Arthur D Little

Energy & Utilities

Bridging the Talent Gap

Labor Shortages in the Energy Sector

Shortages limit industry growth

The last few years have seen acute resource shortages start to bite across the oil industry: in oil supply, refining capacity, talent & experience and the capacity of service companies.

These shortages are constraining the industry's growth in a period when high oil prices are driving international oil companies (IOCs) and national oil companies (NOCs) alike to increase their investment significantly (20% growth during 2004-2007).

Much of the pressure on resources is due to rapidly growing energy and chemical demand in newly burgeoning economies, particularly China and India but also in the Middle East, Africa and South America.

In terms of human resources, the industry is stretched. Senior executives routinely express concern about a widening gap between the skill and experience levels needed in the industry and those available.

However, Arthur D. Little believes the gap can be closed – if five key issues in resourcing are addressed.

In this paper we propose, in outline, three initiatives which – if carried out in combination – have the potential to enable oil companies to reverse the decline, close the human resource gap, and reclaim the growth path that awaits the industry.

Cover image: Photo by Jeff Smith/Getty Images

“If only we’d known…”

A review of trends in US oil and gas companies between 2002 and 2007 reveals a mismatch within company strategies. Between 2002 and 2005, there was an ongoing headcount reduction, amounting to about 10% across the industry in the space of these four years. Meanwhile, in 2004, many companies were beginning to ramp up their spending in other areas, to capitalize on rising commodity prices and accelerating demand for their product; 2004-2007 saw a 20% increase in capital expenditure among the major IOCs.

Over this period, a fundamental shift took place in industry perceptions of the human resources situation. In 2004, research found that some 60% of senior executives in US independents recognized a need for more staff and about one-third believed higher compensation should be offered to technical staff. Just two years later, over 90% of executives were looking for more staff (a rise of 50%) and nearly 80% (more than twice as many as before) were prepared to raise compensation for technical staff.[1]

Cutting headcount led many people to leave, not only the business, but the industry. Others retired early. Some have returned as contract staff, but at higher cost to the business and without the benefits inhouse staff bring in terms of fostering the development and growth of new young talent.

The current demographic profile in the average IOC presents a major challenge for the future. For example:

- The average employee working for a major US operator or service company is 46-49 years old.[2]
- The average retirement age in the industry is 55. This means that in the next 7-10 years, about half the work force will leave.[3]

Operating companies in major resource holding countries (MRHs) face an even more extreme challenge. At present, although considerable effort is put into knowledge and technology transfer to local partners, much of the know-how still lies with the expatriate workforce. Yet 40% of this workforce is due to retire within the next 5-10 years. The large influx of new hires resulting from current ‘nationalization’ drives in many countries means that companies will be left with a rapidly expanded but young and relatively unskilled body of workers to maintain and develop operations.

Recent years have shown that efforts to increase efficiency and effectiveness in oil and gas companies – through automation, process, improvement, outsourcing etc. – are beneficial, but not nearly sufficient to close the labor gap.

Five issues for leaders

Arthur D. Little believes energy companies need to address five issues in order to close the labor gap:

- Building a human resource strategy to fit the new challenges – “business as usual” is no longer an option
- Reshaping metrics and processes to drive capability development – ensuring that people are not just “doing the job” but constantly learning and developing along the way
- Developing future leaders through innovative professional development – adopting best practise, not only from other companies in the energy sector but the best-in-class across industries
- Bridging the gap between classroom skills and application in the field – so that investment in training pays off more quickly, and trainees gain motivation and confidence from earlier successes
- Creating a culture of learning and development across the business – a “learning for life” culture which permeates every level and every function

[1] Sources: Annual reports, analyst presentations, Grant Thornton 2005 Survey of US Independent Oil and Gas Companies

[2] Source: Interstate Oil and Gas Compact Commission (IOGCC)

[3] Source: Blue Ribbon Task Force of the IOGCC

Closing the gap – three keys in combination

The current labor shortage cannot be solved with a single line of attack. In Arthur D. Little's view, a three-pronged strategy is required to address the five issues we have identified. An effective strategy combines:

- Sizing human resource needs correctly
- Developing national resources
- Improving managerial skills at supervisor level

None of these three is sufficient on its own – for example, nationalization plans that work well on paper will not be effective unless coupled with a robust skill development plan.

Sizing human resource needs correctly

Mathematical models provide useful means of establishing the real resource needs of a company, across assets and operations.

Good models will take account of the full range of factors involved. They will also allow for the fact that the staff numbers needed in a given function – as well as the most appropriate balance of national and expatriate staff – is likely to vary from one company to another, and within the same company from one asset to another.

