



## **SPE INDUSTRY ALERT**

### **2010 Provides Window of Opportunity for Addressing the E&P Industry's Talent Shortage**

#### ***Number of New Graduates in Petroleum Engineering Increases***

#### **SUMMARY**

E&P companies of all sizes have a real opportunity to take steps in 2010 to address the shortage of engineering talent expected in the next decade, especially in the US and Europe.

Key factors that are creating this opportunity:

- An increase in the number of graduates in petroleum engineering programs is creating the largest pool in 20 years of young engineers seeking entry into the oil and gas industry
- The global recession has caused experienced professionals to postpone retirement, offering a window of opportunity to transfer their knowledge to these new entrants
- These students can contribute very quickly, and companies that act now can begin developing new entrants into autonomous professionals with the complex decision-making and ability required to exploit advanced technology
- Scaling back on new graduate recruiting in 2010 could lead to a permanent loss of this talent from the industry, and chill the interest of future engineering students in pursuing careers in the oil and gas industry

Companies that can tap into this new talent pipeline will be better positioned than less forward-thinking competitors to take advantage of the next economic growth period.

To promote hiring of these new graduates, SPE and WorldWideWorker are providing companies with free access to the profiles of students who are preparing to graduate in 2010 and those who have graduated in the past 2 years at [www.worldwideworker.com](http://www.worldwideworker.com).

### **The Supply Picture: Number of Graduates Is Increasing**

Over the past 5 years, petroleum engineering programs have been successful in increasing the number of graduates in response to widely-discussed concerns about the aging of the workforce and the massive retirements of experienced professionals who will need to be replaced in the next decade. Although the so-called “big crew change” has a greater impact on personnel needs in the US and Europe, companies in emerging oil and gas areas also have significant needs for engineering staff, further challenging the talent supply. The shortage of human assets has been listed among the top priorities for the industry for several years.

To meet the projected needs for petroleum engineers, universities around the world with petroleum engineering programs have increased enrollment. US universities, for example, have expanded their programs and are now producing more graduates as shown in Table 1.

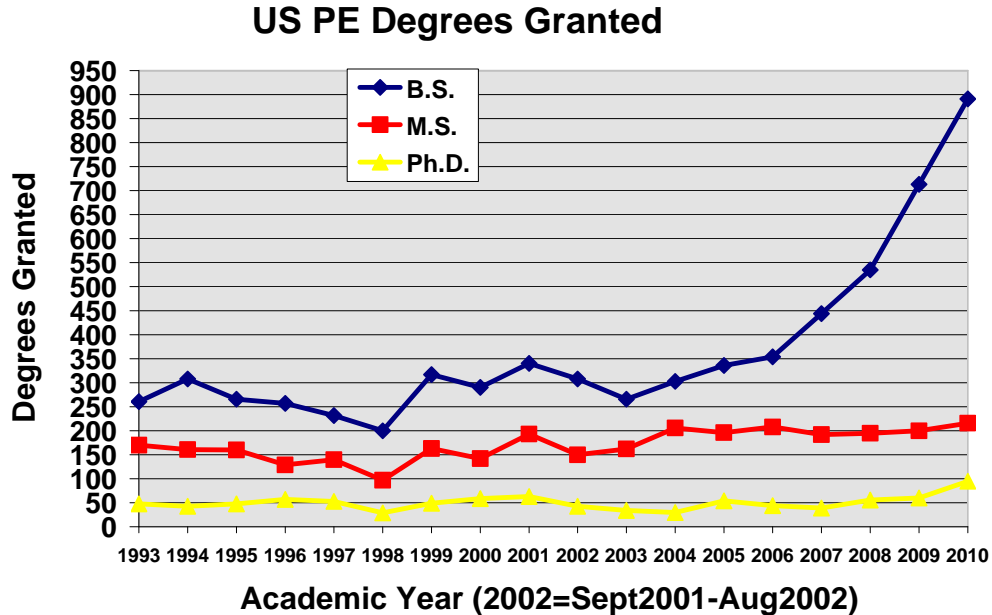
**Table 1 – Graduates from all Petroleum Engineering Departments in the United States**

<b>School Year</b>	<b>BS Grads</b>	<b>MS Grads</b>	<b>PhD Grads</b>	<b>Total Grads</b>
2007-8	444	192	39	675
2008-9	535	195	56	786
2009-10	713	200	60	973
2010-11*	891	216	95	1202

\*Estimated for current school year.

