A year on from the depths of $30 oil, are we now starting to see green shoots as the oil price tentatively stabilizes? We’ve seen bouncebacks after every downturn, but the difference this time is the natural hedge that seems to be acting on oil price. OPEC is doing its best to support the floor on prices by cutting back on production, only for U.S. shale producers to create a ceiling by restarting production when prices rise above their trigger point.

Oil price slumps have come and gone through the decades, and all of them have been weathered by battering down the hatches for a year or so. So why all the fuss now? The industry will get back to what it used to do, won’t it? Well no, not really. The industry has suffered many wounds over the last few decades, and although the latest set of cuts may not have been the deepest, they may well be severe enough to handicap many companies. According to Oil & Gas UK, an industry body representing oil and gas companies doing business on the U.K. Continental Shelf (UKCS), the number of jobs supported by the U.K. offshore oil and gas industry fell by an estimated 120,000 in the last 2½ years under the severe strain of continued low oil prices. The figure is even gloomier globally, according to data compiled by Houston-based consulting firm Graves & Co, which estimates that as of February this year, the total number of oil and gas layoffs around the globe was more than 440,000, with 28% in the U.K. North Sea. According to independent research using the membership database of the Petroleum Exploration Society of Great Britain (PESGB), all sectors appear to have had similar levels of cuts (39% drop in seismic contractors, 25% drop in mid-sized contractors, 30% drop in small operators, 22% drop in mid-sized operators and 35% drop in large operators), with virtually no company being immune.
FIGURE 1. Demographics of the subsurface societies before 2005 show a disproportional number of retirement-age members in AAPG. (Source: OTC 2005 and society membership surveys)

Up until the early 2000s the demographics of subsurface staff within the U.K. oil and gas industry was generally represented by a normal distribution with an average age at the time of about 50 years old (Figure 1). The American Association of Petroleum Geologists (AAPG) was a notable exception, with many members either staying on after retirement or continuing to work as independents on a part-time basis, either because the money was good and/or they just enjoyed the business of geoscience. At the time there was a great deal of industry concern that a significant part of the industry could retire within the decade, and a huge recruiting effort started to fill the gap between graduates and retirees. It seems unbelievable now, but many operators in Houston started to offer signing bonuses to graduates to secure the younger end of the demographic spectrum, and the average age of subsurface staff fell as a result.

Subsurface gaps

The demographics 10 years later are still heavily weighted to the over-40s, particularly in the subsurface technical disciplines, but the distribution in November 2014 at the time of the oil price slump was bi-modal. The trend between 2005 and 2014 was for the 25-to-34-age group and the over-55 age group to grow at the expense of the 35-to-54 age group (Figure 2). This simply reflects the industry aging 10 years and the membership-age groups moving to the right.

FIGURE 2. The PESGB has seen its 35-to-44 and 45-to-54 age groups decline in recent years. (Source: OTC 2005 and society membership surveys)
Unfortunately, the last few years also have seen a shedding of cheaper, less experienced professionals and a halt to new graduate recruitment. The level of recruitment has been inadequate to plug the gap in the 35-to-54 age group, and this has been exacerbated by some early retirements. The wound-like gap has just reopened, with many so scarred that they have left the industry altogether, never to return. Although a few companies have kept their graduate recruitment programs going through this recent slump, many companies are finding that there are not enough experienced mentors to go around, and some graduates are being mentored by those that have just left the graduate program themselves.

Skills crisis?

Is this a skills crisis or just scaremongering? The answer feels like a definite “yes to both”; we will see more subsurface staff fill the marketplace but from countries not previously known for subsurface expertise, so the claim that there will not be enough staff around is likely to be scaremongering.

However, it’s always quality advice that the industry needs and investors want, not just bodies. Fewer experienced professionals will be available to mentor and peer-review less experienced staff. There will be a continued reduction in training to fill technical knowledge gaps. In addition, an ongoing technology march will take place that sometimes substitutes black-box software algorithms to get an answer, any answer. The term “unsubsidized geophysics” is not new, but the skills crisis may well bring about more stories of poor-quality due diligence and subsequent valuation down-turns. Banks and private-equity investors want reliability and certainty and rely on the subsurface disciplines to self-audit and self-calibrate their skill sets without the need for external examinations and qualifications required for the finance industry by the U.K. Financial Services Authority and its international counterparts.

The threatening skills crisis will most likely lead to cutbacks in due diligence on acquisitions, exploration wells and development plans that seem to be low-cost options at the time. However, it will only take a few headline reserves write-downs or embarrassing dry holes for the astute to realize that the reduction in the number of technical experts in the latest downturn will also lead to a lowering of quality and poorer decisions. Regulation and certification might be one solution to restore or maintain quality, but it could also suffocate innovative thinking and create a false perception of robustness if left unchecked.

The challenge to the industry is to take the advice of the recent Harvard Business Review study, “If You Think Downsizing Might Save Your Company, Think Again,” which concluded, “Prior to deciding to downsize, company leaders should consider whether any positive short-term returns from downsizing will outweigh the potentially severe long-term consequences. … Given that downsizings are often part of a larger restructuring plan, managers must ensure that they retain the resources that can decrease the odds of negative outcomes.”

In other words, now is the time for managers to protect their companies from the negative impact of the loss of experienced high-quality subsurface professionals from the industry. All is not lost, however, and the community of subsurface professionals remains strong. Just as the AAPG was supported by its over 65-year-old members when prices were low at the beginning of the millennia (Brent was $27/bbl nominal in 2003 or $36/bbl inflation-adjusted to 2017), the subsurface community will rally around to support mentoring programs while member organizations such as the PESGB and AAPG will strive to support the quality that their members have worked so hard for during their younger years.