

GOODBYE OIL – WELCOME BIOFUELS ?

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Voices of the South on Globalization is a monthly newsletter intended to inspire a meaningful North-South Dialogue by raising awareness for global interdependences and by offering a forum for voices from the South in the globalization debate. Each edition will present short analyses or commentaries from a Southern perspective on one particular issue of the globalization process.

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MAJOR OIL CONSUMERS WARM TO BIOFUELS

Haider Rizvi

Despite their diverse -- and sometimes sharply conflicting -- political and economic interests, the world's major powers seem to be getting closer to each other in their quest to develop clean alternative sources of energy.

Top diplomats from the United States, China, Brazil, India, South Africa and the European Commission told a news conference at the UN headquarters March 2 that they were ready to step up mutual cooperation in the global effort to expand production and use of bio-fuels.

"We understand that access to renewable sources of energy is fundamental to addressing social and economic problems," said Thomas Shannon, U.S. assistant secretary of state for Western Hemisphere Affairs, at the launch of the International Biofuels Forum. According to Shannon and others, the six-nation Forum will help create a mechanism to shape the dialogue among the biggest producers and consumers of biofuels in promoting the creation of an international market for those products.

Considering the use of biofuels as a viable economic alternative for the immediate and partial substitution of fossil fuels, the Forum members said they believed that their initiative could be useful for both developing and developed countries.

"For developing countries, to use biofuels means significantly reducing their dependence on imported oil, redressing their trade imbalances and saving income in order to increase investment in health, education and social development," said Antonio Patriota Brazilian envoy to the United States, whose country has taken a lead in biofuels consumption. In addition to environmental benefits, in his view, the use of biofuels could also prove helpful in reducing the migration of rural populations to urban areas.

Reflecting on the need for increased use of biofuels in developed countries, Brazil's Patriota said it would enhance their energy security and reduce dependence on fossil fuels that contributes to the reduction of greenhouse gas emissions. "Biofuels have the potential to mobilise investments in research and development of associate technologies," he added. "They would accelerate the process of a paradigm shift in the global use of energy."

Brazil is the world's leading producer of ethanol, which it makes from sugarcane. In the United States, ethanol is mainly extracted from corn. The United States, due its extreme dependence on fossil fuel, is responsible for about 25 percent of the world's greenhouse gas emissions. And unlike most other developed countries, the U.S. has not ratified the international treaty on climate change known as Kyoto Protocol. *(Continued on page 6)*

AN OPEC FOR ETHANOL?

Humberto Márquez

U.S. President George W. Bush's visit to Latin America March 8-14 seeking a strategic alliance with Brazil to develop biofuels, was considered in Venezuela, the region's main oil exporter, as a warning signal.

Bush visited Brazil, Uruguay, Colombia, Guatemala and Mexico, and his talks with Brazilian President Luiz Inácio Lula da Silva were viewed as "an enormous opportunity" to create new incentives for the production and sale of ethanol, or fuel alcohol, as a substitute for petrol, according to Gregory Manuel, special adviser and international energy coordinator for the U.S. State Department.

Brazil is the world's top producer of ethanol, which it makes from sugarcane. It has also developed biodiesel production from oil-bearing plant crops, to mix with or substitute for fossil fuels in diesel engines.

"An OPEC for ethanol is impossible, because alcohol will never be able to substitute for oil," Venezuelan expert Alfredo Michelena told IPS. "However, it could replace a small percentage of U.S. fuel consumption, equivalent to the oil supplies it receives from Venezuela," he added.

OPEC, the Organisation of the Petroleum Exporting Countries, is made up of Algeria, Angola, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates and Venezuela.

These countries produce about 40 percent of world crude oil consumption of 84 million barrels per day (bpd), and supply two-thirds of the crude that is traded on international markets.

The United States consumes one-quarter of global production of crude and half the world's petrol. Its main foreign suppliers are Canada, Mexico, Saudi Arabia and Venezuela, which exports nearly 1.4 million bpd to the United States, equivalent to about six percent of total U.S. consumption.

U.S. demand for oil is increasing in line with its economic growth, which was 3.3 percent of gross domestic product (GDP) in 2006, according to the Department of Commerce. "So Washington, as well as weighing the risks associated with the political situation in the Middle East, clearly intends to lessen its oil dependence on Venezuela," said Michelena.

