



IN BRAZIL'S FOOTSTEPS: THE ETHANOL BOOM AND LATIN AMERICA

Global energy policies and the high price of oil have placed ethanol at the forefront of the agribusiness sector across Latin America, with Brazil leading the industry. Chadbourne & Parke LLP's Todd Alexander, in New York, and Luis Torres, in Washington, DC, explain how Brazil developed this sector and the opportunities the market holds throughout the region

Ethanol is booming, and becoming an international commodity that could soon be traded on a daily basis in the international markets. The boom has put the spotlight on Latin America as Brazil maintains its position as one of the world's top producers and exporters, while other sugar-rich Latin American countries begin to follow suit. Ethanol production in Asia, the European Union and the United States is not growing fast enough to keep pace with domestic demand. This growing demand is translating into export opportunities for Latin American producers.

Ethanol

Ethanol is ethyl alcohol. Most of the ethanol produced today across the globe is fuel ethanol, used as an additive to gasoline for petrol engines or by itself for ethanol-only or 'flexible-fuel' engines. One of the advantages of ethanol is that it mixes easily with gasoline, in blends of 5 per cent to 30 per cent, without having to modify car engines. Ethanol is also useful as an octane enhancer and as a fuel extender of gasoline.

Ethanol also has certain advantages that make it an attractive fuel. First, it is environmentally friendly – it has a less harmful effect on the environment than conventional gasoline or petroleum-based additives. Second, the ethanol industry is labour intensive and creates jobs in rural areas. And third, ethanol plays a role in national and economic security as it helps oil-importing countries depend less on foreign imports.

The global ethanol industry

According to the International Energy Agency, ethanol alone could represent 10 per cent of vehicle fuels by 2025 and 30 per cent by 2050, compared with only 2 per cent today. The Renewable Fuels Association reported that in 2005 the US just surpassed Brazil as the world's largest producer; but Brazil remains the world's largest exporter. Together the two nations represent approximately 70 per cent of global ethanol production. Other significant producers of ethanol are China, India and the European Union (with France, Germany and Spain as the top producers).

The US is not only the world's largest

producer but also the largest consumer and importer of ethanol. The extraordinary growth in consumption is in large part driven by the Clean Air Act requirement to add oxygenates (such as ethanol) to gasoline, and the ban on methyl tertiary butyl ether as a gasoline additive. The rising costs of crude oil, paired with the national security goal of reducing American dependence on foreign oil, have also played a part in the recent growth of the US ethanol industry.

The US market is one of the most attractive to Latin American producers given its geographic proximity and extensive trading relationship. In fact, Brazil and Central America are already the main foreign suppliers of ethanol to the US, and large US corporations such as Cargill have plants

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in Latin America that produce ethanol for export to the US.

In Europe, the EU set a non-binding target in 2003 that vehicle fuels should contain 2 per cent of biofuels by the end of 2005 and 5.75 per cent by 2010. The goal is to reduce greenhouse gases and meet the EU's Kyoto Protocol commitments. In addition, most member states, including top-producers France, Germany and Spain, have tax breaks that encourage the production and consumption of ethanol. Although production in

the EU has been increasing each year, it has not been able to keep up with demand. In fact, it is expected that the EU will become a net importer of ethanol, offering opportunities to ethanol exporting countries such as Brazil.

But it is in energy-hungry Asia where the highest increases in demand for ethanol are expected. The transportation sectors of the world's two most populous countries, China and India, are growing rapidly, causing the demand for fuel to surge. Both countries have few hydrocarbon resources of their own, thus they present interesting opportunities to ethanol exporters. In fact, Brazil has reportedly begun negotiations with China for the sale of ethanol and Peru is expanding its ports on its Pacific coast so that both Brazilian and Peruvian exports can reach Asia more easily.

Ethanol in Latin America – the Brazilian model

Brazil is the pioneer of the ethanol industry: as well as being the world's largest exporter it is also its second-largest producer. At present, Brazil is also the only country that uses ethanol as a complete substitute for gasoline. At least four components have contributed significantly to the development of the Brazilian ethanol industry: governmental support, research and development, abundant raw materials (especially sugar cane) and labour.

Brazil's commanding position in the global ethanol industry is partly owed to its government's support of the industry since the mid 1970s. Although ethanol production in Brazil dates back to the 1920s, it remained a minor industry until 1975 when Brasilia decided to establish a national ethanol programme (PROALCOOL). The main goal of the programme was to reduce the country's dependence on expensive oil imports, which were depriving Brazil of needed hard currency, while using the country's sugar industry to produce a domestic fuel. The programme initially consisted of incentives aimed at the supply side of the industry: quotas, marketing orders, price setting, subsidised interest rates and other measures that helped foster the ethanol industry. Later, in 1979, Brasilia enhanced the PROALCOOL programme by legislating incentives aimed at the demand side of the industry: tax incentives to buyers of ethanol cars

and consumer price fixing that pegged the price of ethanol to the price of gasoline.

Through the 1980s and 1990s, the ethanol industry shrank, due to cheap gasoline supplies and modest government budgets. The Brazilian government reacted by liberalising the industry, and today it no longer intervenes in ethanol production other than by setting the ethanol-to-gasoline blend ratio. In March 2006, the blend ratio was reduced from 25 per cent to 20 per cent because of short ethanol supplies and strong domestic demand.

All of Brazil's ethanol is derived from sugar cane (the country is the world's largest producer of both sugar and sugar cane-based ethanol). Brazil has more than 250 mills that convert sugar into ethanol and, as of August 2006, there were around 92 new ethanol plants proposed to be built over the next seven years with a total investment of around US\$10 billion. This added capacity could double the present levels of production by 2014.