At a recent SPE-sponsored meeting of the heads and chairs of the petroleum engineering departments for universities in the United States, enrollment data were shared that indicates total enrollment has leveled off, mainly due to many of the universities capping enrollment as a result of space restrictions and the number of professors who are teaching. As such, department heads expect the number of total graduates in 2011 and beyond to hover around 1,000 to 1,200 per year.

Figure 1: US PE Degrees Granted



Although SPE does not currently have data aggregating the number of petroleum engineers graduating internationally, department heads at major universities around the world also report that they have more students studying petroleum engineering.

### **The Hiring Picture: Recession Has Postponed Retirements, Impacting Recruitment**

The global economic recession has caused many experienced professionals to postpone their retirement, delaying the long-anticipated “brain drain.” With lower revenues, companies have reduced or put a hold on recruiting new graduates.

The result is that the number of jobs being offered to new graduates is being reduced just as the pool of resources has been enlarged. In 2009, more than 90% of petroleum engineering graduates of US schools were offered jobs or went to graduate school. According to feedback from the US department heads, the approximately 50 oil and gas companies that recruited on campus in 2008 and 2009 are estimating that they will hire only about 70% of available graduates in 2010, leading to an estimated around 300 graduates needing jobs. Company reports and information from WorldWideWorker.com, which provides the job board for SPE student members, also confirm that global hiring plans are expected to be substantially lower in 2010.

### **Opportunity for Companies: Seize the Moment**

The increase in the number of graduates at a time when companies are retaining more of their experienced staff represents an unexpected opportunity in 2010 to begin preparing

for their future workforce needs. Forward-thinking companies can seize the moment to recruit the engineering graduates from the larger pool graduating in 2010, and begin transferring knowledge from their experienced workers who have postponed retirement. They will be better positioned to take advantage of the next economic growth period.

The average age of SPE members is now 46, decreasing slightly as the number of young members entering the industry has increased. A gap in members age 35 to 48 persists, reflecting the lack of hiring in the 1990s. A 2008 human resources benchmark study prepared for SPE by Schlumberger Business Consulting shows that the fastest companies take 6 to 7 years to develop new entrants into professionals who can work autonomously, because of the complex decision-making and ability to exploit advanced technology needed by today's professionals. The report concludes that human capital is the longest lead-time component of E&P delivery.

The recession will end, and energy demand will rebound. The "baby boomers" in the industry will retire, and the forecast "big crew change" will occur. The lessons of the 1990s should not be forgotten. There is a significant downside to not taking advantage of this opportunity to recruit the expanded class of new graduates in 2010 and over the next several years -- the potential loss of these engineering graduates to other industries. These young engineers may be unwilling to return to the oil and gas industry when they are needed in future years. The number of engineering students who select petroleum engineering will likely decline, as they choose other degrees that offer more career flexibility.

### **How to find these new graduates: SPE's New Graduate Job Board**

SPE and WorldWideWorker.com have created a site with profiles and resumes of students who are preparing to graduate in 2010 or those who have graduated in the past 2 years. Hiring companies can see the profiles at no charge to identify potential new employees. This is a database of graduates worldwide, available at <http://www.worldwideworker.com/graduate-jobs>.

SPE is also working with other industry and professional societies, including the Independent Petroleum Association of America, to build awareness of the opportunity to hire recent graduates.

Companies can gain access to well-trained, enthusiastic young people who have committed their careers to the oil and gas industry. Some companies also are offering internships to these new graduates as an option.