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Overcoming the Oil and Gas Talent Void By Focusing on the Core Business

Playing to its core strengths is generally a sound strategy for any company, in any industry. But it is especially important now for oil and gas companies, when technical and scientific talent in the oil patch is so hard to come by. The oil and gas work force has been declining steadily for almost 20 years. During that time, many companies that should have been competing vigorously for the dwindling resource of human capital instead found themselves staffing up in noncore functions.

Supply and Demand Leads to...Bust?

Other industries have had their slumps, but the bust that hit the oil and gas industry in 1986 was unusually severe and has left long-lasting marks. When commodity prices collapsed, technical, professional, and field workers were forced to leave the industry by the hundreds of thousands. Hundreds of companies disappeared, and in many cases they were acquired by larger competitors. The most striking way in which the oil and gas slump of 1986 was quite different from that which affected other industries is that when the recovery came, workers who had been forced to leave did not return. More alarmingly, they were not replaced with new talent either.

The reasons were numerous. Chief among them was the intensely cyclical nature of the industry and the depth of the downside. People were no longer willing to weather the cyclical nature of oil prices. Also responsible were the explosion of information technology, the advent of the Internet, and the subsequent boom in high-tech, high-paying jobs in this hot new industry. The best and brightest technical and professional workers now had more options than ever before.

Of course, one also needs to be honest about the image problem. Negative portrayals of the oil and gas industry in the media and political circles undoubtedly caused many qualified young workers to take their talents elsewhere. According to the U.S. Bureau of Labor Statistics, there were approximately 33,000 petroleum engineers in the United States in 1983. By 2002, that number had dropped 45% to 18,000. The numbers for geologists and geophysicists are similar—from 65,000 in 1983 to 48,000 in 2002, a drop of 26%. Conversely, the number of computer systems analysts exploded from 276,000 in 1983 to 1.7 million in 2002—a growth of 531%.

While young people were choosing different career paths, the oil and gas workers who entered the work force in the 1960s and 1970s—and survived the 1980s—continued to shepherd the industry through turbulent times. They are now either retired or nearing retirement age, leaving the industry with a serious lack of manpower.

Future Talent

The question is: Who will take their place? A recent, informal survey, conducted by Ernst & Young, of the nation's top 25 universities as defined by *U.S. News & World Report* indicates that petroleum engineering is not a popular field of study, despite the obvious opportunities.

This survey revealed that only two of the top 25 universities in the United States offer undergraduate degree programs in petroleum

engineering, while almost all of the schools (22) offer undergraduate degrees in network engineering or computer science. From the two schools that offer petroleum engineering or geophysics programs—Texas A&M U. and the U. of Texas at Austin—there were 75 graduates for the 2003–04 school year. The 22 schools with computer science or network engineering tracts graduated more than 2,250 students in the same time period.

In the 1980s, there were 34 schools offering petroleum engineering degrees. Today, there are only 19. With costs and demand at an all-time high, production in a lull, and technological innovations on the rise, there is clearly a great opportunity in the oil and gas industry. Those few pursuing careers in oil and gas may feel like they have outsmarted their fellow students. They certainly feel confident about their futures.

The President of the U. of Texas' chapter of SPE, Stephen Martin, said he once considered switching majors but decided that with so many jobs opening up, the unsteady field of oil and gas is worth the risk of digging into. "With risk comes great reward," said Martin, a junior at UT.

Talent Pool vs. Fuel Demand

In looking at the universities, such as the U. of Texas and Texas A&M, known for petroleum engineering, Ernst & Young found a slight increase in the number of students enrolled in these programs. However, while the number of enrollees in the nation's top petroleum engineering schools has risen only slightly since the mid-to late 1990s, today's enrollment numbers pale in comparison to 1984, a time when the price of a barrel of oil was reaching record highs similar to today.

In 1984, the price of a barrel of oil topped out at U.S. \$27.50, approximately \$48.45 in today's dollars. At that time, there were 548 students enrolled in petroleum engineering programs at the nation's top 10 petroleum engineering schools. In 2004, with the price of oil at 1984 highs, there are only 169 students enrolled in petroleum engineering programs. There is a golden opportunity staring students in the eye. "It's a good time to get into the industry, when it's especially ripe and doing well. I look at it like a well-kept secret," said Martin.

Long-Term Implications

The continuing talent void in the oil and gas business is cause for alarm for those both in and out of the industry. For energy companies, the need is immediate and critical. For everyone else, the implications are just around the corner. By 2010, the U.S. Energy Information Admin. predicts that worldwide oil consumption will be 89 million BOPD, up almost 16% from 2002. By 2025, consumption is expected to reach 118 million BOPD.

The worldwide demand for energy is outpacing the industry's ability to find and develop it. Over the next few years, the economics of shrinking supply and increasing demand foretell chronic energy shortages and higher prices, resulting in worldwide economic stagnation. Without an immediate influx of new talent into the

industry, supply will shrink—not because the oil is not there, but because there will not be enough people to find it. If the industry is to find and develop the next generation of energy reserves, it must first find and develop the next generation of energy industry leaders—leaders who will take risks, build companies, pursue a vision, and, in the process, find and produce the energy to fuel the world.

Attracting the Right Stuff

Obviously, a dilemma 20 years in the making will not be solved overnight. The industry must take a long-term approach to solving this long-term problem. And it needs to begin now.

First, the industry must enhance its work with colleges and universities to educate young people about the highly technical nature of the industry. Though oil and gas still carries a blue-collar image, it is one of the most technologically advanced industries available to scientifically inclined workers.

Second, the industry must emphasize the contributions it makes to the world. The energy industry keeps good company on a short list of those that contribute to the well-being of mankind in a basic and profound way. Energy workers can proudly stand alongside their colleagues in medicine and agriculture when discussing the importance of their roles. And when the industry is publicly chided for environmental transgressions—real or otherwise—it must fight back, correct any misperceptions, and cast the debate in the context of a balance between cost and benefits.

Courting a new generation of workers through college and into the oil patch will take time; if a concerted effort to attract workers were to begin today, the first results would not be seen for several years. Few companies can afford to wait that long to solve their manpower issues, so short-term tactics must accompany longer-term, strategic approaches. Many companies have addressed their worker shortages by broadening their recruiting efforts to include talent found overseas. Given the international nature of the energy business, this tactic can pay dividends beyond filling immediate personnel shortages.

Another practical short-term solution for many companies is to use wisely the dollars they have available for compensation—namely, to hire and retain talented technical workers and outsource non-core functions as much as possible. Too many energy companies have short-changed manpower in their core operations for large tax, audit, or legal functions—to the point that an analysis of compensation expenses might lead to the wrong conclusion about what business they are in. And with Sarbanes-Oxley Section 404 compliance deadlines looming large, oil and gas companies are more tempted than ever to staff up in noncore areas at the expense of hiring people who can find and produce more oil and gas—and make money.

The energy industry's talent void is a multifaceted problem requiring a multifaceted solution. Regardless of the strategies employed to solve it, the best solution is likely an economic one that is beyond anyone's control—stable, sustainable pricing that translates into long-term economic opportunities for talented scientific and technical workers who choose to build their careers in the oil patch. **JPT**



Charles Swanson is Americas Oil and Gas Sector Leader for Ernst & Young. He has more than 24 years of experience providing audit and consulting services to exploration and production companies. He has experience on large acquisition audits and in designing and implementing audit plans and procedures for oil and gas companies, and he has led numerous oil and gas royalty

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