

Nigeria: Tough Choice for Big Oil

Energy companies working in Africa's biggest oil producer increasingly face a frustrating race between production and disruption.

At present some 800,000 barrels a day or 30 percent of Nigeria's crude oil exports is shut down, most of it by attacks since January by militants battling the government for control of the oil fields. The militants have blown up facilities and taken workers hostage.

Within the same period Nigeria has added new production from deep water fields in the Atlantic ocean, with more set to follow in the coming months. Oil min-

ister Edmund Daukora expects export capacity to jump from current 2.5 million a day to 3 million by the end of the year, chron.com said.

Whether it all goes according to plan depends on if the currently raging armed militancy in the Niger Delta region can be checked.

"As it stands Nigeria doesn't have the capability to actually protect (its) oil supplies," said Jonathan Bearman, head of UK-based Clearwater Research providing risk control and intelligence services for oil companies in the Gulf Guinea.

"It is a very limited ability all round," Jonathan Bearman told The Associated Press.

The security forces, and

in particular the navy with primary responsibility for securing oil fields, have not shown a good track record of dealing with the armed militants nor equally active oil smugglers, said Bearman.

"Somewhere down the line you'll have to have international involvement" to guarantee security in the delta, said Bearman.

Whether it comes in the form of intervention by Western powers or strengthening of the Nigerian military by outside forces will depend on how things unfold in the region in the coming months, said Bearman.

The British warship HMS Chatham and its US counterpart USS Barry were visiting

Nigeria's Lagos port at a time eight Westerners were being held hostage in the delta. It was part of increased patrols of the Gulf of Guinea, a region of growing importance as an oil supply source for the West.

Britain has not received any request to intervene militarily in the delta, HMS Chatham's commanding officer Capt. James Morse told reporters aboard the warship in Lagos.

"The Foreign and Commonwealth Office is monitoring the situation closely," he added. "If we are asked to help, we have the capability."

Attacks claimed by the militant Movement for the Emancipation of the Niger Delta or MEND

have already shut down half of all onshore oil operations in the region, forcing the closure of Forcados export terminal, one of the three biggest oil-loading points in Nigeria.

Now the group has turned its attention to the eastern delta, where a gas plant run by Royal Dutch Shell's Nigerian subsidiary was attacked last week and five South Koreans working for contractors Daewoo Engineering and Korea Gas Corp. were taken hostage.

"We will carry our more attacks in the east of the delta," MEND, which freed the Koreans two days later, said in an e-mail to the Associated Press afterward. "There is

no safe place (in the Niger Delta) for these oil companies."

Shell, which was forced to shut the 150 million cubic feet plant, is the biggest oil and gas operator in Nigeria and runs the vast majority of onshore oil operations in Africa's leading producer. It is so far the biggest loser but not the only target.

For Shell "the security situation remains a concern," Caroline Wittgen, company spokeswoman in London told The Associated Press. She declined to discuss the worries in any detail but expressed optimism about the company's future in Nigeria.

"Shell has a long-standing presence in Nigeria--



At present some 800,000 barrels a day or 30 percent of Nigeria's crude oil exports is shut down, most of it by attacks since January. (Yahoo File Photo)

and we expect that we will continue to be a major player there for many decades to come," Wittgen said.

It was a view repeated by officials of other oil

majorities in Nigeria, all keen to remain in a region that gives one of the lowest production costs for crude worldwide—between US\$2-3 a barrel.

Solar Power Ideal for Persian Gulf

The PGCC countries like the idea of standing atop a sea of oil, and the proposal to introduce renewable energy (including solar and wind power) to the PGCC might appear as logical as carrying coals to Newcastle.

But a closer look shows that solar power could complement the energy mix of the PGCC countries perfectly:

* It would spare more of the precious oil and gas for exports and as feedstock for the local petrochemical industry;

* It could result in PGCC leadership in a technology that is new and relatively labor-intensive;

* It would help the PGCC to comply with international environmental standards like the Kyoto protocol, tradearabia.com said.

The PGCC countries currently have the highest growth rate in oil consumption worldwide (4.5 per cent vs. 2.5 percent for Asia and 1 per cent for the US) and already use 17 per cent of the oil they produce. The International Energy Agency (IEA) projects a rise in worldwide oil demand from 80 mbpd today to 120 mbpd in 2030. Hopes to meet this projected demand rest on the Persian Gulf countries, as production in other regions is declining (notably in the US and the North Sea).

Although the IEA believes that this will be possible once huge investments are made, Saudi Arabia has already sounded a note of caution, while authors associated with the 'peak oil' debate (Matthew Simmons, for example) have questioned whether the Persian Gulf countries are capable of production increases at all. The recent debate in Kuwait about overstated oil reserve figures also hints at this.

