Saudi Oil May Have Peaked



s oil stubbornly refuses to fall below \$45 a bars on stuboomly retuses to ran below 54-5 a bar-rel, a major market mover has cast a worrying future prediction. Energy investment banker Matthew Simmons, of Simmons & Co International, has been outspoken in his warn-ings about peak oil before. His new statement is his strongest yet, "we may have already passed peak oil". The subiant of neal oil the nexit st which the word?

strongest yet, "we may have already passed peak oil". The subject of peak oil, the point at which the world's finite supply of oil begins to decline, is a hot topic in the industry, aljazeera.net reported. Arguments are commonplace over whether it will hap-pen at all, when it will happen or whether it has already happened. Simmons, a Republican adviser to the Bush-Cheney energy plan, believes it "is the world's number one problem, far more serious than global warming".

Saudi Oil Peaking?

imports to fuel an econo-my that grew 8.5 percent last year, the fastest pace since 1989. The country may build as many as five new LNG terminals in the

Saudi Oil Peaking? Speaking exclusively to Aljazeera, Simmons came out with a statement that, if proven true over time, could her-ald by far the biggest energy crisis mankind has known. "If Saudi Arabia have damaged their fields, accidentally or not, by overproducing them, then we may have already energy task in the base containly reached there is no way passed peak oil. Iran has certainly peaked, there is no way

passed peak on. Iran has certainly peaked, inter is no way on Earth they can ever get back to their production of six million barrels per day (mbpd)." The technical term for damaging an oilfield by overpro-duction is rate sensitivity. In other words, if the oil is pulled out of the ground too fast, it damages the fragile geological structure of the field. This can make as much as 80% of the oil within the field unextractable. Of course, at the moment withable very norducer is at full itit. The 80% of the off winnin the field unextractable. Of course, and the moment, virtually every producer is at full ith, the most important among them is Saudi Arabia; their Gharwar field is the world's biggest. One of the first hints that Simmons got over possible Saudi Arabian overproduction was from researching an obscure US Senate committee meeting in 1974.

Field Damage "A whistleblower in Saudi Aramco, Saudi Arabia's oil company, was first reported in The Washington Post. He had claimed that Aramco had been overproducing the giant Gharwar field and that if they did not slow down, they would damage the reservoirs. "The committee, which swore witnesses in under oath, produced over 1400 pages of documentation on the sub-ict. it included some specialist advice which advised cut-

ject, it included some specialist advice which advised cut-ting Saudi production to 4mbpd to maintain production levels

Currently, at near maximum production, Saudi Arabia is Currently, at near maximum production, Saudi Arabia is producing about 9mbpd, though recently they claimed they could potentially produce 12mbpd or even as much as 20mbpd. A claim Simmons called "pie in the sky". "The faster you pull a reservoir, the faster you pull out all of the easy-to-produce oil," explains Simmons. "What herearce is the true here merging any much of what the all the reservoirs of the true here merging any start of what the piele set of the start of the

happens is that you lose massive amounts of what the oil industry calls oil-left-behind still inside the field. These issues, as you can see, have been known about for years."

Overproduction "If you look at what Iran is doing, they are actually going "It you look at what Iran is doing, they are actually going to inject natural gas to the tune of 2bcf (billion cubic feet), through a 72in pipe into their Aghajari oilfield. It is a \$2bn project. This is in order just to boost production from 200,000bpd to 300,000bpd. In the 1970s Aghajari was producing 1mbpd. It has been overproduced." Simmons also says the same thing happened with the oil company El Paso last year. "At the same time as the Shell write-off, El Paso realized they had been producing their fields too hard. As a result

they had been producing their fields too hard. As a result they had to write off 41% of their reserves." In 2004 Shell first announced it had lost about 20% of its oil reserves. Another clue came as Simmons discovered a ferocious debate that had been going on inside Saudi Aramco about

verproduction. "The company claimed in the early 1970s that it would be able to produce 20 to 25 mbpd, then by 1978 it was L2mbpd. Now it looks like 9.8mbpd is the maximum," he

Experts Look at Major Energy Challenges

E nergy company executives, environmentalists and academics gathered at Rice University in Houston this week to discuss the challenges Houston this week to discuss the challenges ahead for meeting energy demand while at the same time reducing pollution. None of the scenarios described are ideal. The consensus reached in the report US Energy Scenarios for the 21st Century is that humankind will have to make a concerted effort to avoid both

will have to make a concerted effort to avoid both energy shortages and the climate change many sci-entists believe is caused by burning fossil fuels. The report, prepared for the Washington-based Pew Center on Global Climate Change, explores three possible scenarios for the next 30 years. One scenario assumes an abundance of oil and gas, meaning cheaper energy, but worse pollution. The

