



Biofuels in Brazil

Lean, green and not mean

RIBEIRÃO PRETO

The United States may drop a tariff on Brazilian ethanol. But the industry is still the victim of much misplaced criticism

WHEN John McCain laid out his plans for reducing America's dependence on oil to an audience in California on June 23rd, the candidate's keenest listeners were 6,000 miles away in Sao Paulo. Mr McCain argued that the tariff on imported ethanol of 54 cents per gallon should be scrapped. Others in the Senate (though not Barack Obama) are pushing for it to be reduced. Either way, the case against the tariff has been strengthened by high oil prices and by the June floods that damaged the mid-western corn (maize) crop. That sent corn prices soaring and made subsidising corn to produce ethanol look like an even worse idea than it did before, given the greener, cheaper ethanol that the United States could buy from Brazil instead.

America's thirst for ethanol is set to grow in line with targets in last year's Energy Independence and Security Act. Brazil would like to sell more to Europe and Japan too. Yet just when it seems poised to reduce the world's dependence on oil, its largely sugar-based ethanol industry stands accused of being less wonderful than it looks. Campaign groups lump it together with biofuels elsewhere, which they blame for raising food prices. Some environmentalists claim that Brazilian farmers have torn up forest to plant cane. Some media reports allege ill-treatment of farm workers. More prosaically, some American officials question how much ethanol Brazil can supply.

Take this last point first. Demand for ethanol is growing fast in Brazil because 90% of new cars have flex-fuel engines that can run on any mixture of petrol and ethanol. Even so, ethanol remains cheap. This is because producers have invested in expanding capacity (see chart on next page), partly because they hope for export markets, but mainly because they reckon they must sell at a 30% discount to petrol to keep the custom of Brazilians. The price of petrol has not risen for three years because the government has opted to hold it down.

This year Brazil hopes to export up to 3 billion litres of ethanol to the United States. But this market depends on the corn price being so high as to make it profitable to pay the import tariff. That was not the case last year and it may not be the case next year. Brazil could expand output much more, but will do so only when export markets are less unpredictable. That is because supplying them requires investment in pipelines and port equipment.

For those worried about climate change, Brazilian ethanol is worth buying only if it is as green as it claims to be. It is certainly much greener than its corn-based rival in America: it packs 8.2 times as much energy as is used in its production, compared with just 15 times for corn ethanol, according to the Woodrow Wilson Centre, a Washington think-tank. Some greens say that the spread of sugar is deforesting the Amazon. That is not true. The vast major-

Also in this section

44 Cuba and the outside world

45 Chile's salmon industry

ity of the sugar crop is grown thousands of miles away from the forest, in Sao Paulo state or the north-east. Some 65% of new planting of sugar cane has been on land that was previously pasture; the rest was previously used for other crops, according to Conab, a government agency.

But might ethanol be indirectly responsible for lifting food prices and for pushing cattle ranchers into the Amazon? Such concerns look premature. Sugar cane occupies only 7m hectares (17m acres) of Brazil's farmland (and only about half of the crop is distilled into ethanol). This compares with some 200m hectares devoted to cattle ranching, much of which is extensive (a Brazilian cow enjoys, on average, a lordly hectare of grazing). Sugar could expand on degraded pasture with little or no effect on beef prices.

Besides, the ethanol industry may be poised for a leap in productivity. "The sugar-cane plant is now where corn was at the beginning of the 20th century," reckons Fernando Reinach, a biologist turned venture-capitalist at Votorantim, a conglomerate. His fund has backed two start-ups in Campinas in Sao Paulo state.

One of them, CanaVialis, breeds better varieties. The other, Alellyx, alters the genes in the plant to give them new properties (one strain being tested gives about 80% more sucrose; another can go for 45 days without water). It is run by Paulo Aruda, a Brazilian who led a team of 200 people in sequencing the DNA for sugar cane. Across the road is Amyris, a Californian company which has developed enzymes that in laboratory experiments have turned sugar into substitutes for motor and jet fuel.

In this high-tech environment, it is easy to forget that the early part of the ethanol production line consists of labourers spending long days swinging machetes in

> hot fields of charred cane. The Brazilian labour ministry sometimes uncovers cases where workers are paid almost nothing and live in squalid conditions. Cane-cutting is back-breaking work, and every year some people die during the harvest.

Yet the sugar industry may be less deadly than many others. In 2005, of its 440,000 workers, 453 died; of these 17 (or one in 26,000) were killed in accidents, according to a study by Marcia de Moraes of the University of Sao Paulo. In the same year 2,900 of the 2.16m workers toiling in other branches of Brazilian farming died. Of them, 135 were killed in accidents, giving a higher accidental death rate of one in 16,000, even though the sugar harvest lasts much longer than that for any other crop.

In fact the most noticeable thing about cane-cutting labourers is how fast they are disappearing. At Santelisa Vale, a collection of mills in Ribeirao Preto whose owners include Goldman Sachs, an investment bank, 60% of cane-cutting is already mechanised. The remaining manual cane-cutters will go by 2012. The story is similar across Sao Paulo state. This may make for a safer industry, but it threatens to leave a large, unskilled workforce unemployed.

To Brazilians, outsiders who want to block their ethanol in the name of environmentalism or concern about food prices or labour conditions look like old-fashioned protectionists in hypocritical disguise. When addressing a United Nations food summit in Rome recently, President Luiz Inacio Lula da Silva said that he was fed up with "fingers soiled with oil and coal" being pointed at his country's ethanol industry. Quite so: the tariff should go. ■

Anúncio

A utilização deste