

The Great Crew Change

A University Prospective

By

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TEXAS A&M

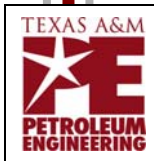


THE HAROLD VANCE DEPARTMENT OF

**PETROLEUM
ENGINEERING**

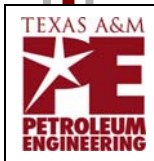
Outline

- What is meant by energy leadership?
- Projections at Texas A&M University
- High Technology – key to the future
- New pathways
 - Energy 101
 - M.E. in International Petroleum Management
 - Industry directed research
- What must industry do?



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Energy Leadership

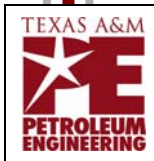
- 'inspiring others to do the right thing for the right reasons'
- In the upstream business, the right thing to do depends on what the reservoir needs to produce more oil and gas, while protecting the environment
- Thus, energy leadership is based on understanding the reservoir and the environment

Categories of Leadership

- **People** – you can learn this in school but the most important factor is being nice, fair and honest
- **Projects** – some engineers need to be project managers and get R done
- **Technology** – some engineers need to manage the technology used in projects
- Universities mostly focus on **projects** and **technology**

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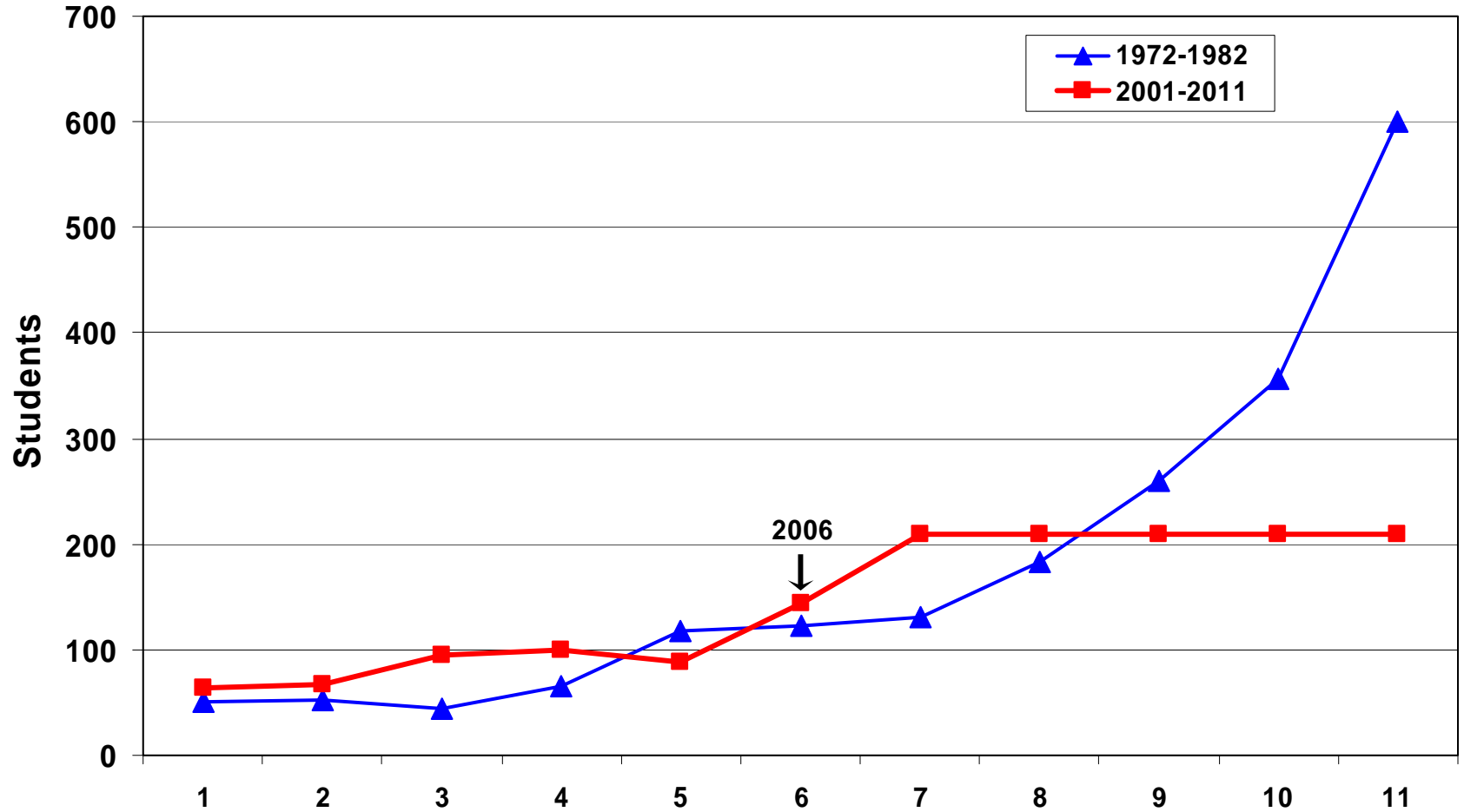