One scenario assumes an abundance of oil and gas, meaning cheaper energy, but worse pollution. The second scenario involves breakthroughs in technolo-gy that provide more alternative energy, thereby providing for continued economic growth and reduced emissions. The third scenario, however, is grim. In this scenario, energy supply disruptions and security threats lead to a turbulent, chaotic world. Peter Center on Global Climate Change President

Eileen Claussen says participants in the workshop Effect Claussen says participants in the workshop that produced the scenarios agreed that, even under the best scenario, that of rapid technological advances, there would be no silver bullet. That is, there is no single solution that would both provide sufficient energy and reduce greenhouse gas emis-sions to acceptable levels, voanews.com reported. "You need everything," said Ms. Claussen. "You

third-biggest energy mar

Sales may rise to 10 mil-

lion tons a year, worth about \$2.2 billion, over

about \$2.2 billion, over the next three years, according to Petronet LNG Ltd., India's sole LNG importer, and Shell, which plans to start up a rival terminal by April.

India is raising gas imports to fuel an econo-

yperdynamics has initiated in-depth planning with a goal to accelerate explo-ration activity in its con-cession offshore West A trica

Hyperdynamics invests

Hyperdynamics invests in companies with sub-stantial potential for growth, and develops and provides state-of-the-art seismic data management

services. Its international-

ly active oil and gas sub-

sidiary, SCS, owns rights to explore and exploit acreage offshore West

Africa.

taken

ket.

One of the cleanest and most efficient sources of energy is also one of the most controversial, nuclear power

need natural gas. You need to see hybrid, electric and diesel vehicles in the short and medium term. You need to see hydrogen and fuel cell cars in the Too need to be involved and the contrast in the contrast in the long term. You need nuclear power. We are not going to be able to do away with it and still get down to those levels. Because we are still going to be burning coal in 2035, we are going to have to deal with the carbon emissions and so you are going to need carbon capture and geological sequestration."

Fuel cell vehicle Even though the United States is not part of the Kyoto agreement to reduce global warming, Ms. Claussen noted 141 other nations are. She also notes that more than 20 states have already adopted their that more than 20 states have already adopted their own climate change policies with programs to encourage use of alternative fuels. She says devel-opment of a federal policy to reduce greenhouse gas emissions is only a matter of time and that energy companies should be part of that future.

"We have to start preparing," she added. "We have to start preparing," she added. "Companies have to start thinking about how to do this. They have to start figuring out how to engage in this debate so that we end up with the smartest policies, chosen early, with the least impacts later. We may never have any scenario going out to 2035 like the ones we have here, but I think these things are pretty clear. We are going to end up in some kind of situation where there will be a mandatory climate policy. It is in your interest and in avery

kind of situation where there will be a mandatory climate policy. It is in your interest and in every-body's interest to start working on it now." Andrew Slaughter, an economist with the Shell Oil Company, says Shell has already begun working on renewable energy research with an eye toward its own potential stake in what could become a lucra-tiva more than the start of the start of the start of the start is a more than the start of the start of the start of the start of the start is a more start of the st tive market.

"Our own business, our own company has been "Our own business, our own company has been around for 100 years and we want to be around for another 100 years or more, so we want to be a part of whatever energy mix or energy markets exist at that time. So we have an interest in terms of our own sustainability." he said. One of the cleanest and most efficient sources of

energy is also one of the most controversial, nuclear power. Helen Howes, Vice President for energy is also one of the most controversial, nuclear power. Helen Howes, Vice President for Environment, Health and Safety at Exelon, a US electrical power company, says new technology could allow the design of nuclear plants that have safety and security as top priorities. But, she says, it may take some time before these plants are a real-iv

India Gas Imports Could Double

iquefied natural gas next decade, according to Producers including Royal Dutch/Shell Petronet, increasing com-petition with China, petition with China, which plans seven import Group and Exxon Mobil Corp. may double sales to India by 2007 as economterminals to meet its own ic growth boosts demand for the fuel in Asia's

terminals to meet its own energy shortage. "We have orders for the entire 5 million tons of production and there's appetite to absorb five times more," Petronet's Managing Director Suresh Mathur said in an interview on Feb. 9. "LNG will have a domi-nant share of India's gas supplies." Petronet began selling the fuel in April. Qatar's RasGas Co..

