

## The Energy Industry in a Time of Uncertainty

Anadarko Petroleum Corp. Chief Executive Jim Hackett, who has been chairman of the Dallas Fed's board of directors since 2007, discusses some of the key issues facing the energy industry.

**J**im Hackett isn't one of those business leaders who shrink from public debate. In the past year or so, he's been interviewed on cable television's top business shows, made dozens of speeches and posted opinion videos on the Big Think Internet forum.

Since 2003, Hackett has been chief executive of Houston-based Anadarko, one of the nation's largest independent oil and natural gas exploration and production companies. He graduated from the University of Illinois in 1975 and earned a Harvard MBA in 1979. Hackett's long career in the energy industry has included experience in engineering, finance and marketing. Before taking the helm at Anadarko, he was president of Devon Energy, another Houston-based oil and gas company.

**Q. What do you see as the principal causes for the oil price spike to more than \$140 a barrel in 2008 and the fall to below \$35 a barrel earlier this year?**

**A.** Markets tend to be overbought or oversold, and you generally find the truth lies somewhere between the extreme highs and extreme lows.

When oil prices were high, we had a very active hurricane season, which affected supplies of oil and natural gas from the Gulf of Mexico. The dollar's value fell considerably, pushing oil prices up faster in dollars than in other currencies. Political instability in oil-producing regions—such as Africa, Venezuela, Russia and the Middle East—also played a role, as did investment funds flowing into one of the few sectors large money managers expected to grow. Most important, millions of people were being lifted up economically in places like India and China, which created unprecedented global demand.

We've seen commodity prices deteriorate dramatically in recent months, largely due to the economic downturn in the U.S. and around the world. This has led to a large drop



in demand and a temporary oversupply.

**Q. Will we see another spike in oil and gas prices once the global economy recovers?**

**A.** One "stimulus" factor working to help relieve the recession has been the precipitous fall in energy prices. However, the economy will recover, and we expect prices to recover sharply with increased demand over the next few years. Hopefully, we can avoid the disruptive impacts of very high energy prices on economic growth.

Our response will be important. Government energy policy has a big impact on prices. Taxing conventional fuels both directly and through huge implied levies from cap-and-trade systems will increase energy prices and won't improve energy security or provide a continuing stimulus.

Rather than discouraging production of domestic oil and clean-burning natural gas, our nation should encourage the exploration and development of our resources along with conservation. Studies show that doing

so could generate \$1.7 trillion for the U.S. government, create 160,000 jobs by 2030 and reduce our reliance on energy from countries that don't like America very much. It's going to take all sources of energy, especially natural gas, to meet America's demands in the future.

Wind and solar power will do little to replace our dependence on foreign oil. They simply displace other domestic fuels in power generation. Investment in these technologies isn't likely to produce net job gains or address the needs of our economy over the next 15 to 20 years. They also need conventional fuel backup when the sun doesn't shine or wind doesn't blow.

**Q. Where do you expect prices to be in, say, five years?**

**A.** That's tough to predict. I don't think many would've predicted \$140 per barrel in 2008 or \$30 per barrel earlier this year.

However, I do think America's energy policy will play a major role in how much we pay for energy in the future. It will be difficult to avoid high prices for oil unless the U.S. pursues different policies on resource access and production.

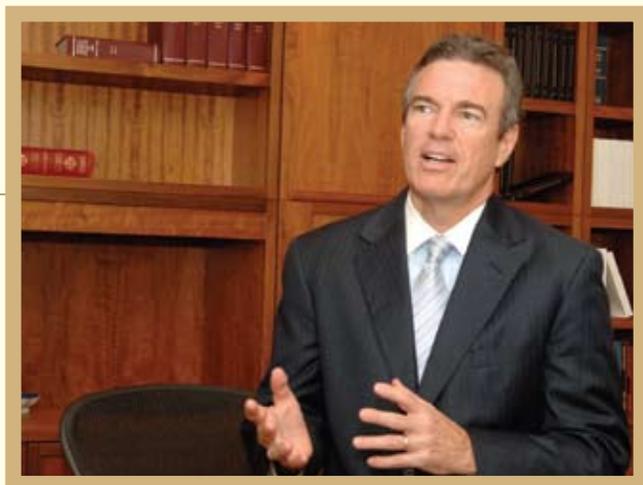
The dollar's relative strength and worldwide inflation will be factors, but the interplay between global demand and supply will be the primary determinant of the path of prices in coming years. Some good signs for new supplies are occurring in Brazil and West Africa, both areas where Anadarko is actively exploring.

