AAPG CONFERENCE AND WORKFORCE PANEL

“GEOSCIENCE WORKFORCE FOR THE FUTURE – THE GREAT CREW CHANGE”

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WHY THIS PANEL???

- ENERGY UNDERLIES DEVELOPMENT
- ENERGY CONSUMPTION IS INDEX OF DEVELOPMENT
- PETROLEUM - THE LARGEST CHUNK OF ENERGY CONSUMPTION
- GEOSCIENCES - THE HEART OF PETROLEUM INDUSTRY
- HENCE CONCERNS ON GEOSCIENCE WORKFORCE OF FUTURE
SOME GENERAL WORKFORCE ISSUES

- AGING WORKFORCE
- RETIRING WORKFORCE
- REGIONAL IMBALANCES IN WORKFORCE
- INDUSTRY-ACADEMIA MISMATCH
- PARADIGM SHIFT IN EXPECTATIONS OF WORKFORCE
- ATTRITION OF WORKFORCE
SOME OIL INDUSTRY WORKFORCE ISSUES

EMPTY PIPELINE - NEW ENTRANTS MISSING-WHY???

- Perceived as hard/tough
- Career Prospects not highlighted by Industry
- Compensation issues
- Not enough industry specific institutions
- industry Academia linkages missing
As the boomers retire, the workforce will stop growing...

The U.S. has always been able to count on an expanding labor force. But as the boomers are replaced by a smaller generation, the number of workers between the prime working ages of 25 and 54 will stagnate.

*Prime-age workers (ages 25-54), in millions*

- Last two decades: 54% growth
- Next two decades: 3% growth
INDUSTRY-ACADEMIA MISMATCH: OIL SECTOR

Academic Qualifications Vs. Oil Industry Requirements

Engineering
- Petroleum Engineering
- Chemical Engineering
- Civil Engineering
- Mechanical Engineering
- Electrical Engineering
- Electronics Engineering
- Instrumentation Engineering

Geosciences
- MSc(Geology)
- MSc(Geophysics)
- MSc(Physics+Elex.)
- MSc(Botany+Geology)
- MSc(Chemistry)
- MSc(Mathematics)
- Petroleum Engineering
- Chemical Engineering

Production Engineer
- Drilling Engineer
- Cementing Engineer
- Well Engineer
- Maintenance Engg.

Geoscientist
- Petrophysicist
- Reservoir Engineer
- Geo Chemist
- Field Chemist
**WORKFORCE – THE CHANGING CAREER PARADIGMS**

**OLD PARADIGMS**
- Job Security
- Longitudinal Career Paths
- Job/Person Fit
- Organizational Loyalty
- Career Success
- Academic Degree
- Position/Title
- Full-Time Employment
- Retirement
- Single Jobs/Careers
- Change in jobs based on fear
- Promotion highly tenure based

**NEW PARADIGMS**
- Employability Security
- Alternate Career Paths
- Person/Organization Fit
- Job/Task Loyalty
- Work/Family Balance
- Continuous Relearning
- Competencies/Development
- Contract Employment
- Career Sabbaticals
- Multiple Jobs/Careers
- Change in jobs based on growth
- Promotion highly performance based
HUMAN RESOURCES ARE INDIA’S BIGGEST ASSET.

PROVIDE A UNIQUE COMPETITIVE ADVANTAGE (WITH ABOUT 50% OF THE POPULATION BELOW 25 YEARS OF AGE)

TO CAPITALIZE, NEED TO ENSURE HIGH-QUALITY EDUCATION AND APPROPRIATE SKILL-SETS TO A LARGE NUMBER.
“It seems odd. In the world’s moist populous region the biggest problem facing employers is the shortage of (qualified) people”.

(The Economist)

“Lack of Necessary Language Skills, Low Quality of significant portions of the education system and its limited ability to impart practical skills, and a lack of cultural fit.”
SKILLS NEEDED IN ADDITION TO TECHNICAL

- Creativity/ Innovation
- Good communication Skills
- A team player with multi-task capabilities
- Financial/Commercial Knowledge
- Global Outlook
- Cultural/Religious/Social sensitivity
EMPLOYABILITY IS THE ISSUE

- Educated manpower passing out of colleges every year - about 3 million graduates and over 400,000 engineers.
- Feedback from industries indicates dissatisfaction about the employability of graduates.
- Huge mismatch between skill-set needs of industry and output of the university system.
PARTNERS IN RESOLVING WORKFORCE ISSUES

