

An Industry Upturn with a Downside: Talent Needs Still Loom Large

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The oil and gas industry faces many challenging issues, now and in the future. Most industry participants are acutely aware of what they are. The knowledge gap created by “The Great Crew Change” that exists in most companies has been well documented and discussed. The problem is not one of filling the gaps. There are sufficient numbers of people entering the workforce to do that. The problem is one of “experience attrition,” and it is a challenge that must be addressed (Fig. 1).

The characteristics and expectations of “generation Y” or the “new millennials” have been examined and debated. The real issues at hand are the growing multigenerational aspects of the workforce with its mix of four distinct generations with disparate life experiences, varying ways of communicating, and distinctly different goals for their professional careers. The first of the baby boomers reached age 60 in 2008. In perspective, the average age for retirement in the oil and gas industry is 59. Along with the recent global economic slowdown has been a rise in the average retirement age. These three impacts—boomers, industry retirees, and eco-

nomics changes—are all interrelated and impacted by the cyclical nature of the oil and gas industry.

This cyclicity is our industry’s hurdle in trying to resolve issues surrounding the employment of top talent going forward. Cyclicity is also the area over which the industry has least control. It is inevitable that the industry will be cyclical because it is based, quite simply, on supply and demand.

Why is cyclicity so important? The answer becomes clear from the perspective of career time spans and talent management. Most employees in the oil and gas industry are responsible for developing a career spanning an average of 35 to 40 years. During the last 40-year time span, there have been seven business cycles. Driven by Wall Street and shareholder interests, the industry has always reacted to these cycles by reducing fixed costs as they would in any downturn in the economy. However, the main element of fixed costs is employee expense. So if the oil and gas industry is driven by quarterly earnings, as are many other industries, then it will respond by driving down fixed costs and therefore, employee costs.

This industry will need the brightest and the best to deliver what the world needs, which is energy to drive economic growth. Energy means oil and gas accompanied by great technological advances that require great technical talent. Is the industry ready to attract, train, and—the biggest challenge—retrain professionals to step up to the plate? There are no easy answers.

A look forward to 2025 forecasts an increasing worldwide demand for oil, from 85 million to 115 million BOPD. Fossil fuels—oil, natural gas, and coal—make up 86% of the world’s energy supply. Production will have to increase by 30 million BOPD in the next 15 years or equivalent substitutes for oil will be necessary. Currently, 98% of transportation fuels come from crude oil, yet production from existing fields is declining anywhere from 10 to 60% depending on the field.

Meanwhile, renewables are touted as the “saviors of the planet.” Today, they are slightly more than 6% of our total energy supply, with nuclear power making up the remaining 8%. A breakdown of renewable energy is shown in Fig. 2 with total energy demand growth at 2%. Clearly, we will need all the fossil-fuel renewables and nuclear energy available to keep up with demand.

Another contemporary issue is that new supplies of oil and gas are coming from deeper and more difficult formations. The technological challenges in locating, drilling for, and producing hydrocarbons have taken a quantum leap forward in complexity. The 93% of conventional resources that currently exist are owned or controlled by national governments or national



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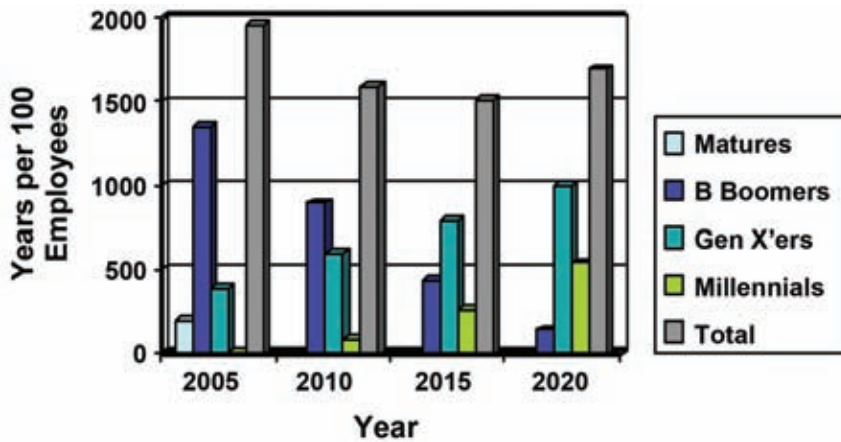


Fig. 1—The industry’s age demographic going forward.

oil companies. The question arises: What are nonconventional hydrocarbons anyway? Put simply, they are either very heavy oils or hydrocarbons held tightly in reservoirs of very low permeability.

