

AAPG

International Conference and Exhibition

Cape Town, South Africa

October, 2008

Workforce Observations

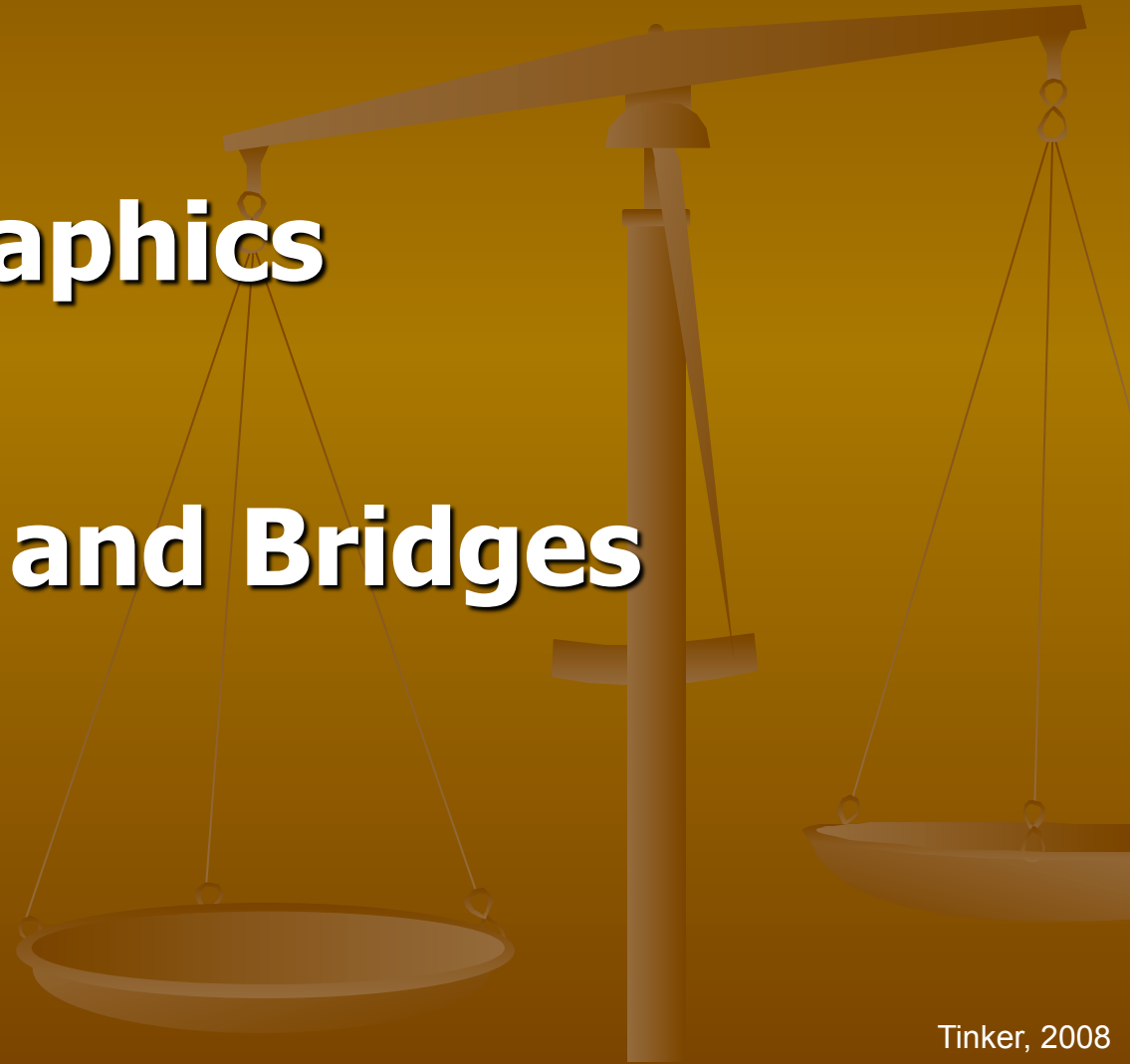
Scott W. Tinker
President

American Association of Petroleum Geologists