Student Enrollment Projections 2007-2010

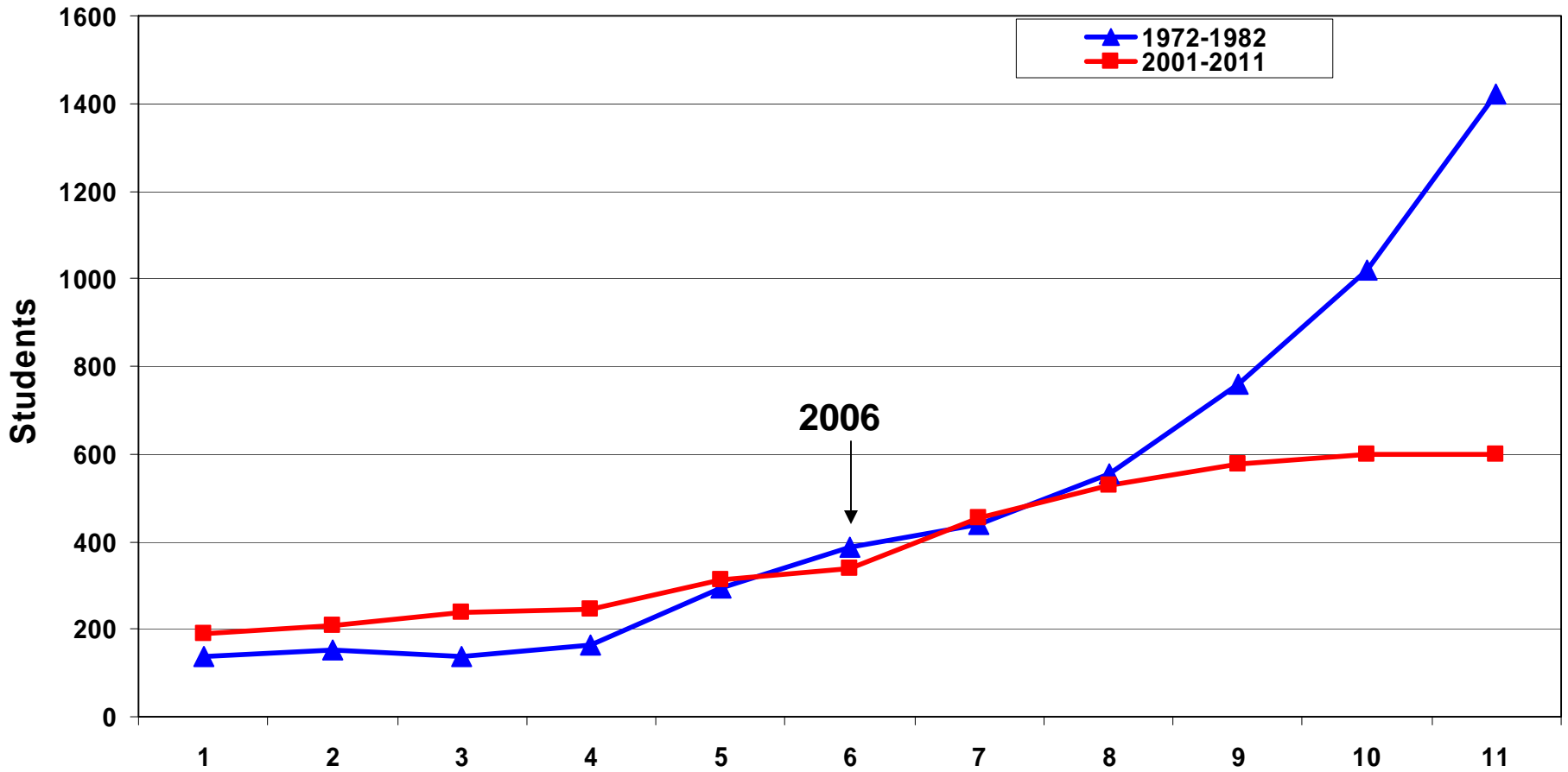
2006 actual

	College Station Campus								Qatar		Total
FY	Fr	So	Jr	Sr	Total UG	Master	PhD	Total Grads	Under grads	Grads	Both Locations
2006	144	75	69	50	338	141	50	191	29	0	558
2007	209	100	70	76	455	157	55	212	52	0	719
2008	210	150	90	80	530	162	60	222	90	5	847
2009	210	150	125	90	575	166	65	231	105	10	921
2010	210	150	125	115	600	170	70	240	120	10	970