Locating and reaching these hydrocarbons requires new technologies in the form of highly sensitive equipment, higher-speed processing of seismic data, better software algorithms, electromagnetic field interactions to supplement seismic and visualization techniques—all requiring significant and continuous training investments. The new frontiers of E&P will require not only training in those regimes but also new materials and modes of operations to succeed.

The petroleum industry started globalizing in the 1920s. This movement has accelerated in the past two decades and has significantly impacted the types of skills required to

succeed. These tend to be the soft skills needed in relating to a multicultural workforce.

The immediate challenge today is transmitting the soft and hard skills necessary to quickly bridge the gaps between new and existing personnel. Productivity is an ongoing training concern, both in time to train and time to be trained. Today, training is moving closer to sites of operations—a trend that will only increase as the number of new entrants to the industry increases. Those personnel who might be released for extended periods of time from the worksite to train will be in short supply. To decrease time away and increase productivity at the worksite, travel time must be eliminated or reduced.

New technologies in training are invaluable. Ironically, it is the new generation that invented many of the new multimedia technologies.

Fortunately, they are also very comfortable using them. Although online training has existed for some time, in most cases, it has not been very interactive or intuitive. It is therefore necessary to rethink and reposition online training in formats that are familiar to a newer generation of petroleum professionals.

Company trainers are in short supply, so as a consequence, training of employees will be done in smaller increments and more frequently, allowing more time on duty. But if we rely on distributed training, blended learning, and smaller increments of training, how do we track the extent and effectiveness of our training? Learning-management systems become important in tracking training effectiveness and e-learning comprehension through testing both written and on-the-job skills application.

Companies, government agencies, and society at large demand that training provide competence. It is going to be the joint responsibility of training providers and companies to certify competence. At the end of the day, companies want a measurable return on investment (ROI). They want to achieve a reduction in accidents, an improvement in oil and gas measurement yield, and fewer lost days of production. The measured ROI will require considerable effort to develop a system that can isolate the effects of training on an organization.

Moving forward, the industry will be challenged by its cyclical nature of financial results. There will be an intense need to hire the brightest and most technically competent employees to meet the future challenges. The industry cannot afford to be seen as an unstable workplace. The only way to counteract that perception is to train people with marketable skills. That means skills that are transportable between companies and among different industries. What this boils down to becomes clear: there are three critical phases of any career that tie to success: 1) managing yourself, 2) managing projects and people, and 3) managing ideas. Doing all three well ensures that all future industry challenges can be met with vigor. **JPT**

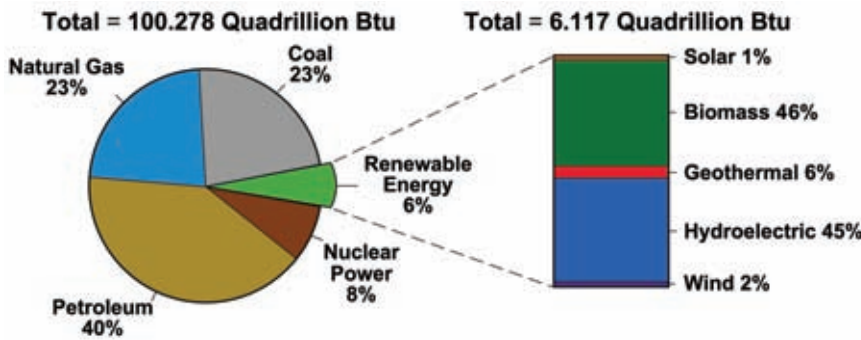


Fig. 2—Current renewable energy use.



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