**Q. What are the prospects for increasing domestic production?**

**A.** The U.S. has the technology to do it, as we've shown with our Independence Hub project, a joint venture by Anadarko and five other companies. This offshore platform is in more than 8,000 feet of water, making it the world's deepest producing facility. It's producing enough natural gas every day to meet the needs of more than 5 million average American homes.

We've also proved we can drill and produce in an environmentally friendly way. We

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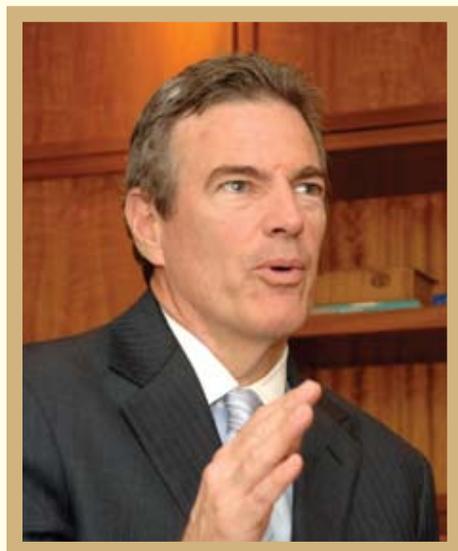
just went through two major hurricanes in 2008 with no incidents from our offshore facilities.

Energy resources are available here at home. According to calculations from the Minerals Management Service, Bureau of Land Management and American Petroleum Institute, federal lands currently off-limits to exploration and production have more than 116 billion barrels of oil that is recoverable. That's enough to power more than 65 million cars for 60 years. The estimates also include nearly 651 trillion cubic feet of natural gas—enough to heat 60 million homes for 160 years.

These data are fairly old. If we did new studies with today's technology, we'd likely find significantly more resources. There's no compelling reason not to open new resources for exploration and development. Even Norway, one of the most environmentally conscious nations in the world, fully develops its natural resources in a responsible manner. We can do this in America as well.

**Q. What do you see as alternative energy's potential for weaning the nation off oil and natural gas?**

**A.** We need to continue pursuing alternative and renewable forms of energy. Wind and solar currently produce about 1.1 percent of America's total electricity consumption, according to the U.S. Energy Information Administration (EIA). Hydro provides less than 2.5 percent,



but it can't be grown in any material way. In total, renewables provide less than 8 percent.

This country will need 50 percent more energy by 2030, according to the EIA, and you can see that renewables alone, even if doubled in size, can't get us there. Meeting America's energy demands in the future will require all forms of energy—especially oil and natural gas.

On the margin, alternative fuels are worth our continuing investment in research and commercialization, but science and economics should lead our efforts. Otherwise, we'll end up in the same place we are with corn-based ethanol. We continue to subsidize a failing industry that's not a good answer, either environmentally or economically.

**Q. Does the oil and gas industry see alternatives as a threat or opportunity?**

**A.** We see them as an opportunity. But they must be economically and scientifically sustainable. That means time will be required. Existing fuels must be supported for growth in the meantime, or energy prices will rise faster than our economy can stand.

Along with pursuing alternatives, we need to have a tight focus on conservation and efficiency. Turn out the lights when you leave a room. Adjust the thermostat up in the summer and down in the winter by a few degrees. Shut off your computer at the end of the day. Carpool to work if you can.

I don't think we hear those messages enough, but I believe conservation must become second nature in this country. It's good for both energy balance and greenhouse gas emissions control.

**Q. How does the energy industry respond to growing concerns about global warming?**

**A.** I've spent my career around scientists who study rocks that are millions of years old. Understanding the formation of the earth, characteristics of deposits and the climatic conditions that existed in the past are

critically important in finding oil and natural gas. Looking back over millions of years, there is evidence of periods where global temperatures were significantly warmer than today, and where carbon emissions were significantly higher than today—long before man ever inhabited the earth.

Our industry cares about the environment, and we understand how important it is to take care of our natural world. In fact, America's oil and natural gas industry invested more than \$42 billion in new low- and zero-emissions technologies between 2000 and 2006. This amount represents nearly half the total spent by all U.S. companies and the U.S. federal government combined.

We also understand that you have to find a balance. We don't want to pursue carbon reductions so aggressively that we risk plunging millions of people into poverty around the globe because they can no longer afford energy, and we don't want to draw private and public funding away from life-saving health research for work on climate-change theories that are far from universally accepted or understood.

**Q. What about the energy industry in the state?**

**A.** Texas understands the importance of oil and natural gas for the state and for the country's energy future and security. For the foreseeable future, the state will continue to be a major energy producer, both in conventional and renewable resources.

Texas is also blessed with a diverse economy that's no longer heavily reliant on any one sector, which is particularly beneficial in today's economic and financial climate. However, the energy industry will continue to be a big part of what makes the state economy grow.