The political and diplomatic confrontation between Washington and Caracas has been going on for three years, and the Southern Command -- one of the seven worldwide divisions of the U.S. armed forces, and which includes Latin America and the Caribbean -- considers Venezuela to be a "threat to hemispheric security" because of its "radical populism." Nevertheless, the flow of oil has continued

without interruption. Venezuela's national income depends to a great extent on its exports of 2.5 million bpd, and so it is on the lookout for other markets, such as China, India, and Latin American and Caribbean countries with no oil of their own.

The United States could replace oil from Venezuela by using more biofuels, as well as oil from its own state of Alaska, according to Michelena, one reason it wants to woo Brazil, "which doesn't have an oil pact with Caracas, although both countries are members of the Southern Common Market (Mercosur)," he pointed out. In his opinion, the U.S. "is selling the idea that Latin American countries could join in producing biofuels to supply the North, in exchange for investment and technology to boost agriculture and lift millions of people out of poverty."

The surge in biofuels is a response to oil's big problems: its high price, its role in global warming, and the fact that it is a non-renewable resource. "What the United States is attempting is impossible," Venezuelan President Hugo Chávez said on one of his radio and television programmes. "To use ethanol to maintain their lifestyle, with 70 people out of 100 owning cars, would mean planting maize on an area of five or six times the Earth's surface," he said.

In the United States, ethanol is extracted from maize, while in Brazil and Colombia, and to a lesser extent Cuba and Venezuela, it is produced from sugarcane. U.S. production capacity is about 300,000 bpd, but only 600 of its 200,000 petrol stations dispense E85 fuel, which is 85 percent ethanol. Brazil is both the world's largest producer of ethanol (600,000 barrels a day) and its largest consumer. Over 80 percent of the country's vehicles can run on gasoline, alcohol or a mixture of both. Plainly, Brazil is interested in broadening its markets.

Chávez and Lula are firm political allies, and their governments are promoting the construction of a gas pipeline across Brazil, from gas deposits on the Caribbean to markets on the River Plate. The Venezuelan president tried to shoot down the idea of a Washington-Brasilia pact on ethanol. Chávez appealed to ethical reasons, like world hunger. "To produce one million barrels of ethanol requires growing 20 million hectares of maize. Is this right, when there are 800 million hungry people on this planet? How many people could that grain feed?" he asked. "To fill the 25-gallon (95-litre) petrol tank of a vehicle just once would take as much grain as would feed a person for a year," said Chávez. ☑

BRAZIL'S AMBITIOUS PLANS

Mario Osava

Brazil is working towards producing enough ethanol to substitute 10 percent of the gasoline consumed worldwide within 18 years. That would mean increasing its current production of 17.3 billion litres a year by a factor of 12, without sacrificing forests, protected areas or food cultivation.

The government called on a group of experts to study the possibilities and impacts of a sharp increase in fuel alcohol production from sugarcane.

The group led by the Interdisciplinary Group for Energy Planning of Campinas University, and coordinated by physicist Rogério Cerqueira Leite, concluded that Brazil could produce 205 billion litres of ethanol by 2025. A comparable volume will be produced by the rest of the world, predict experts.

By then, the global demand for gasoline will reach 1.7 trillion litres a year, with a 48-percent increase predicted over two decades. In addition to 10 percent of that volume, Brazil will have to produce ethanol for its growing internal market.

The country already has 2.6 million vehicles that run on this fuel alcohol, with the addition of two-thirds of the new cars manufactured here, which total more than two million a year.

Increased ethanol production is essential. The experts' report says there will be a 40-percent hike in output per hectare of sugarcane through a new technology based on hydrolysis.

The United States and Brazil agreed to cooperate in developing this approach during the March 8-9 visit by President George W. Bush in Sao Paulo.

Potentially, hydrolysis, which can take advantage of any cellulose material, could double productivity, but the goal was set at 40 percent based on known technologies and because part of the sugarcane waste (pulp and straw) is used in generating electricity, not ethanol, explained Carlos Rossell, a researcher with the group.

This technology involves some complicated challenges, such as breaking down very tough plant structures, which will require a great deal of effort to make it viable on an industrial scale, Rossell told Tierramérica, a specialised news service of Inter Press Service

U.S. and European scientists are farther along in this research and benefit from much bigger investments, but Brazil has the advantage of the immediate availability of the sugarcane, ready to be processed. The others will have to go into the fields to fetch the stalks and other

bio-material, mostly from maize, with additional costs, he said. For the same reason, the expertise that can come from the United States, whose ethanol production is based on corn, doesn't resolve the Brazilian problem. The raw materials are different, the researcher said. Brazil and the United States, the world's two leading producers of biofuels, agreed also to cooperate in developing an international market for these products, despite being in opposite situations.