Freshmen

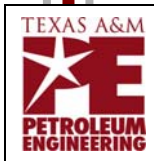


Total Undergrads



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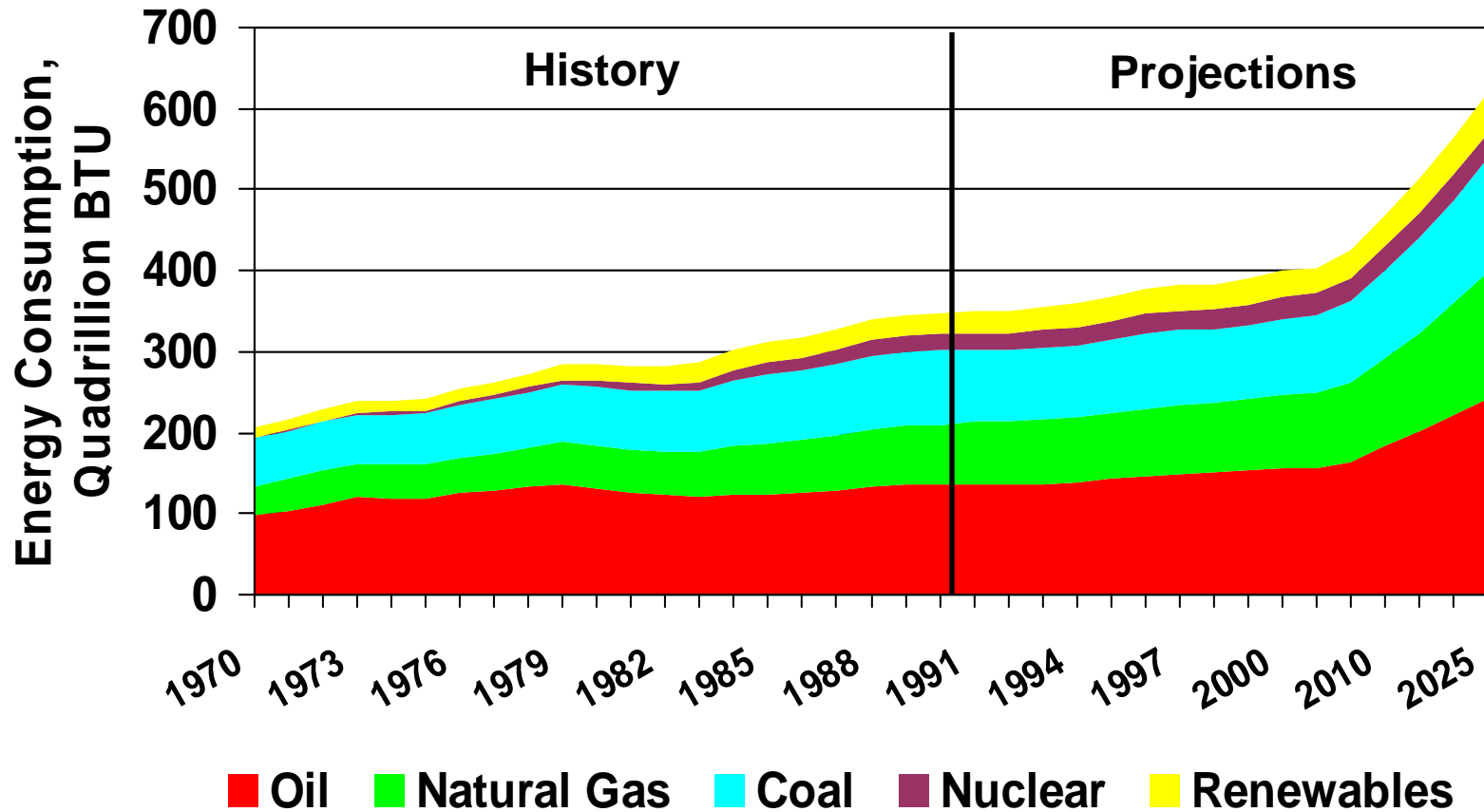


My Message to Young Persons Considering a Career in the Oil and Gas Industry

- The world demands more oil and gas
 - We are a growing industry!
- The oil and gas business is 'high tech'
- The oil and gas business is global!