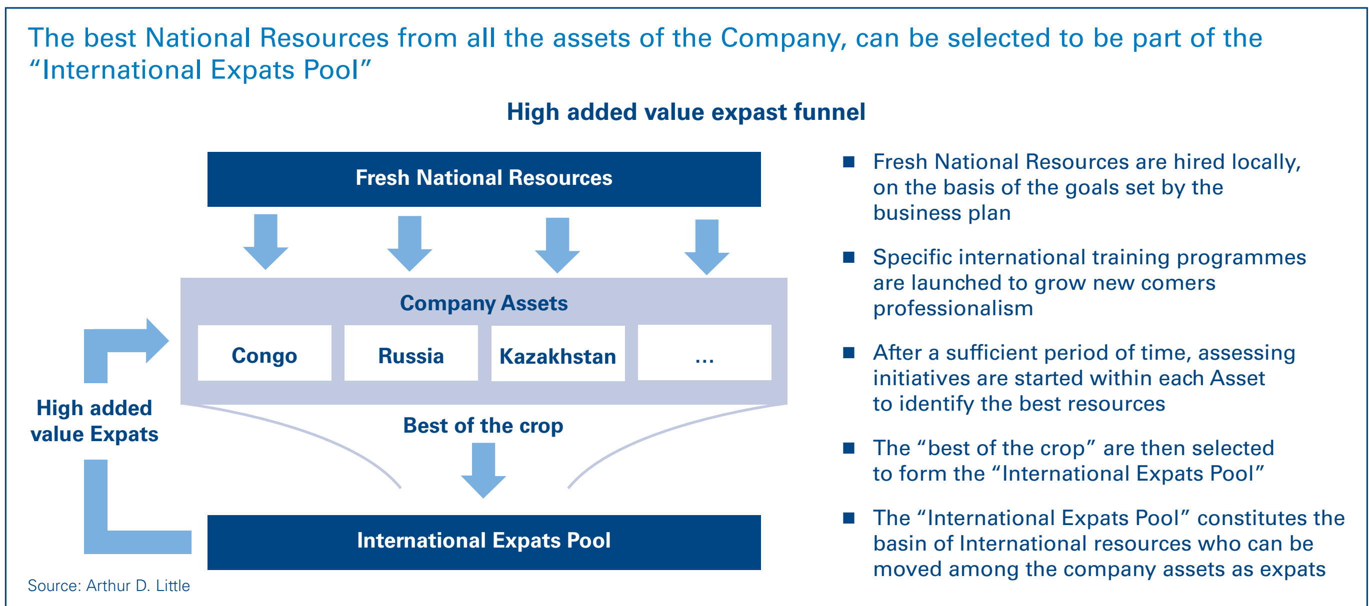
Given the urgency and severity of labor shortages, it is vital that oil companies are able to define the resources they need on the basis of objective criteria such as total production, number of sites, lifecycle phase, and complexity index (encompassing factors such as location environment, geology, hydrocarbon type, development well type, technology, etc.)

Developing national resources

IOCs are investing much money and energy in training and developing local staff as part of their drive to fulfil license agreement obligations, or to position themselves favorably for future rounds.

However, this investment has not, in all cases, been followed – when local trainees get back to the office or field – by similar attention to their development and mentoring. Expatriate staff can lack the necessary skills of coaching and engagement that will empower local staff to applying what they have learned quickly and productively.

The disconnect between the classroom and the field reflects a disconnect that often exists between Human Resource departments and line management. New training tools and techniques are required, and new key performance indicators, if NOCs and IOCs are both to reap the full benefit of the training investment.



Source: Arthur D. Little

An effective national resource development initiative will be based on two 'pillars', each with precise objectives.

One 'pillar' is the international career development of national resources, designed to: guarantee homogeneous development of competences throughout all the company's assets; provide national staff with a career path that encourages retention and a 'one company' culture, while taking into account specific features of each local culture; and reduce pressure on expatriate resources, so that they can be deployed across several locations.

The second 'pillar' is a Nationalization Plan which breaks down, by function, competence and year, the future needs to be satisfied through internal growth and hiring. Such a plan needs to be structured in layers, providing progressively detailed information. The plan should include a description of the process for filling each position, individual assessments and development plans, a detailed schedule of recruitment and training activities, and reports and key performance indicators to track the progress of the plan's implementation.

Improving managerial skills at supervisor level

The current trend in most IOC managerial training is to focus on the top 20% of staff resources. This leaves the development needs of the next tier of leaders, i.e. at supervisor level – unsatisfied. This supervisor group is key for the success of any asset management moving forward as it drives the company.

Focusing efforts on this population will pay off in the long term. Creating a high quality leadership development programme, linking classroom learning to work assignments, is needed more than ever.

Therefore by increasing investment at this level, companies can more readily:

- foster a 'one company' vision and increase employee loyalty & retention
- improve collaboration and networking
- increase asset interoperability
- improve the leverage on the development of nationals and their transformation into a global expatriate pool
- share best practice throughout the firm

In only a few instances do we see companies who have successfully refocused their investments at the front end of the talent curve, where retention and development is most critical.

Conclusion

The present shortage of skilled, experienced labor in the oil and gas industry could continue to constrain the industry's growth, and with it global economic growth, unless action is taken urgently.

As important as providing a limit to growth however is the fact that project risk profiles are often increased by the relative inexperience of critical project staff and managers in some sectors of the industry. Often this is the result of failure to learn from and apply global best-practice in a particular area. Consequent gaps in institutional knowledge and learning can result in major cost over-runs, sub-optimal development initiatives and deferred production.

The three initiatives described here, undertaken together, have the potential to resolve the impending labor crisis – and achieve the changes required in both processes and behaviors to prevent the situation arising again.

To find out more

If you would like more information or to arrange an informal discussion on the issues raised here and how they affect your business, please contact:

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The Demographic Challenge

The average employee working for a major US operator or service company is 46-49 years old. The average retirement age is 55. This means that in the next 7-10 years, about half the work force will leave the industry.

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