



Towards a green energy pact between
Europe and Africa

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QUICK NOTES

★ Covanta Holding Corp., a developer and operator of large-scale renewable energy projects, has agreed to purchase two biomass energy facilities and a biomass energy fuel management business from The AES Corp. According to the companies, the facilities are located in California's Central Valley and will add 75 MW to Covanta's portfolio of renewable energy plants.

[Alternative Energy Retailer](#) - May 31, 2007.

★ Two members of Iowa's congressional delegation are proposing a study designed to increase the availability of ethanol across the country. Rep. Leonard Boswell, D-Ia., held a news conference Tuesday to announce that he has introduced a bill in the U.S. House, asking for a US\$2 million study of the feasibility of transporting ethanol by pipeline. Sen. Tom Harkin, D-Ia., has introduced a similar bill in the Senate. [Des Moines Register](#) - May 30, 2007.

★ A new market study by Frost & Sullivan Green Energy shows that the renewables industry in the EU is expanding at an extraordinary rate. Today biofuels and other renewables represent about 2.1 per cent of the EU's gross domestic product and account for 3.5 million jobs.

THURSDAY, MAY 31, 2007

Nigeria to power telecom base stations with biofuels

A young Nigerian entrepreneur, Husainin Solomon, has risen up to the challenge to satisfy the quest of mobile telecom operators' search for cheap energy in the country, by producing biofuels

as a competitive and green alternative fuel to power base stations.



Mobile phone use in Nigeria and in Africa in general has skyrocketed over the past few years, [contributing greatly to social and economic development](#). According to some analysts, the number of cellphones in Africa has increased from 7.5 million to 76.8 million, putting phones in the hands of roughly [one in ten Africans](#). Mobile phones are being used very creatively in agriculture, trade, education, health care and in small businesses. They even provide a tool for [grassroots politics](#) and [drive social change](#). Soon, the phones may be used to gain generic [internet access, which would truly revolutionise life in rural Africa](#).

But energy supplies to power base stations are erratic and have become a major hurdle to expanding the sector. Electricity in Nigeria, both in urban and rural areas is epileptic. Thus most of the 6,000 installed base stations in the country are being powered by generators, using prohibitively costly diesel fuel. Biofuels may offer a way out. A pilot scheme to use the green fuels to power such base stations is now underway in Lagos, Nigeria's megacity. Soyabean based biodiesel is being used to power a sub-urban base station owned by MTN Nigeria in a six-month trial. The pilot scheme is being funded by the GSM Association Development Fund, Ericsson, together with MTN Nigeria ([earlier post](#)). Similar [trials are under way in rural India](#).

Olabode Sowumi, head of Corporate and Marketing Communications of Ericsson, West and East Africa, explained how the biodiesel production and distribution process works. "The biodiesel is produced from crops that are rich in oil like groundnut, soya bean, palm oil and so on. A local entrepreneur can buy excess of the crops from farmers and convert the biomass into biofuel, using a special processing plant. The biofuel

Crude oil	66.71	▲ +0.81
Natural gas	7.806	▼ -0.312

QUOTES PROVIDED BY FMNN

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[Brazil to build 'Biofuel Town' in Nigeria to kicks...](#)

The study forecasts that revenues from renewables in the world's largest economy are set to double, triple or increase even more over the next few years. [Engineer Live](#) - May 29, 2007.

★ A project to evaluate barley's potential in Canada's rapidly evolving biofuels industry has received funding of \$262,000 from the Biofuels Opportunities for Producers Initiative (BOPI). [Western Barley Growers Association \[*\].pdf](#) - May 27, 2007.

★ PNOC-Alternative Fuels Corporation (PNOC-AFC), the biofuel unit of Philippine National Oil Company, is planning to undertake an initial public offering next year or in 2009 so it can have its own cash and no longer rely on its parent for funding of biofuels projects. [Manila Bulletin](#) - May 27, 2007.

★ TMO Renewables Limited, a producer of ethanol from biomass, has licensed the ERGO bioinformatics software developed and maintained by Integrated Genomics. TMO will utilize the genome analysis tools for gene annotation, metabolic reconstruction and enzyme data-mining as well as comparative genomics. The platform will enable the company to further understand and exploit its thermophilic strains used for the conversion of biomass into fuel. [CheckBiotech](#) - May 25, 2007.

★ Melbourne-based Plantic Technologies Ltd., a company that makes biodegradable plastics from plants, said 20 million pounds (€29/US\$39 million) it raised by selling shares on London's AIM will help pay for its first production line in Europe. [Plantic Technologies \[*\].pdf](#) - May 25, 2007.


★ Shell Hydrogen LLC and Virent Energy Systems have announced a five-year joint development

is then sold to the telecommunications operator."