Qatar's RasGas Co., partly owned by Exxon Mobil, plans to increase annual sales to Petronet LNG to 7.5 million tons year from 5 million tons a year, Mathur said. Shell plans to start importing 5

W. Africa Awaiting Accelerated

pinpoint drilling locations for targets already gener-ally located throughout ghout the concession and locate the concession and locate new drilling prospects as well, eyeforenergy.com reported. With the possibility for expanded data acquisi-tion the compression practice

Exploration

Africa. SCS has recently under taken new technical developments, and the tion, the company expects to enhance its marketing company believes it is company believes it is now more equipped and confident in its ability to implement simultaneous tracks and put strategies in play to both develop bicker sick doaper, tar to enhance its marketing strategy to find working interest or drilling part-ners. While it has been speaking with potential drilling partners on an increasing basis and law higher-risk, deeper tar-gets, as well as shallower, lower-risk drilling increasing basis and levels of interest have been ers of interest nave been growing, consideration is apparently being given to significantly define a proactive program to solicit partners for the larger, higher-risk, highdrilling prospects. It is of the opinion that lower-cost, lower-risk prospects may be ready to drill much faster than the er-return prospective

larger, more complex tar-gets. It is also considering that valuable geological knowledge could also be learned from such multi-track strateay increasing SCS's Chief Executive Officer, Kent Watts, who is responsible for initiat-ing and facilitating these track strategy, increasing the real potential for a commercial discovery of developments, comments: "I have had many quesoil and/or natural gas tions over the last few months regarding how we months regarding how we are proceeding with our exploration operations offshore West Africa. Although we have not been actively pursuing oil Under consideration for work program, is the start of a long-term seismic coverage program to acquire additional 2D and 3D seismic necessary to

company partners, we have indeed been speak-

million tons a year through its terminal by April, it said last month. India wants natural gas to account for a fifth of its energy usage by 2025, from 9 percent now, to reduce pollution, Bloomberg.com reported. India's gas production of 74 million cubic meters a day--equal to about 3 million tons of LNG million tons of LNG a year-lags potential demand of 120 million cubic meters a year, the government has said. Consumption may rise if more factories switch to gas because of near-record oil and coal prices, molecular description of the second product of the second second second product of the second s

analysts said Price "India's gas demand is far higher than what the

ing to potential partners as

ing to potential partners as they have been coming to us. We will continue to do so. Over the last two years it has been made clear to us that each viable oil us that each viable oil company we speak with has their own propensity for risk. When we find the right partner with the appropriate capabilities that is willing to stand at least side by side with the risk-reward, we will not erate electricity erate electricity. The "green power" project may also pipe heated water from the power generation process to the adjacent Turkey Hill Dairy for use as heat. PPL and Turkey Hill officials are work-tion and the second second second second second second to the second se

risk-reward, we will not waste time striking a deal. In the meantime, our The Lancaster Solid Waste Wanagement Authority board this moming authorized the partnership, which would safely cap-ture methane gas and other pollutants escaping from the old Creswell Landfill and the current Frey Farm Landfill, the authority says PPL and waste authority officials say the anyirometral benefits of our In the meantime, our planning is being formu-lated to significantly move our exploration for-ward, irrespective of when we sign on a part-res" ner He continues that withthe project are considerable, lancasteron-line.com reported. Methane gas, a major "greenhouse" gas that is currently within allowable limits at the site, no longer will be vented into the atmosphere, they say. Greenhouse gas con-tributes to global warming. In additive the grownut of achen dioxide

He continues that With-out doubt SCS is involved in a risk venture that has the potential for enormous returns, but at the same time the company is doing venerables it can to the everything it can to rea sonably mitigate risk. "This risk-mitigate

"This risk-mitigating strategy is evidenced first by our move last year to initiate HYD Resources to obtain our own domestic proven reserves and production-based revproduction-based rev-enues. Now we are initiat-ing plans to accelerate our exploration offshore West

exploration offshore West Africa. "I believe the downward trend in our stock price of recent weeks is not reflective of our company's performance and potential. As always, I would ask our shareholders to please keep abreast of our filings and news as we update and solidify our plans and