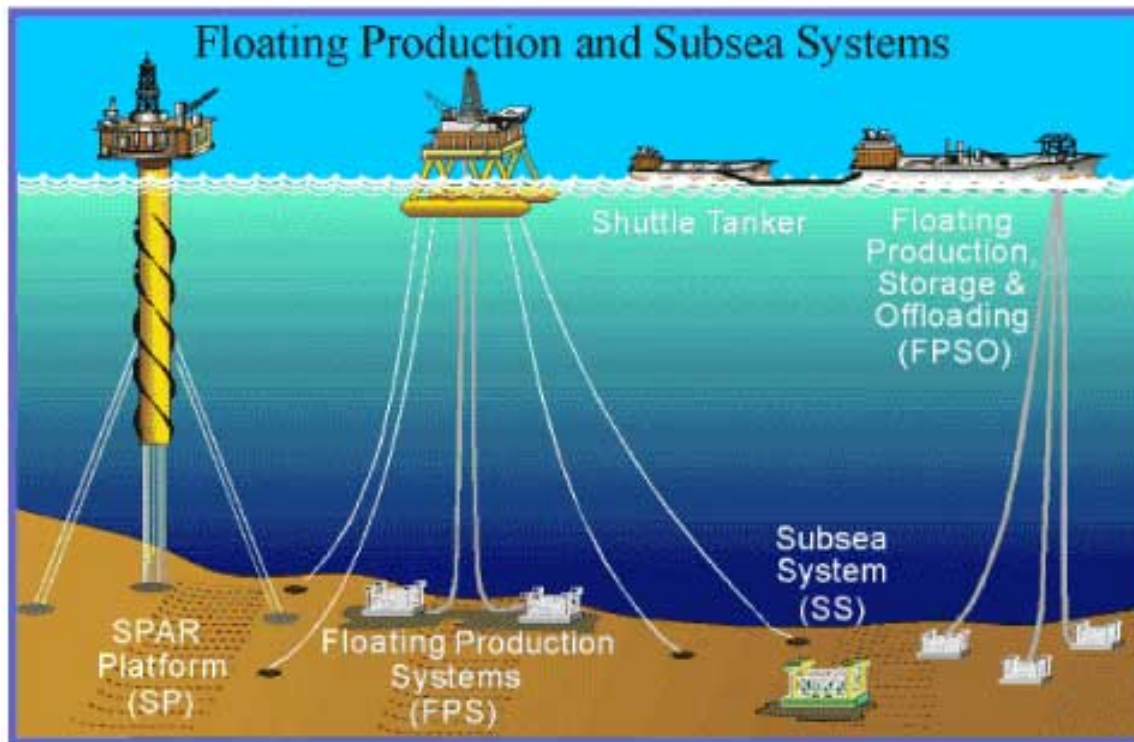


World Demand for Fossil Fuels Will Continue to Grow



Source: EIA, International Energy Outlook 2004

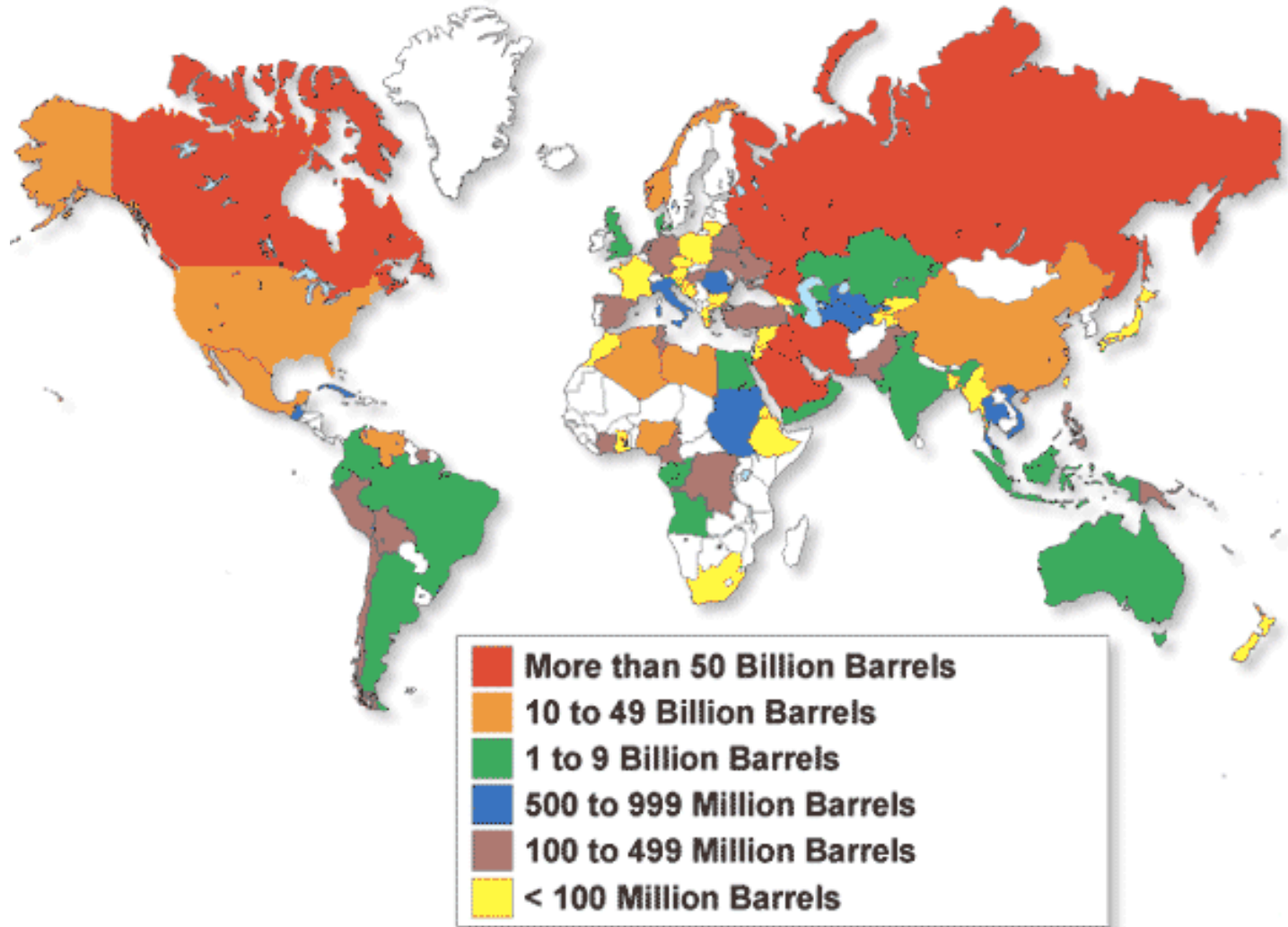
New Offshore Production Structures Enable Development in Deeper Water



Industry has moved from fixed to floating structures to develop oil and gas in deeper water

