The Brazilian Government's Role in Promoting Sugarcane Ethanol:

Implications for Countries Looking to Introduce Alternative Energy Sources

Ameera Horriyat
UNDP Energy & Environment Consultant
Abu Dhabi, UAE

Ethanol production was spurred by the oil crisis in the early 1970s when Brazil was forced to look for an alternative source of fuel. Today, Brazil is the world's second largest ethanol producer following the U.S. and the largest ethanol exporter; as of 2009, sugarcane fields occupy an estimated 7.8 million hectares of Brazilian land, (Carvalho, 2010). Brazil's sugarcane industry currently has about 437 ethanol producing plants; a typical plant crushes about 2 million tons of sugarcane per year, producing about 200 million liters of ethanol, (Goldemberg, 2009).

So how did it all begin? The role of the Brazilian Government in promoting ethanol has been crucial. Back in 1975, then President Ernesto Geisel mandated a 10% ethanol mix with gasoline and by 1980, the percentage had been increased to 25%, at which it stands today, (Biofuels: the promise and the risks, 2008). The Brazilian government allows sugarcane producers to sell to either market, sugar or ethanol, whichever is more profitable. However, it requires Petrobras, the state oil company, to purchase ethanol to ensure that the regulatory minimum element of ethanol in gasoline is met. This creates the domestic ethanol market. (Nersesian, 2010, pg. 59).

The domestic ethanol demand skyrocketed in 2001 with the introduction of flex-fuel cars, cars that can run on either gasoline or ethanol, or both. Flex-fuel cars have been on the rise from 24,000 to 4.9 million from 2003 to 2009 respectively, (Costa, 2009). Ethanol is sold at every gas station, therefore, people have a choice of using ethanol or gasoline or even a combination of the two, however, ethanol has for the most part been the cheaper choice, (The Ethanol solution, 2006). According to Roy Nersesian, "drivers can play the arbitrage game as the price of gasoline changes with respect to the price of crude oil and ethanol with respect to the price of sugar", (2010, pg. 60).

There are of course challenges associated with the production of ethanol which includes price volatility due to harvesting. In Brazil, prices are set for gasoline and diesel, but the price of sugar, ethanol and cane depend on supply and demand, which inevitably leads to price volatility. For instance, poor harvest in 2009 resulted in a shortage of ethanol, thus leading to soaring domestic prices. However, the government was quick to respond by cutting back the mandated ethanol/gasoline blend from 25% to 20%. (Ethanol boom in Brazil, 2010). Another challenge is that feedstock such as sugarcane is also a key source of food for millions of people. The Brazilian Government has been reassessing its strategies on biofuels in terms of its direct competition with food and where they cause deforestation. Hence, the Brazilian government is working to ensure that it balances the financial gains of the ethanol industry with the need for socially responsible policies for development.

Some analysts fear that the recent pre-salt discovery in the Tupi and Carioca oil fields off the coast of Rio may pose a threat to the ethanol industry. The pre-salt discovery is estimated to be equivalent to 50 billion barrels of oil, (Brazil oil, 2009). So with the shift in the government's attention to pre-salt, will the ethanol industry lag behind? Brazilian industry experts believe that Brazil will not fall under the oil cursed countries because pre-salt has been discovered only recently, after Brazil has already diversified its economy, (Abrantes & Wertheim, 2009). The government continues to support the ethanol industry with heavy investments into research and development. Furthermore, Brazil has successfully managed to replace 40% of its gasoline consumption with ethanol, (Almeida, 2007). Hence, it is safe to say that Brazil shows no signs of falling under the oil curse.

Brazil stands as a model to other nations for its successful implementation of its national energy policy that has led the country to slow the rate of increase of fossil fuels. The government played a key role to bring together Petrobras, sugarcane suppliers, consumers, technology and industry to ensure the successful implementation of its mandate and policies. Brazil has always had oil, however, this has not stopped the Brazilian government from simultaneously pursuing its ethanol industry and becoming a global leader. Hence, government policies and intervention play a crucial role in introducing renewable energy in the country's energy portfolio. Even with the pre-salt findings, which will very well rank Brazil among the top ten countries with the highest oil reserves, the government is still committed to progressing Brazil's ethanol industry.

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