Brazil is preparing to turn its 32-year experience with fuel alcohol into massive exports, while the United States will have to rely on massive imports of ethanol inputs to achieve its goal of cutting gasoline consumption 20 percent by 2017.

For now, the United States produces a little more ethanol than Brazil does, but production costs are 40 percent higher, according to industry leaders in Brazil. The U.S. tariff barrier of 54 cents on the dollar per gallon (3.8 litres) did not prevent the northern giant from importing 1.6 billion litres of Brazilian fuel alcohol last year, when increased demand drove up maize prices.

In addition to destabilising the international market, increasing maize prices and soybean prices (the former's replacement for animal feed), U.S. ethanol is hardly environmentally efficient.

Each unit of energy used in U.S. ethanol production generates just 1.3 to 1.8 units of renewable energy, while sugarcane reaches a minimum of 8.3 units. As such, U.S.-produced ethanol does little to curb emissions that cause climate change, which, along with high-priced petroleum are the main reasons biofuels are being promoted.

In Brazil, ethanol also faces limitations. Peasant farmer movements and many social activists condemn the growth of agro-energy that hurts food production. Environmentalists fear further expansion of the farm frontier into Amazon forests, especially as land prices increase.

Fuel alcohol production has "negative environmental, social and economic impacts for the communities," it generates few jobs, and "consumes a lot of natural resources -- each litre of ethanol requires 30 litres of water," criticises Temístocles Marcelos, environmental policy director at the labour union CUT. In the southern city of Ribeirao Preto, capital of sugar and alcohol production, today there are more prisoners than rural workers, he told Tierramérica. *(Continued on page 6)*

BIOFUELS BOOM SPURRING DEFORESTATION

Stephen Leahy*

Nearly 40,000 hectares of forest vanish every day, driven by the world's growing hunger for timber, pulp and paper, and ironically, new biofuels and carbon credits designed to protect the environment.

The irony here is that the growing eagerness to slow climate change by using biofuels and planting millions of trees for carbon credits has resulted in new major causes of deforestation, say activists. And that is making climate change worse because deforestation puts far more greenhouse gases into the atmosphere than the entire world's fleet of cars, trucks, planes, trains and ships combined.

"Biofuels are rapidly becoming the main cause of deforestation in countries like Indonesia, Malaysia and Brazil," said Simone Lovera, managing coordinator of the Global Forest Coalition, an environmental NGO based in Asunción, Paraguay. "We call it 'deforestation diesel'," Lovera told IPS.

Oil from African palm trees is considered to be one of the best and cheapest sources of biodiesel and energy companies are investing billions into acquiring or developing oil-palm plantations in developing countries. Vast tracts of forest in Indonesia, Malaysia, Thailand and many other countries have been cleared to grow oil palms. Oil palm has become the world's number one fruit crop, well ahead of bananas.

Biodiesel offers many environmental benefits over diesel from petroleum, including reductions in air pollutants, but the enormous global thirst means millions more hectares could be converted into monocultures of oil palm.

Getting accurate numbers on how much forest is being lost is very difficult.

The FAO's State of the World's Forests 2007 released last week reports that globally, net forest loss is 20,000 hectares per day -- equivalent to an area twice the size of Paris. However, that number includes plantation forests, which masks the actual extent of tropical deforestation, about 40,000 hectares (ha) per day, says Matti Palo, a forest economics expert who is affiliated with the Tropical Agricultural Research and Higher Education Center (CATIE) in Costa Rica.

"The half a million ha per year deforestation of Mexico is covered by the increase of forests in the U.S., for example," Palo told IPS.

National governments provide all the statistics, and countries like Canada do not produce anything reliable, he said. Canada has claimed no net change in its forests for 15 years despite being the largest producer of pulp and paper.

"Canada has a moral responsibility to tell the rest of the world what kind of changes have taken place there," he said. Plantation forests are nothing like natural or native forests. More akin to a field of maize, plantation forests are hostile environments to nearly every animal, bird and even insects. Such forests have been shown to have a negative impact on the water cycle because non-native, fast-growing trees use high volumes of water. Pesticides are also commonly used to suppress competing growth from other plants and to prevent disease outbreaks, also impacting water quality.

Plantation forests also offer very few employment opportunities, resulting in a net loss of jobs. "Plantation forests are a tremendous disaster for biodiversity and local people," Lovera said.