In any case, the importance of energy exports from the Persian Gulf will increase dramatically over the years to come, and the less oil and gas the PGCC countries use for their own consumption, the more they can stretch the lifetime of their most precious export good. This would also leave more oil as feedstock for their petrochemical industry, which is a crucial part of their

diversification strategy. Tourism, another important part of the PGCC diversification drive, is also heavily dependent on the availability of fuel: rising oil prices and delays in developing alternative fuels like hydrogen and methanol will lead to prohibitively expensive flights and declines in tourist numbers.

Renewable energy can hardly be regarded as an uneconomical hobby of esoteric tree-huggers anymore. Governments and corporations around the world are acknowledging its importance in increasing numbers, as it offers the long-term vision of clean and limitless energy alternatives for an after oil age.

BP has reinterpreted its acronym as 'Beyond Petroleum' for a reason, while Chevron has declared that the era of cheap oil is over – it has created a special website to spur discussions about possible solutions (www.willyoujoinus.com).

Meanwhile, the 2006 Detroit Auto Show has shown the great interest of the car industry in alternative hydrogen fuel, and many governments, including those of Germany, the US, Japan, India, and China, have created programs to encourage the development and distribution of renewable energy technology.

Wind power plants are already competitive with newly built coal plants, and contribute 20 percent and 4 percent of electricity supply in Denmark and Germany respectively. The University of Stanford recently identified suitable regions for wind power generation in a special world atlas. It has argued that the energy needs of the whole planet could theoretically be met several times over by using all the sites identified in the atlas.

The Persian Gulf countries do not have a lot of wind, but everybody who had to walk around the block on a hot summer day in Dubai knows that there is solar energy out there, and loads of it. In fact, the sun supplies 15,000 times more energy than is currently used worldwide. Thus, rather than seeing a problem, one should focus on the challenge of concentrating, collecting, and storing this energy. Unfortunately, the PGCC countries' interest has been limited so far.

Plan to Heat With Wheat Fans Flames of Controversy

A Bavarian farmer's grain-based home heating system has attracted visitors interested in saving money on heating fuel. But a moral debate is heating up as well.

Franz Pentenrieder doesn't have to depend on deliveries of heating oil anymore. The Bavarian farmer has discovered his own source of energy: a grain-fired central heating system.

Thanks to a filter he built himself, the flame produced is nearly smoke free and environmentally friendly. He has a special permit required to run the system, which is good value, dw-world.de reported.

Big Savings

It costs about 60 percent less than oil to produce the same amount of heat.

"I've saved about 35,000 liters (9,250 gallons) of heating oil in the past four winters," Pentenrieder said.

That adds up to around 4,000 euros (\$5,050) annually on heating. He's convinced it could be good business for farmers to grow cereal crops as a source of energy.

"If we can heat schools and public buildings with grain in the near future and it proves to be the most economically efficient way to do so, it would give the farming industry a huge boost. There would be a huge market," Pentenrieder said.

Oil prices are notoriously rising, but the price of grain on the world market is falling—a good argument for using it as an energy source, some say. North Rhine-Westphalia's agriculture minister, Eckhard Uhlenberg, is a farmer himself. He said he has no objections.

Ethical Objections

"I can imagine farmers burning their own grain," he said. "If I think it's politically responsible, I would have nothing against using my own grain to produce energy."

But in the minister's home state, elderly people, in particular, are shocked by the idea of burning a staple food for energy.

"I don't think you should throw away bread or anything edible," Christina Hinke, a retiree in North Rhine-Westphalia, said when asked what she thought of burning grain for fuel. "I remember the

Hans Bonigk, another retiree, said, "Heating? With so many starving people in the world, using grain for heating here just isn't right."



Germany does not have a shortage of wheat. (Dw-world.de Photo)

Church representatives also oppose the idea. They criticize Uhlenberg, and think burning grain for fuel is going too far.

"Give us this day our daily bread" is part of the Lord's Prayer," said Nikolaus Schneider, a Bishop of the German Protestant Church. "In preparing Holy Communion we sing of bread that's made up of many grains of wheat and brings us together. We believe that this is a gift of life that transcends the life cycle of any one person and establishes for us a link to eternal life."

Energy Companies Interested

But Uhlenberg dis-

agreed. "I used to think that as well," he said. "It took a long time for me to change my mind. At first, when a farmer began burning grain for fuel, I was uneasy

about it. It took about three or four years before I was able to accept the fact that burning grain can be ethically justifiable."

Energy companies have long been looking into grain heat as a possible good deal. With the abundantly available raw material, they are testing grain to fire large power stations.

Even government advisors think grain has good prospects as an alternative energy source.

"Cereal crops can of course be used for food," said Martin Faustlich, of the German Advisory Council on the Environment.

"But they can also go to the energy market. In the end, it doesn't really matter much if I use the acreage to plant rape or maize or wheat, as long as there's no scarcity of food in Germany, it certainly makes sense to burn grain as well."