Keywords of the system are decentralisation, local ownership, renewability and energy security. Husainin Solomon has emerged as the first local entrepreneur to buy into the idea. Putting up his own money and creativity, the young man approached Diamond Bank Plc, and the bank promptly invested 20 million naira (€116,000/US\$ 156,000) in the concept, under its Bright Idea initiative. The investment is large, by Nigerian standards. Solomon:

The market is there, two telecom giants have approached me for the oil, because they are having problems fuelling their base stations across the country. So, what we are going to do is very simple: get people to cluster around about 10 base stations and they produce the oil and we put it in the generators and it will work. If not, it will be difficult and one day we will wake up and they will not be able to run the base stations.

The young entrepreneur, who [spoke with the Daily Sun](#) in an exclusive interview, argued that the biofuel concept can help solve the hydra-headed issues of power supply in the country. Interestingly, he points at the opportunity biofuels bring to help alleviate poverty, and especially to relieve the socio-economic crisis in the Niger Delta - an idea that is being shared by more and more people (amongst them Brazil's state-owned oil company Petrobras - [earlier post](#)):

 [bioenergy](#) :: [sustainability](#) :: [biodiesel](#) :: [palm oil](#) :: [soybean](#) :: [groundnut](#) :: [biofuels](#) :: [mobile phones](#) :: [cellphones](#) :: [telecommunications](#) :: [energy](#) :: [energy security](#) :: [Nigeria](#) :: [Africa](#) ::

Background

I had a brief working opportunity in South Africa, working on a soya beans farm. The farm went a step ahead to roll out a diesel refinery, using soy oil. I was lucky to be among the people who installed the diesel energy system, called the Mopomulanga plant in South Africa. Biofuel from the plant is being piped directly into homes. The South Africans don't have our kind of oil, but they get their fuel from coal and now biofuels.

After sometime, I decided to return to Nigeria to start something on my own. Initially, I started by creating awareness among local cooperative society, informing them about the benefits of the improved soya bean seedlings I brought from South Africa.

While I was doing that, I saw the advert of the Diamond Bright Idea and I approached them and the bank bought the idea and that has culminated in an equity investment of N20million in the biodiesel-for-base-stations concept.

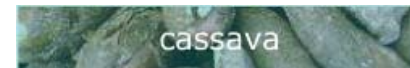
Government

It is good that Nigerian government is talking about bioethanol, getting petrol from cassava, maize and sugar cane, using the Brazilian example. My take is that if the Nigerian government is doing this with ethanol, they should not neglect biodiesel because it is another essential sector of the energy industry. More so, it's cheaper and adaptable to modern engines. Both Ford and BMW motors have come to approve the use of biofuels in their cars.

I realise that energy is the bedrock of any economic growth. Once there is an energy crisis, the economy is in trouble. This is why I am coming into the sector and I believe government must support this initiative.

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CROP NEWS



International research effort underway to sequence cassava genome, which may result in increased starch yields - [USDA Agricultural Research Service](#) - Aug. 30, 2006

Cassava has one of the highest rates of CO2 fixation and sucrose synthesis for any C3 plant. With this in mind, researchers from Ohio State University develop transgenic cassava with starch yields up 2.6 times higher than normal plants by increasing the sink strength for carbohydrate in the crop. This means cassava makes for a 'super crop' when it comes to both CO2 fixation and carbohydrate production, i.e. sugars, the feedstock for ethanol - [Plant Biotechnology Journal](#) - Volume 4/Issue 4 - July 2006



Vietnam's Institute of Tropical Biology to invest in Jatropha research - [Le courrier du Vietnam](#) - Sept. 6, 2006



Genetic study proves humans have pushed orangutans to the brink of extinction; genetic decline coincides with establishment of oil palm plantations in Malaysia/Indonesia since the 1950/60s- [Public Library of Science / Biology](#) Volume 4/Issue 2 - February, 2006



Researchers at the International Institute for the Semi-Arid Tropics have developed a sweet sorghum for the production of ethanol. The new variety has a very high sugar content in its root. Average [yields in trial fields](#) in the Philippines were between 95 to 125 tons, considerably higher than those of sugarcane - [ICRISAT](#) - Feb. 28, 2007

Sokoine University of Agriculture,

agreement to develop further and commercialize Virent's BioForming technology platform for the production of hydrogen from biomass. [Virent Energy Systems \[* .pdf\]](#) - May 24, 2007.

★ Spanish energy and engineering group Abengoa will spend more than €1 billion (US\$1.35 billion) over the next three years to boost its bioethanol production, Chairman Javier Salgado said on Tuesday. The firm is studying building four new plants in Europe and another four in the United States. [Reuters](#) - May 23, 2007.

★ According to The Nikkei, Toyota is about to introduce flex-fuel cars in Brazil, at a time when 8 out of 10 new cars sold in the country are already flex fuel. Brazilians prefer ethanol because it is about half the price of gasoline. [Forbes](#) - May 22, 2007.