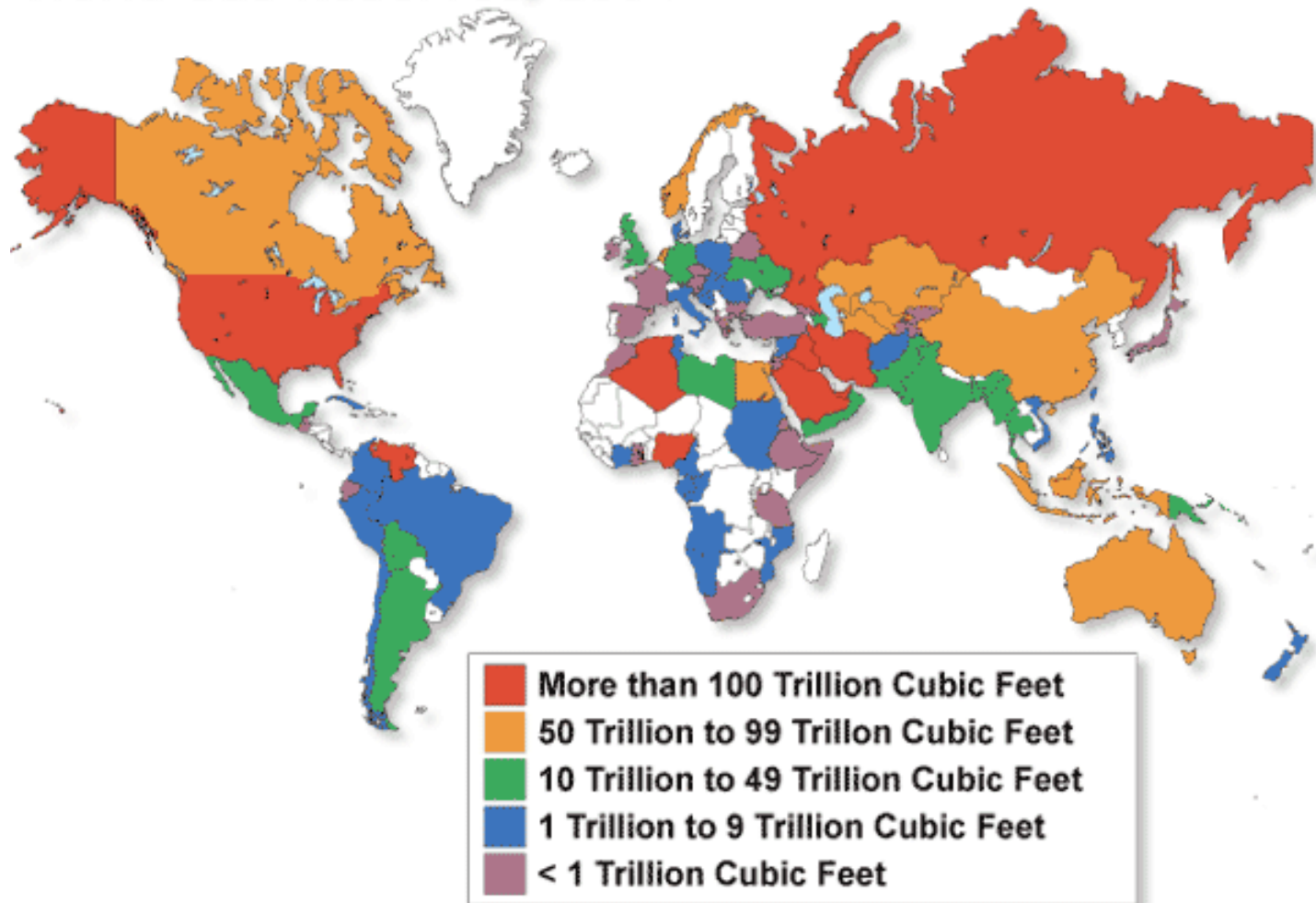
Graphic courtesy of Minerals Management Service

World Oil Reserves by Country



Source: Oil & Gas Journal, "Worldwide Report," December 22, 2003.

World Natural Gas Reserves by Country



Source: Oil & Gas Journal, "Worldwide Report," December 22, 2003.

Considering these statements -

- The world demands more oil and gas
 - We are a growing industry!
- The oil and gas business is 'high tech'
- The oil and gas business is global!

One can conclude that

“Now is the time to get into the oil and gas industry !”

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Engineering 101

- **Energy** – Link with wealth, size of industry and dominance of hydrocarbons
- **Energy balance** – Electricity
- Energy and **the environment**
- Oil, Gas and Coal
- **Wind, solar, other**

Engineering 101

- Taught spring 2006 semester
- Has been added to the **core curriculum**
- All students in the university can take this course **as a science elective**
- Will be expanded to several hundred **non-engineering students**
- We plan to offer B.S. certificate in **Energy Engineering** in the future



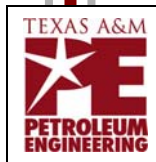
Masters – International Petroleum Management

- Currently offered in graduate catalog
- 36 hours past the B.S. degree
- 18 hours of graduate courses in Petroleum Engineering
- 18 hours of graduate courses in the College of Business



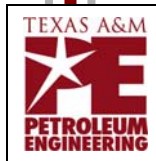
Crisman Institute for Petroleum Research

- We have 14 member companies
- Members help formulate research ideas and research portfolio
- Members provide the data we need
- Members attend periodic technology transfer meetings
- We are solving the problems of most interest to industry



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To Keep the pipeline full, the Industry needs to

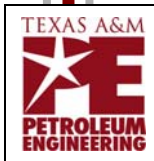
- Support the universities by
 - Hiring our students for permanent jobs
 - Hiring our students for summer jobs, and
 - Working with faculty on research
- We have a lot of international MS and PhD students who can work globally
- Our students are trained to 'hit the ground running' – to produce oil

Students looking for jobs

www.pe.tamu.edu

Click on '*Prospective Employer*'

To find student resumes looking for both permanent and summer employment



Thank You

