

# **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**

# The impact of the aging workforce...

**As the boomers retire, the workforce will stop growing ...**

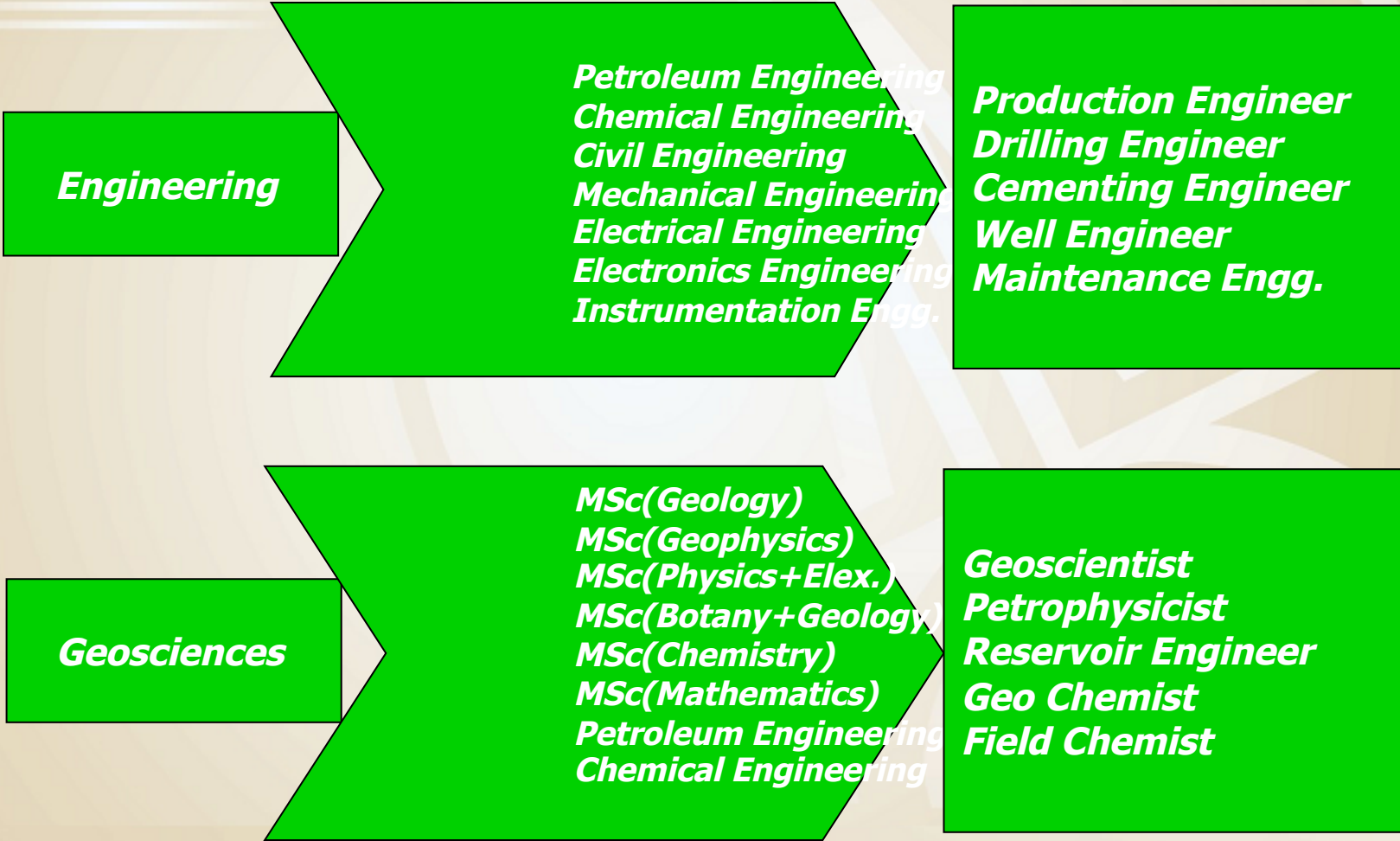
The U.S. has always been able to count on an expanding labor force. But as the boomers are replaced by a smaller generation, the number of workers between the prime working ages of 25 and 54 will stagnate.

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



# INDUSTRY-ACADEMIA MISMATCH: OIL SECTOR

## Academic Qualifications Vs. Oil Industry Requirements



# 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**

# **THE OPPORTUNITY FOR INDIA**

- **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 most 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**
- **UPGRADATION 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***

THANK YOU