



By Cora Daniels

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Fueling Innovation: The Power of Creative Energy



A natural gas pipeline runs through a forested area. A Texas preacher is urging his congregation to tap into one of the nation's largest reserves of natural gas. (©istockphoto.com/Don Wilkie)

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FastCompany asked six forward-thinkers to share their innovative ideas for increasing the nation's energy supply. Here's what they had to say:

PREACHING ENERGY INDEPENDENCE Bishop Kenneth Spears Pastor, First Saint John Baptist Church Fort Worth, Texas

Bishop Kenneth Spears, 45, exhorted his 4,400-member church to seize the benefits of sitting on top of the Barnett Shale, one of the nation's biggest deposits of natural gas.

"When the energy companies started knocking on doors, talking about buying mineral rights, many residents were afraid that they would lose their homes if they signed any papers. It's not every day

that the oil and gas industry starts waving checks at blacks in Texas.

"This was not just about gas but about the future of the community. We held lots of meetings at the church and in the neighborhood to educate people. I preached about it on Sundays. God had put something valuable underneath the inner city. I think of it as manna from heaven. It took a while before I got 'amens' from the entire congregation.

"There are now about 30 people locally who work for Dale or Chesapeake [the two companies drilling]. Internships and scholarships have been created. One intern told me last night that she's changing her college major because she's thinking of a career in the energy business. There is something new going on in southeast Fort Worth--opportunity."

REINVENTING COAL

Andrew Pearlman
Founder and CEO, Greatpoint Energy
Chicago, Illinois

Andrew Pearlman, 32, wants to turn America's coal into what he calls Bluegas--99.5% methane. His company, backed by venture firm Kleiner Perkins, has a demonstration plant in Des Plaines, Illinois, and hopes to offer a commercial product by 2011.

"I was in high tech during the Internet boom, but I've never seen excitement, buzz, and money like what's going on in the energy business today. There's a huge opportunity in coal. For a lot of people, coal is a dirty word, but the United States is the Saudi Arabia of coal--and it's not going away, no matter how many windmills or solar systems you plaster the country with.

"Our company has a new catalyst that cleanly turns coal into high-quality natural gas that can burn in your kitchen. This is not just an environmental breakthrough but an economic one. We don't need state subsidies to make a profit."

FOOD FOR THOUGHT (AND ENERGY)

Patricia Woertz

CEO, Archer Daniels Midland Co. (NYSE:ADM)

Decatur, Illinois

Patricia Woertz, 54, a veteran of Chevron and Gulf Oil, plans to increase ADM's focus on ethanol and other biodiesel fuels.

"We want to be the global leader in bioenergy. In the United States, ethanol is the here-and-now biofuel, and we produce some 1.1 billion gallons a year. Our next-largest competitor is less than the size of one of our plants. By the end of 2008, we'll add another 550 million gallons of capacity.

"Some cynics question whether the growth of bioenergy will threaten the food supply. I'd say a clear 'no.' Advances in seed technology and farming techniques are increasing yields in the United States year after year, and they can be adapted and applied globally. The market for bioenergy can actually spur an agricultural renaissance that will create more food and fuel for years.

"That said, there is always a need to plug conservation--the gallon we don't use is the cleanest, cheapest, most independent gallon of all."

FINDING MORE OIL

Bill Thornton

COO, MegaWest Energy

Calgary, Alberta

Bill Thornton, 52, leads the field operations for MegaWest (OTC:MGWSF), an early-stage startup hunting for heavy oil in the United States, particularly in Kansas, Kentucky, and Missouri.

"There are large quantities of heavy oil in the United States that have been virtually ignored by major oil companies, because it's been too expensive to extract and refine. But as long as oil prices are above \$28 a barrel, you can make good money. While the majors are off hunting elephants--deep-water exploration in the Gulf of Mexico, Africa, or Asia--they left behind a tremendous opportunity. Heavy oil is just a slice of the solution to our dependence on foreign oil, but a very big slice.

"We are acquiring properties now. With each project, we create a geological model of what it looks like underground. We then send samples of the rock to Canada, where the heavy-oil industry is more established, for analysis. We would be happy to get 50,000 barrels a day. We see ourselves as pioneers."

MAKING MORE OIL

Don Paul

**Vice President and Chief Technology Officer, Chevron
San Ramon, California**

"Don Paul, 61, a former research geophysicist who manages Chevron's (NYSE:CVX) R&D partnerships, has teamed up with Los Alamos scientists to use chemistry to convert oil shale into synthetic crude oil.

"In the future, you are going to need every molecule of oil that you can get from every source, oil shales to biofuels. Energy independence is not the issue. What you want is energy security.

"When it comes to oil shale, in the old days you used brute-force digging. That takes way too much energy. We had to figure out how to construct an oil facility that operates entirely underground. The goal is to convert the oil shale into crude oil, then pump that to the surface.

"It's going to take time. These efforts won't be commercially viable until after 2020 because of the technology required, and the science and research involved. This is not a business for startups."

THE GAS MAN

Fred Barrett

**CEO and Chairman, Bill Barrett Corp. (NYSE:BBG)
Denver, Colorado**

Geologist Fred Barrett, 46, focuses exclusively on releasing hard-to-extract natural gas from the Rocky Mountains.

"The average person consumes 1,000 cubic feet of gas a day. The Rocky Mountain region is one of the largest undeveloped gas resources, with an estimated 300-trillion-plus cubic feet of natural gas in place. Instead of simply recovering trapped gas that is collected in reserves, we are drilling directly into source rocks and producing oil and gas directly from the rocks, which was never done. The drilling technology is very self-contained. Once the well is producing--which can last for 20 to 40 years--the structure covering it is the size of a two-car garage and about 4 feet high. To get the same amount of energy from a solar structure, you'd need 200 to 300 times the footprint."



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