★ Virgin Trains is conducting biodiesel tests with one of its diesel engines and will be running a Voyager train on a 20 percent biodiesel blend in the summer. [Virgin Trains Media Room](#) - May 22, 2007.

★ Australian mining and earthmoving contractor Piacentini & Son will use biodiesel from South Perth's Australian Renewable Fuels across its entire fleet, with plans to purchase up to 8 million litres from the company in the next 12 months. Tests with B20 began in October 2006 and Piacentini reports very positive results for economy, power and maintenance. [Western Australia Business News](#) - May 22, 2007.

★ Malaysia's Plantation Industries and Commodities Minister Datuk Peter Chin Fah Kui announces he will head a delegation to the EU in June, "to counter European anti-palm oil activists on their own home ground". The South East Asian palm oil

Solution to Niger-Delta problem

You can imagine if Kogi is producing biofuel oil, and Niger-Deltans are not likely to continue to say don't take our oil. With huge investment in bio-fuel we can complement the oil producing areas without necessarily destroying or damaging the soil.

Nigerian economy

The Nigerian economy is ready for this invention. Right now, the incoming president has been talking about energy. He has no option than to decentralize energy. A village of about 600 people can produce her own fuel from her feedstock, and put it into generator and it gives them light.

Challenges

The major challenge is people who may look down at the project because it's a new sector. Nigerians are used to the usual fossil fuel for long, so if you are talking about an alternative source of oil it seems you are coming from the moon.

Another challenge is in the area of regulation. In Nigeria, because we are not prepared for it there is no sound regulatory authority that accommodates small-scale energy production by small groups. All the same, we are working towards establishing an enabling regulation to encourage such farming projects.

Fossil fuel and Bio-Diesel cost comparison

The technology for producing biodiesel is very cheap, so the cost of production is also cheaper. We are not looking at a gigantic plant; it's a room-size plant, with about 30 people to run the production process.

Diamond Bank Bright Idea

Diamond Bank came in as equity partners in the project, and that is good for us and that will afford us to do some basic things. Now, we have passed the regulatory test, we can do a bigger pilot project, look at the adaptability, acceptability and then enlighten others in the industry so they understand what we are talking about.

The money given to us is not a loan, we are not paying back, but they will be sharing in the profit, so that the Bright Idea project will continue indefinitely. We will run the projects for the next five years, and we will pay them Net Profit Valuation (NPV), at the end of the five years.

More information:

Biopact: [Ericsson, GSMA and MTN to use biofuels to expand mobile coverage in developing world](#) - October 11, 2006

Biopact: [Biofuels to expand mobile coverage in rural India](#) - February 08, 2007

The Daily Sun (Nigeria): [Behold! Nigerian who powers GSM base stations with soya beans bio-diesel](#) - May 30, 2007.

NextBillion: [Africa: The Impact of Mobile Phones](#) - May 6, 2005.

The Feature: [Farmers, Phones and Markets: Mobile Technology In Rural Development](#) - Feb. 15, 2005.

My Heart is in Accra: [Draft paper on mobile phones and activism](#) - April 9, 2007.

POSTED BY BIOPACT TEAM AT 6:13 PM

Tanzania, develops sorghum and millet processing technologies suitable for local conditions in effort to empower small farmers - [IPP Media](#) - Sept. 6, 2006

South Africa blocks GM Sorghum project for fears over contamination of local wild sorghums - [Kruger Park](#) - Aug. 26, 2006



Brazilian authorities have given their fiat for field trials with genetically modified sugar cane plants. The Centro de Tecnologia Canavieira (Cane Technology Center - CTC) will test three genetically modified varieties that are expected to yield 15% more sugar - [GMO Compass](#)



Brazilian state of Acre intends to make cattle ranchers reforest land which they have cleared for grazing. The sustainable forestry policy is based on replanting economic tree crops such as mahogany, acai, Brazil nut and palms - [BBCNews](#) Sept. 27, 2006

Illegal deforestation of acacia for charcoal is becoming a serious problem in Kenya's Naivasha area. Nobel Peace Prize laureate Wangari Maathai's Green Belt Movement re-afforests with acacia but needs more support to win fight against illegal loggers - [Kenya Times](#) Sept. 5, 2006

Australian scientists are conducting a 'time-machine' experiment to see how eucalyptus trees cope with increased levels of CO2 and global warming. - [University of Western Sydney](#) Aug. 28, 2006



Bamboo planting can slow deforestation, scientists from the International Center for Research in Agroforestry in Nairobi, Kenya, say. Bamboo rapidly becoming economically beneficial crop with large potential for energy, bioremediation, and afforestation - [Chosun \(S.Korea\)](#) Aug. 30, 2006

"The beauty of miscanthus is that you only have to sow it once...Because of the way it grows, there is no need for fertilisers or chemicals", an English entrepreneur talks about his experience with Miscanthus as an