- INDIVIDUAL ORGANISATIONS
- INDUSTRY ASSOCIATIONS
- INDUSTRY PROFESSIONAL GROUPS
- INDUSTRY ACADEMIA PARTNERSHIPS
- GOVERNMENT SUPPORT
WHY THE NEED FOR INDUSTRY ACADEMIA LINKAGES

- GLOBAL SHORT SUPPLY OF SKILLED MANPOWER IN PETROLEUM INDUSTRY
- CREATED BY DRASTICALLY INCREASED WORK PLANS/ CAPACITIES WORLDWIDE
- CONSEQUENT MANPOWER POACHING
- NET MANPOWER OUTFLOW TO OTHER INDUSTRIES - IT IN 90S AND RECENTLY IN RETAIL AND TELECOM AND HR/ FINANCE
ACTION PLANS

THROUGH

● ADVOCACY

● SYNERGY

● PROACTIVE ACTIONS

● FOCUS ON JOB MARKET TRENDS, GAPS

● EFFECTIVE PUBLIC OUTREACH THRU MEDIA
INDIVIDUAL ORGANISATIONS

- MEDIA MANAGEMENT
- STUDIES ON MANPOWER ISSUES
- RECOMMENDATIONS TO ASSOCIATIONS
- TRAINING AND DEVELOPMENT OF WORKFORCE
- UPGRADEDATION OF EDUCATION QUALIFICATIONS OF WORKFORCE
- DEVELOP RETENTION STRATEGIES OF WORKFORCE
- CREATE INDUSTRY ACADEMIA PLATFORMS
  - Provide training support, Site visits to students
  - Scholarships, apprenticeships
  - Adopt colleges/schools
  - Faculty up gradation, retired employees as resource
INDUSTRY ASSOCIATIONS

- MEDIA MANAGEMENT
- STUDIES ON MANPOWER ISSUES
- RECOMMENDATIONS TO GOVERNMENT
- CONTINUING EDUCATION TO WORKFORCE
- CREATE INDUSTRY ACADEMIA PLATFORMS
INDUSTRY PROFESSIONAL GROUPS

- STUDENT CHAPTERS
- ENCOURAGING STUDENTS BY AWARENESS GENERATION
- CREATE PAPER AWARDS, COMPETITIONS
- PROVIDE FACULTY TRAINING
- PROVIDE PLATFORM FOR STUDENTS TO INTERACT WITH PROFESSIONALS
RECOMMENDATIONS ON INDUSTRY FRONT

- CREATE AWARENESS ABOUT PETROLEUM INDUSTRY
- GENERATE POSITIVE IMAGE
- ATTRACT STUDENTS AS FUTURE EMPLOYEES
- RETAIN EMPLOYEES
- SUPPORT ACADEMIA-TALENT PIPELINE
- CREATE AND MAINTAIN ACTIVE INDUSTRY ACADEMIA INTERFACE
RECOMMENDATIONS ON ACADEMIA FRONT

- PAY TEACHERS/ FACULTY BETTER
- ATTRACT AND RETAIN STUDENTS
- ENHANCE DIVERSITY - RECRUIT MORE WOMEN, MINORITIES
- FOCUS ON ADULT LEARNERS
- RECRUIT PARENTS
- IMPROVE CURRICULUMS, INFRASTRUCTURE, PEDAGOGY
- OPEN MORE PETROLEUM RELATED AND INTEGRATED COURSES
- ESTABLISH FEEDBACK MECHANISMS FROM INDUSTRY
- ENCOURAGE OLD STUDENTS IN PETROLEUM INDUSTRY TO COME BACK AND ADDRESS STUDENTS
- ENGAGE IN R&D
RECOMMENDATIONS ON GOVERNMENT FRONT

- PLAY ACTIVE ROLE
- IMPROVE POLICIES
- SENSITIVE TO INDUSTRY ISSUES
- ENHANCE COMPENSATION BENEFITS
- PLAY ACTIVE ROLE IN INDUSTRY ACADEMIA INTERACTIONS
- HELP IN INFRASTRUCTURE DEVELOPMENT
In closing......

“Scientific competitiveness can come only by integrated mission-driven programmes partnered by academy, R&D organization and industry”

*former President Dr. A P J Abdul Kalam's Republic Day Speech, January 2004*