Even if farmland or savanna are only used for oil palm or other plantations, it often forces the local people off the land and into nearby forests, including national parks, which they clear to grow crops, pasture animals and collect firewood. That has been the pattern with pulp and timber plantation forests in much of the world, says Lovera.

Ethanol is other major biofuel, which is made from maize, sugar cane or other crops. As prices for biofuels climb, more land is cleared to grow the crops. U.S. farmers are switching from soy to maize to meet the ethanol demand. That is having a knock on effect of pushing up soy prices, which is driving the conversion of the Amazon rainforest into soy, she says.

Meanwhile rich countries are starting to plant trees to offset their emissions of carbon dioxide, called carbon sequestration. Most of this planting is taking place in the South in the form of plantations, which are just the latest threat to existing forests.

"Europe's carbon credit market could be disastrous," Lovera said. The multi-billion-euro European carbon market does not permit the use of reforestation projects for carbon credits. But there has been a tremendous surge in private companies offering such credits for tree planting projects. Very little of this money goes to small land holders, she says. ☑

**This story is part of a series of features on sustainable development by IPS and IFEJ - International Federation of Environmental Journalists.*

THE ENVIRONMENTAL COSTS OF BIOFUEL

Marcela Valente

After two years of debate, the Argentine Senate approved last April a bill that came in for harsh criticism from environmentalists. The new legislation grants tax incentives to the producers of biofuels while ensuring them a share of the market for 15 years.

However, the new law is less generous than the original version of the bill, which was submitted in 2004 by bio-fuel proponents. It grants tax exemptions to farmers who use vegetable oil to produce biodiesel, sugar cane or corn to produce ethanol, or organic waste to produce biogas. Both biodiesel and ethanol are renewable, cleaner alternatives to costly and increasingly scarce petroleum derivatives.

To ensure a market for the alternative fuels, the state will guarantee that four years after the law goes into effect, gas stations will be under the obligation to offer gasoline that contains five percent ethanol and diesel comprised of five percent biodiesel. Vehicle engines require no modifications to run on these mixtures, say experts.

Companies in the oil industry and large soybean producers complained that the new law does not include subsidies. They also protested the fact that the state will have the authority to oversee and regulate production of biofuels and to distribute the tax benefits. The state will determine the requisites for projects to be eligible for the tax exemptions, and will set quotas every year for the benefits to be distributed in such a way as to give priority to small and medium companies, farmers, and regional economies.

But according to the corporations and agribusiness, the tax incentives will be granted in an arbitrary manner. Biodiesel releases almost the same amount of carbon dioxide - the main greenhouse gas - into the environment as diesel fuel, according to Argentina's Secretariat of the Environment.

But expanded production will also lead to an increase in the cultivation of oilseeds, which will contribute significantly to absorbing such emissions, notes the government body, which estimates that net emissions will be reduced to one-third of the current level once biodiesel is widely used.

The biofuel projects could thus qualify as clean development initiatives under the Kyoto Protocol on climate change. The clean development fund is aimed at helping industrialised countries and corporations cut their greenhouse gas emissions. However, the environmental effects of biofuels will not all be positive in Argentina, activists warn. The new law worries those who have criticised the continued expansion of soybean monoculture. Soybeans are the top export product and the most widely planted

crop in Argentina which is the third-largest soybean producer in the world after the United States and Brazil, and the leading exporter of soybean oil.

Argentina's soybean crop, which is mainly transgenic, threatens biodiversity in agriculture and has hurt family farms and the rural social fabric, according to environmentalists and other critics. In the last decade, expanding monoculture has prompted an exodus of seasonal workers and small farmers to the cities, while fuelling the concentration of land ownership.

The Argentine branch of international environmental watchdog Greenpeace has launched several campaigns to protest the deforestation of land rich in biodiversity by large soybean farmers. The worst episode occurred when the government of the northwestern province of Salta stripped the Pizarro nature reserve of its legal status as a protected area in order to auction off part of the land to agribusiness firms.

However, after 20 months of an intense campaign by environmentalists, indigenous groups and local residents, the sale of land was cancelled and the reserve's protected status was restored. Last year, a total of 15.2 hectares of land was used for soybean cultivation, which is over half of the entire area devoted to agriculture in Argentina. The soy industry encompasses sales of the beans themselves, soy meal -- widely used as animal feed because of its high protein content -- and soy oil.

