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Ecuador Decree Encourages Expanded Biofuel Production

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Report Highlights:
On May 13, 2015, Ecuador President Rafael Correa signed Executive Decree 675. The decree doubles to ten percent the ethanol blend rate in Ecuadorian regular grade (87-octane) gasoline. The decree establishes that the price of a liter of ethanol is no longer pegged to raw sugar prices as set by the Intercontinental Exchange (ICE) in New York. Rather prices are calculated as a function of the average market price of ethanol along the U.S. Gulf Coast. For blended fuels to account for 45 percent of the market by 2017, Ecuador will need to plant an additional 30,000 hectares of sugarcane.

General Information:

On May 13, 2015, Ecuador President Rafael Correa signed Executive Decree 675. The decree doubles to ten percent the bioethanol (ethanol) blend rate in Ecuadorian regular grade (87-octane) gasoline. This decree became effective June 1, 2015, following its publication in Ecuador's official gazette (*Suplemento 512*). FAS Quito understands that ethanol will be distilled from sugarcane.

Sources report that by modifying the way it calculates the domestic price of ethanol, Ecuador is making domestic ethanol production commercially profitable. Decree 675 establishes that the price of a liter of ethanol is no longer pegged to raw sugar prices as set by the Intercontinental Exchange (ICE) in New York. Rather prices are calculated as a function of the average market price of ethanol along the U.S. Gulf Coast (USGC).

The price is set based on the preceding month's ARGUS published data, plus the cost-insurance-freight (CIF) value (that is between the U.S. Gulf Coast and Ecuador), plus a constant K. The formula used by the Government of Ecuador to determine the price of a liter of fuel grade anhydrous ethanol, in month *t* is a follows:

$$Bioethanol_{t} = ARGUS\ USGC\ CIF = Ecu_{t-1} + K$$

- $Bioethanol_{t}$ is the price of fuel grade anhydrous ethanol expressed in U.S. dollars per liter in month *t*
- Ethanol *ARGUS USGC CIF* Ecu_{t-1} is based on the preceding month's ARGUS U.S. Gulf Coast average (daily) market price of fuel grade anhydrous ethanol. It factors in CIF values
- *K* is the bioethanol industry incentive constant value. It is set at $0.18 per liter

Decree No. 675 establishes that the price per liter of fuel grade anhydrous ethanol:

a) Shall not exceed the production cost of similar-octane grade gasoline (price ceiling);
b) Shall not be less than $0.90 per liter (price floor); and,
c) In the event that the "price ceiling" is below the "price floor," the "price floor" prevails.

Since 2010, gasoline with a five percent ethanol blend rate has been sold in Guayaquil as part of the ECOPAIS pilot program. ECOPAIS blended fuel (i.e., 87-octane) is to be distributed nationwide, accounting for 45 percent of the fuel market according to sources. Reportedly President Correa aims to achieve this by the end of 2017. To meet this goal, Ecuador will need to plant an additional 30,000 hectares of sugarcane. The government anticipates that expanded ethanol production will result in $470 million in new private investment, potentially creating some 9,000 new jobs.

FAS Quito estimates that total sugarcane planted area in Ecuador at 76,800 hectares in marketing year 2014/15 (May-April). Ninety-one percent of total area, or 69,600 hectares, is allocated to cane sugar production. The balance is dedicated to sugarcane juice production, utilized in making *panela* (solid blocks), molasses, and ethanol. Sources indicate that adding 30,000 new hectares will be challenging. The Santa Elena peninsula is one of the areas being proposed for expanded sugarcane cultivation, but will require significant investment in drip irrigation. Expanded sugarcane production could compete with highly profitable fruit and vegetable export production for land and water.