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**FUEL ETHANOL TRADE: BARRIERS, POTENTIAL BENEFITS AND
PERSPECTIVES**

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Overview

A rapid growth on fuel ethanol consumption has been observed in recent years. The forces pushing for fuel ethanol vary considerably, but it is possible to identify some common features. General sense, developed countries have as their main priorities the reduction of GHG emissions and diversification of the energy matrix, despite the fact that for most of them agricultural issues are still a very important driving force. On the other hand, developing countries tend to put the focus on rural development, jobs creation and saves of foreign currency. Clearly, energy security is a priority for most countries.

Many countries have recently set mandates for biofuels but so far the consumption of fuel ethanol has been concentrated in USA and Brazil. Trade of fuel ethanol was estimated as equivalent to about 10% of the world consumption in 2005 and Brazil is by far the main exporter. Despite the potential benefits of fuel ethanol trade, the most important (potential) consumer markets – USA and EU – have trade regimes based on tariffs that offset the comparative advantages of some producer countries (current and potential). Due to the size of their markets, the USA and EU will have a crucial role inducing or constraining fuel ethanol production in developing countries and trade in itself. The recent decisions of US government (advancing and enlarging targets regarding fuel ethanol) and European Commission (postponing targets) shall be carefully analyzed.

This paper aims at analyzing current trade regimes regarding fuel ethanol, actual and potential future barriers, potential benefits both for exporting and importing countries, and the perspectives in short- (5-8 years) to mid-term (10-15 years).

Methods

The research has been developed based on literature review and on the analysis of different points of view. In addition, a quantitative exercise, in order to estimate the size of the trade market through the established horizons, was developed based on estimates of fuel ethanol consumption in different countries/regions (USA, EU, Japan and China) and also on the potential production in these regions. As mentioned, short- and mid-term scenarios have been considered.

Results

Two extreme scenarios are considered. A "high trade" scenario would be defined in a context in which priority is put on issues such as reduction of GHG emissions and moderate costs of energy supply. Opposite, a "low trade" scenario would be defined by priorities such as lower dependency on energy supply and preservation of the status quo of local farmers.

Preliminary results indicate that in case of extreme protective policies, imported volumes by USA, EU, Japan and China would reach 24 Gt by 2030, less than 20% of the estimated consumption of fuel ethanol in these countries/regions at that year. On the other hand, in case USA and EU set quotas equivalent to 30% of their estimated consumption of ethanol (as of 2030), imports would increase to 45.9 Gt (38% of the estimated consumption). It is estimated that Brazil alone could supply this demand by 2030, but other countries in the

world – mostly developing countries – have potential to be large-scale producers and exporters of fuel ethanol during the following 25 years. A scenario defined by full trade liberalization seems to be improbable, as both the production in USA and EU and the development of a new biofuel industry in developing countries would be damaged.

Conclusions

Fuel ethanol trade is still in its infancy and there are many barriers to overcome. However, it seems clear that the only way to accomplish the target of displacing 10% of the gasoline demand in 2030 is by enhancing international ethanol trade.

In order to ensure the supply in the years to come, at low cost and without jeopardizing the environment, it is necessary to foster the production in developing countries, to reduce trade barriers and to advance towards a fair definition of sustainability criteria.

On the other hand, the development of the second generation of biofuels can potentially allow some countries to drastically minimize its dependence on imports of biofuels. Due to the potential benefits of fuel ethanol trade, it is important that developed countries – mainly USA and EU – follow a balanced approach of imports and domestic production.

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