To meet the new quota for biofuel production, producers estimate that the soy-growing area will expand by around 10 percent. In an interview with IPS, Jorge Rulli of the Rural Reflection Group, a local environmental organisation, said that the law will "inexorably reinforce the critical conditions of the current process of growing 'soyification' and permanently compromise Argentina's principal productive base, which is agricultural and livestock activity."

Rulli stressed that the employment generated by the processing of vegetable oil for fuel "will not compensate for the enormous unemployment provoked by this model of agriculture and does absolutely nothing to remedy its impact on the social fabric." A report released in late 2005 by the Inter-American Institute for Cooperation on Agriculture (IICA) on biofuel prospects in Argentina and Brazil warned that the development of this sector would not come without a price for Argentina. ☑

BRAZIL'S AMBITIOUS PLANS

(Continued from page 3)



Credit: UN/DPI Photo

The experts' study, however, points to the creation of five million new jobs if the ambitious production plan is implemented.

The Brazilian experience is of concern "because of poor management," Délcio Rodrigues, energy specialist with the environmental group Vitae Civilis, told *Tierramérica*.

"The government doesn't take action to contain the damages from monoculture, local governments authorise inappropriate projects out of short-term interests, and official agencies are not capacitated to regulate the sector."

In Sao Paulo state, home to more than half of Brazil's ethanol production, 60 percent of the sugarcane fields are burned in order to facilitate cutting, polluting the air and causing a number of illnesses.

The sugarcane industrialists are also accused of subjecting their workers to unhealthy and exhausting work conditions, which, according to reports, have also led to death.

Labour relations comply with the laws, and the trade unions operate freely, Fernando Moreira Ribeiro, secretary-general of the Sao Paulo Sugarcane Industry Association, told *Tierramérica*.

The burns are also legal, and are to be abolished by 2020, he said. The solution would be accelerated if cellulose ethanol production were further advanced, because it uses sugarcane leaves.

Furthermore, ethanol benefits all of humanity by reducing carbon dioxide emissions. Its incorporation into Brazil's national energy matrix and its international marketing -- which should be unrelated to that of petroleum -- "depends only on political will," said Ribeiro. ☑

Note: This report was originally published by Latin American newspapers that are part of the Tierramérica network. Tierramérica is a specialised news service produced by IPS with the backing of the United Nations Development Programme and the United Nations Environment Programme.

(Continued from page 1)

On March 1, UN Secretary-General Ban Ki-moon urged the U.S. to take the lead in fighting global warming. In a statement, Ban warned that climate change posed "as much of a danger to the world as war."

Nearly half of the world's oil is currently consumed by the United States, Canada and Western Europe, but the growing economies of China and India are putting further pressure on the supply side. Though the industrialised world is still largely responsible for greenhouse gas emissions, many experts say this scenario may change in coming decades, with China exceeding the U.S. as the biggest emitter by around 2020.

Mindful of the need for diversity in the use of energy sources, Liu Zhenmin, the Chinese envoy to the UN, seemed fully supportive of his Brazilian colleague's views on biofuels. "We are delighted to be part of this forum," he said about the initiative for a sustained dialogue on the enhanced use and marketing of biofuels. "It's good for improving socially-(oriented) economic development. It would help mitigate climate change." However, in explaining his country's growing energy needs for more than one billion people, he added: "Reducing greenhouse gas emissions is our long-term project for economic and social development, so we are starting to use biofuels. But it is not the only source."

The Forum, according to its members, will hold regular meetings for a period of one year during which it will examine the international standards and codes for biofuels, its infrastructure and logistics, as well as the issues related to the commodification and distribution of products. The Forum is meant to provide a mechanism for the exchange of information on the production, use and marketing of biofuels products, and thus does not have any international enforcement powers, they said.

When asked why Russia, one of the world's largest oil-producing nations, is not part of the Forum, the Brazilian diplomat told IPS that officials from his government were in touch with their Russian counterparts and that there were indications that Moscow would eventually be part of the initiative. "It is not a closed club," he said. "We hope other players would also join us in the future."

For his part, Esa Paasivirta, charge d'affaires of the European Commission's delegation described the creation of the Forum as a "big step forward," and said it would "help the world address its environmental concerns." The world needs increased cooperation in the area of addressing climate change. The use of biofuels can use contribute to lessening greenhouse gas emissions, he said. ☑

DISCLAIMER: The views expressed in this newsletter are not necessarily those of the Friedrich-Ebert-Stiftung or of IPS Europe.