

Author: Hammarlund C, Ericsson K, Johansson H,  
Lundmark R, Olsson A, Pavlovskaja E  
& Wilhelmsson F  
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Contact: fredrik.wilhelmsson@agrifood.lu.se



## Abstract

### Fuel for a better climate

Greenhouse gas emissions should be priced in order to be reduced. As a consequence, the production of biofuels could increase. This report discusses how different policy instruments to reduce greenhouse gas emissions affect the production of biofuels, and how an increased production of biofuels affects the food markets and the markets for forest products.

Today, the international market for biofuels is distorted by regulatory instruments that are not cost-effective. To reduce greenhouse gas emissions at the lowest possible cost, instruments should be designed so that emissions become more expensive, regardless of where they come from. An instrument that puts a price on emissions makes the production and use of all fuels carry the costs of climate change and is cost-effective. Examples of cost-effective instruments are emission taxes or emission trading schemes including all sectors and all countries.

Biofuels cause emissions of greenhouse gases when land is converted, when crops are grown and harvested and when crops are processed into energy. An effective policy means that biofuels, like fossil fuels, will carry their costs of emissions. The costs should be put on emissions, not goods, to avoid distortions. Otherwise emissions could move from one type of production to another.

Increased demand for agricultural products to produce biofuels means that more land is demanded and that land prices are rising. So far, the effects of land conversion have been limited. In the longer term, however, land conversion could increase. Increasing yields on existing land may supply some of the increase, but, according to economic models, an important part of the increase will mean that pasture and forest land is converted to cropland.

In Sweden, climate policy instruments, mainly the carbon dioxide tax and the system of tradable electricity certificates, have led to an increased demand for forest fuels. Currently, such fuels are primarily made from logging residues, but an increased demand from the energy sector may increase demand for products such as pulpwood. This might put the Swedish forestry industry at a disadvantage in relation to forest industries in other countries with lower carbon taxes.

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