PPL Energy services would entent from a new federal tax credit on generation of renewable energies, worth about \$1.2 mil-lion over five years. Plus, the utility hopes to sell about a mil-lion dollars worth of power each year from the facility. The plant has to be in operation by the end of the year to onality for the tax credit work programs going for-ward," Watts concludes. end of the year to qualify for the tax credit. "We definitely look at this as an environ-

government anticipates," R.K. Pachauri, director at New Delhi-based Tata ket's development depend on the price of the fuel. Indian Farmers Fertilizer Co., the nation's Energy Research Institute, said. "Gas will largest state-owned pro-ducer, has said it won't pay more than \$3.5 per million British thermal be the fuel of the decade for the country." Steel Authority of India Ltd., the nation's biggest

units for the fuel, a third less than the \$5.5 paid by steel producer, last week said it will use 3.56 milusers in Japan at present. Petronet LNG charges lion cubic meters a day of gas--equal to about 940,000 tons of LNG a \$4.40 for its gas. "Indian buyers continue 940,000 tons of LNG a year -- starting next year as part of a plan to lower coal purchases by one million tons a year. National Thermal Power to want prices that are lower than world rates," said Andy Flower, an LNG consultant based in Surrey, England. "There's Corp., which generates a fifth of India's electricity, a lot of demand from the US, China and Europe, which means LNG prices will remain tight. hith of India's electricity, will use 3 million tons of natural gas to fire 2,600 megawatts of new capaci-ty it plans to add by 2007. The pace of the gas mar-Matching rates charged by Petronet may be diffi-

ing out details on such a venture. The Lancaster Solid Waste Management

officials say the environmental benefits of

the project are considerable, lancasteron-

In addition, the amount of carbon dioxide

In addition, the amount of carbon dioxide captured in the methane will be the equiv-alent of removing the emissions from 45,000 cars a year, according to PPL. And the power produced annually by the natural gas will be equal to 800 railroad cars of coal or 400,000 barrels of oil. The outbenity aurently describ hour to

The authority currently doesn't have to capture methane gas at its two landfills but anticipates it will have to at Frey Farm in the future, under federal anti-pollution

The authority anticipates making about \$50,000-\$75,000 a year from the sale of

the gas. PPL Energy Services would benefit from

Market Entry

Competition from Iran Competition from fram and local gas producers that pipe the fuel to users without the cost of lique-fying it may persuade suppliers to keep prices low to gain entry to the market market.

Reliance Industries Ltd., which made the world's biggest gas discovery of 2002, has agreed to sell 3 million tons of the fuel to National Thermal at \$2.97 per million British thermal units starting in 2007 2007.

Indian Oil Corp. and GAIL (India) Ltd., two of the nation's biggest stateowned energy companies, plan to import 7.5 million tons of LNG from Iran for 25 years starting 2009.

Trash-Fueled Power Plant Planned The county waste authority is partner-ing with PPL to build a \$5 million mini power plant in Manor rownship, tapping methane gas bubbling up from decomposing buried waste to genmental enhancement, both short term and long term," says James Warner, authority executive director. "And we think every-one else will see it that way, too." The portable, low-lying plant would be

built by PPL on a two-acre site near the two landfills that will be leased from the

The location is part of the heavily wood-ed 21-acre Dean Herr property that the authority purchased last year at the request of Herr.

The plant would be screened from River The piant would be screened from River Road. The tallest structure would be a 20-to 25-foot flare stack where methane would be burned if the power plant is not in operation. Methane is a flammable gas. Most of the power plant equipment would be in sound enclosures and would emit "were hour" noise according to Steven

emit "very low" noise, according to Steven Gabrielle, PPL Energy Services business development manager, who gave a presen-tation on the project to the authority board

"If you heard anything, it would be a very low hum," he says. "You can talk right next to these enclosures.'

The plant would have one full-time PPL The plant would have one full-time PPL employee during daytime hours. The cost to run the plant was estimated by PPL at \$400,000-\$500,000 a year. Here's how the power plant would work. Methane gas would be sucked into a net-work of pipes under the two landfills and flow into a compensate

flow into a compressor.

The compressor removes water and prepares the methane for burning in two Caterpillar combustion engines that pro-

Caterphiar combustion engines that pro-duce the energy. An electrical switchgear station bumps the electricity to a higher voltage, then the power is plugged into utility lines already

power is pingged into durity lines aready on the property. The power is used in the Pennsylvania-New Jersey-Maryland utility grid. The 60-acre Creswell Landfill, built on an old farm, operated from 1968 through 1989 and has waste buried up to 100 feet deep. deep

The 96-acre Frey Farm Landfill has been in operation since the Creswell Landfill was closed.