Toyota to Double Hybrid Line-Up

Toyota Motor Corp. said last week it would double the number of hybrid cars in its vehicle line-up soon after 2010, renewing its endorsement of the technology as critical to reducing pollution and oil dependence.

Japan's top auto maker dominates the market for hybrid cars, which twin a conventional engine with an electric motor to improve mileage, and is keen to spread the system as the main alternative to today's internal combustion engines.

It currently mounts the system on seven models, including the hot-selling Prius sedan, and has targeted sales of 1 million hybrid cars annually soon after 2010.

Outlining its efforts to help the environmental cause, Toyota said it was working on improving technology across the powertrain spectrum—alternative-fuel engines, diesel engines, gasoline engines and electric cars—but stressed that hybrid technology was crucial in boosting the performance of each system, according to Reuters.

"We believe that hybrids will be the core technology in the 21st century," Masatami Takimoto, executive vice president in charge of technology development, told a news conference.

Toyota's pitch comes at a time when many of its domestic rivals including Honda Motor Co., Nissan Motor Co. and Toyota affiliate Fuji Heavy Industries Ltd. have been unveiling plans to step up their

development of diesel engines—touted as proven power train with superior real-life mileage, torque and towing power.

With gasoline prices rising and climate-change concerns growing in the public's mind, hybrids have grown in popularity in North America, and to a lesser extent Japan. But in Europe, they are losing the battle to diesels, which are cheaper to produce and get 20-30 percent better fuel economy than gasoline cars.

Earlier, DaimlerChrysler AG, one of the most vocal proponents of diesel engines, held a separate briefing just outside Tokyo to outline their merits in a country where diesel cars have a reputation of being noisy, dirty and slow.

"I know there is a lot of prejudice against diesel in this country," DaimlerChrysler Japan President Hans Tempel said, urging reporters to test-drive its newest clean-diesel cars flown in from Britain for the occasion.

"Today's diesels are fun to drive, not just on the highway or cross-country," he said. The Stuttgart-based auto maker is set to launch the Mercedes E320 CDI sedan in Japan this fall—the country's first new diesel passenger car in four years.

Joachim Schommers, a director at DaimlerChrysler in charge of diesel engine development for passenger cars, acknowledged that one power train could not be the sole answer for reducing carbon dioxide

emissions, but said hybrids were far more expensive to build and that diesels were a more viable short-term solution.

Toyota President Katsuki Watanabe conceded that the price premium on hybrids was still too steep and that battery technology needed more work, but said the auto maker was close to addressing those issues.

"The biggest task is to halve the cost for hybrids, and we're seeing light at the end of the tunnel."

Takimoto added that costs to develop advanced diesel technology to comply with tight emissions regulations to be introduced in a few years in the United States and Japan would add up, making such cars too expensive to justify the benefits.

"The potential for diesel technology is high, but whether the market would accept the high prices is a separate issue," he said, adding that Toyota was not thinking now of offering diesel cars in Japan.

Toyota executives stressed the auto maker did not have all of its eggs in the hybrid basket, saying it would offer the most suitable power train depending on market needs.

As part of those efforts, Toyota said it would introduce in the spring of 2007 flexible vehicles that can run on 100 percent ethanol in Brazil, where sugar cane-based ethanol is widely used.

Wind Turbine Developments Propel Industry Upward

In Germany, with Conergy AG's new SWT 6000 AC and SWT 7500 DC small wind turbines (SWT), the company can cover regionally varied energy requirements to best effect using an intelligent regenerative energy mix. And in the US, the SeaHawk Vertical Axis Wind Turbines (VAWTS) from Torrance, California-based PacWind Technology are said to solve several problems associated with traditional propeller-based wind turbines, solar-arc-cess.com said.

The small wind turbines from Conergy incorporate a directional and patented control system for adjusting the pitch angle of the blades. In increasing wind velocity, this mechanism continuously turns the rotor blades at changing speeds, generating a maximum amount of electricity up to wind speeds of 40 meters per second. Compared with a static alignment, this patented control system boosts the current yield of the rotor by up to 80%.

In stormy weather, the blades turn away from the wind, protecting the generator and the rotor blades from overload. The small wind turbines generate an absolute minimum in vibration and can be installed with a 7-meter (m) tower on flat roofs. The lightweight construction and tower heights for ground installation of 13 m or 19 m installation is aided by a cable winch. The SWT 6000 AC can be integrated into three-phase stand-alone hybrid systems, for example, to provide electricity to small rural villages.

The Vertical Axis Wind Turbines (VAWTS) from PacWind Technology are also said to be able to generate electricity in remote locations. The SeaHawk, the first in a series of patented, scalable VAWTS from PacWind Technology, has a power output of 1 kilowatt (kW) and a maximum power output of 3.4 kW. It measures 55 inches high by 30 inches in diameter, and is scalable to megawatt class turbines.