

## **Future Oil Sector Requirements & How to Meet Them**

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Energy is universally recognized as one of the most important inputs for economic growth and human development. Our expanding economy, growing population, rising standards of living and limited availability of indigenous energy sources pose serious challenges for India's long term energy security. To fulfil this ever increasing energy demand, conventional fossil fuels will remain the dominant source.

But each passing day the oil exploration is becoming more challenging. Larger reservoirs are expected in deep sea, logistically difficult and geologically complex areas where exploration is not only technologically difficult but conceptually challenging. While the race for adding more reserves has to continue, all out efforts need to be in place to unleash the potential of unconventional hydrocarbon resources such as Shale Gas, Tight gas, Basin Centered Gas, UGC and Gas Hydrate and associated free gases.

Soaring consumption of energy has a direct bearing on Green House Gases emission and this emerges as a upcoming challenge for human beings.

Oil industry is a technology intensive domain. The much of success in finding oil, lies in impeccable capability in subsurface imaging, through state of art techniques and technologies, and application of concept driven new ideas and innovative interpretation skills. These form the basic goals of industry investigations.

Man behind the machine is the most important component of the whole infrastructure. It is important that a person has a firmament of clear concepts and intellectual imagination to bank upon before he can handle the machine. Way forward is to convert individual creative thinking into positive business results.

Further, most of the oil industries are facing the predicament of an ageing manpower. The average age of persons in oil Industry is touching 50 yrs, which demand for a rapid succession planning in order to have smooth transition.

An interesting study was carried out by Petrofed in association with knowledge partners Prize Water Cooper on workforce sustainability and talent management in E&P industry. According to the study, with the rising E&P activities, a shortfall in E&P petrotechnical workforce is expected to be about 30,000 professionals by the year 2012. The Indian industry prepares about 400+ students every year but only 56 % joins oil industry. The institutes will have to augment a total of 500+ students annually for next 10 years to meet the growing demand. This

will require increase in number of students taking up education related to this sector. Multi-tier initiatives at Governmental level, Institution level and industry level are direly needed to close the gap.

To meet the growing expectations of the industry the Academia has to brace up for the challenge. First, the number of institutions with petroleum as core subject are to be increased, The curriculum is to be tailored according to industry needs and standardized, students to be exposed to industry required skill sets.

There is still a bigger role for Academia. Academia has also to take up R&D projects for addressing exploration, reservoir and drilling problems, be it conventional or un-convention resources.

**We at ONGC** have laid out a well thought strategic plan to identify the existing technological gap and future requirement, and to pursue the R&D activities to bridge the gap.

Oil industry is passing through a delicate phase where expectations are high and needs to be supported by resources of intellect. At this crossroad, a strategic decision would be to bring in and maximising the cooperation from the Academia. However, no process is complete with one way contributions, in order to elicit full support from the academia, industry has to open up in terms of data sharing, financial resources and practical know-how. A pragmatic solution would be to initiate a high level dialogue and follow recommendations with full earnest.