The extra capacity will further boost Brazil's already extensive ethanol export business, worth US\$600 million in 2005. The goal is to at least double exports of ethanol by 2010 to reach US\$1.2 billion. At present, Brazil exports to numerous countries, including Japan, Sweden, the US and Venezuela.

Ethanol in Colombia, Peru, Central America and the Caribbean Basin

Latin American countries such as Colombia and Peru share some of the advantages that Brazil has had in developing an ethanol industry: well-established sugar industries with growth potential, plenty of labour supply and low production costs. Those governments have taken note and have begun to implement supportive policies so that each country can develop its own successful ethanol industry.

Colombia

The Colombian government began encouraging the use of ethanol in 1995 when it set certain environmental requirements for liquid fuels used in car engines. In 2001, a law was passed requiring a 10 per cent ethanol blend in gasoline (E10) to be used in cities with more than 500,000 inhabitants from 2006. Then, in 2002, new tax laws exempted fuel ethanol from various taxes, including VAT. Today, about half of Colombia's vehicles can use the E10 blend. The industry's goals are to have all cars running on the E10 blend by 2009 and on an E20 blend by 2015.

Colombia's first ethanol plant began operations in October 2005 (to meet the 2006 E10 requirements) and today there are five plants operating. All plants use sugar as feedstock and are in the Cauca Valley region, the country's sugar producing region. But these plants only supply around 57 per cent of the country's needs and investors are already working on projects to satisfy the deficit. There are also efforts to begin selling

in international markets. In fact, one Colombian company already has off-take agreements with Sekab, the Swedish ethanol trader, to sell approximately 750,000 litres of ethanol per day beginning in 2009. All together it is expected that around US\$500 million will be invested in the Colombian ethanol sector over the next four to five years.

Peru

Peru's ethanol industry also has great potential. Similar to Brazil and Colombia, sugar cane can be cultivated in Peru all year round, especially on the country's northern coast. But Peru's competitive edge lies in its efficient use of land to cultivate sugar cane. In fact, Peru is one of the world's most efficient producers of sugar cane: in 2002, Peru

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produced 130 metric tonnes of sugar cane per hectare of land compared with Colombia's 84 metric tonnes and Brazil's 73 metric tonnes.

Despite its great potential, Peru's ethanol industry is still in its nascent stages. Policymakers have already taken important steps to create an ethanol market. In 1998 a decree was issued requiring refineries to eliminate the use of lead in gasoline by the end of 2004. In 1999, the Asociación Peruana de Productores de Azúcar y Biocombustibles (Peruvian Association of Sugar and Biofuels Producers) was formed to promote the industry. Then, in 2003, the Law for the Promotion of the Biofuels Market was passed. Starting in 2007, vehicles in Peru's northern region will be required to use a 7.8 per cent ethanol blend; by 2010 the entire country will have to use this blend. The requirements are likely to be increased to 10 per cent to comply with the greenhouse gas emissions reduction targets of the Kyoto Protocol.

To satisfy growing demand, Peru's major sugar producers recently announced the use of 15,000 hectares of land to exclusively produce sugar cane as ethanol feedstock. They also announced the construction of ethanol plants along the country's

northern coast and the Amazonian region of the Huallaga Valley. The government put up an additional 11,000 hectares of land for sale to be used exclusively to grow sugar cane as ethanol feedstock. The government is also working on tax incentives to stimulate faster growth.

Central America and the Caribbean Basin

The ethanol industry in Central America and the Caribbean Basin also has growth potential. The region has important sources of sugar cane (especially in Guatemala, one of the world's largest sugar producers) and low production costs. The geographical proximity to the US and the tariff-free access to the US market under the Central America Free Trade Agreement (CAFTA) are also important factors in the industry's growth.

According to the Renewable Fuels Association, Jamaica, Costa Rica and El Salvador are respectively the second-, third- and fourth-largest exporters of fuel ethanol to the US. The region began exporting ethanol to the US under the Caribbean Basin Initiative, which allowed tariff-free exports of ethanol up to 7 per cent of US ethanol production. CAFTA allows the region to continue exporting biofuels to the US without any tariffs.

Large agribusiness concerns are already using Central America as an export base to the US. Cargill, through a joint venture with Brazilian and Salvadoran partners, set up an ethanol dehydration facility in El Salvador that converts Brazilian cane-based ethanol into fuel ethanol for exports to the US. The plant has the capacity for more than 60 million gallons annually.

Conclusion

Ethanol is booming as both production and consumption continues to rise across the globe, resulting in significant opportunities for the legal profession – and this trend is expected to continue as the ethanol industry grows. The development and financing of ethanol projects usually requires input from various legal specialists, including tax, environmental, real estate, intellectual property and finance lawyers. Also, as more sophisticated sponsors, investors and lenders become involved in the industry and the size of the projects and financings increases, larger law firms are engaging in the sector. In the US, for example, lawyers are representing sponsors and developers, ethanol producers, lenders and private-equity providers in investments, debt financings and IPOs by ethanol producers. In Latin America, the increasing merger and acquisition activity in the ethanol sector also presents opportunities for lawyers to get involved.

The vast markets of Asia, the EU and the US represent important opportunities for the sugar-rich, ethanol-producing Latin American countries. Now it is the turn of these countries' governments and private sectors to emulate Brazil's example and build large-scale industries that can satisfy the demand of the international markets.