is responsible for approx 20 percent of total emissions in the EU. Likewise, housing is, to a large extent, regulated indirectly via power plants, which provide them with electricity and heating. Housing in the EU contribute with 10 percent in total.

The potential of organic farming

As regards agriculture, much indicates that, for instance, organic farming and growing methods have a great potential in terms of reducing greenhouse gases. There are many 'low-hanging fruits', which are easy to pick. First and foremost, fertilizers and pesticides are not used, resulting in relatively low energy consumption.



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However, a conflicting effect is the somewhat larger energy consumption for the mechanical weed control. Especially, organic plant production contains a particular potential for reducing the emission of greenhouse gases in a relatively inexpensive way, which makes creating and selling quotas for greenhouse gases in the market economically attractive. However, the potential is smaller for livestock farming and negative for vegetable growing (Halberg 2008).

For instance, an organic farmer in Denmark will be able to sell surplus quotas to a power plant if reducing his emission of greenhouse gases is more inexpensive for him than for the power plant. All players in the market will react on this price on greenhouse gases, which is converted into € per ton CO₂ equivalent. Buyers and sellers in the quota system for greenhouse gases will reduce or increase their greenhouse gas emissions until all individual, marginal reduction costs equal the quota price. Both buyer and seller make money by

trading, because a reduction of the emissions can now be undertaken by the most inexpensive place; that is, where the fruit hangs the lowest.

Increased amounts of carbon in soil

Thomas Færgemand, CEO at Concito, Denmark's leading green think tank, has suggested including CO₂ stored in soil, for instance. Customers could be companies such as DONG Energy and Vattenfall, who wish to expand their energy production on coal-based plants.

In this way, there might be both environmental and agricultural reasons for increasing the amount of carbon in farm land, since well-planned agriculture can build up the pool of organic matter in the soil.

This, again, contributes to binding CO₂ in the soil. CO₂ can be stored in the soil in many other ways. One of them is wet meadows, which ensures that carbon contained in the soil is not burnt off and converted into CO₂ in the atmosphere.

"As long as it is covered with water, 10 tons of CO₂

can be stored per year. If you can sell this at DKK 200 per ton, you have an income of DKK 2,000 per hectare," says Thomas Færgemand.

Likewise, the biomass utilisation for energy could free quotas via the utilisation of waste products and the growing of multi-annual energy crops (willows and energy maize) on marginal acreage. Moreover, greenhouse gas emissions in the agricultural sector could be reduced through technological changes, such as improved manure handling, changes in fodder mixture, reduced soil preparation, the set-aside of farm land,

and reduced livestock production.

Emission trading opens up a great number of opportunities. For instance, there would also be an extra gain in the planting of new trees, which binds CO₂, rather than deforestation, which is a great problem in many developing countries, particularly in West Africa. So, indeed, if farmers have the opportunity to trade CO₂ quotas in the EU, they would, by all appearances, be the climate heroes of the future and make money on it at the same time.

References

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