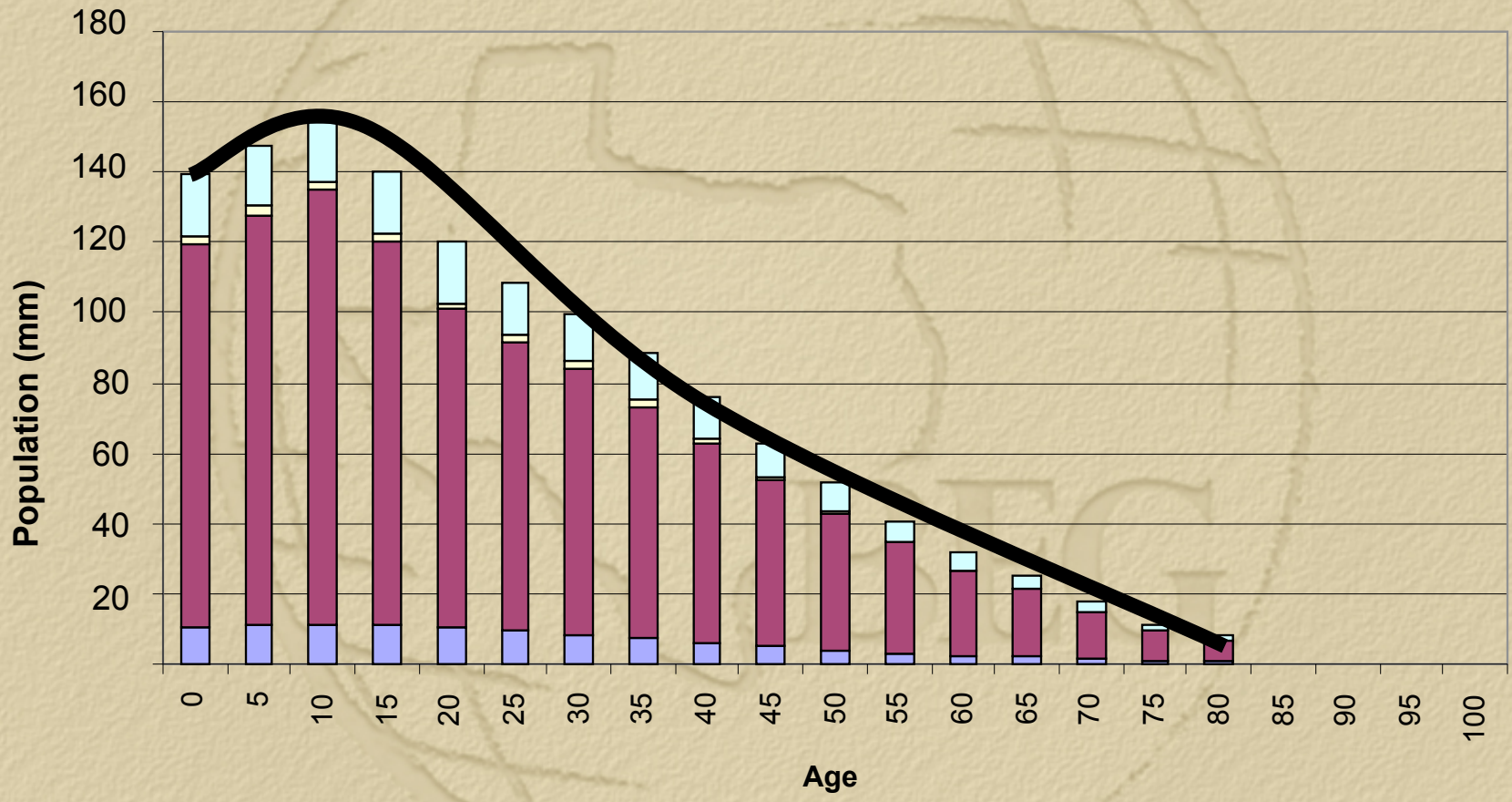
Bureau of Economic Geology
Jackson School of Geosciences
The University of Texas at Austin

Observations

- **Demographics**
- **Cycles**
- **Balance and Bridges**



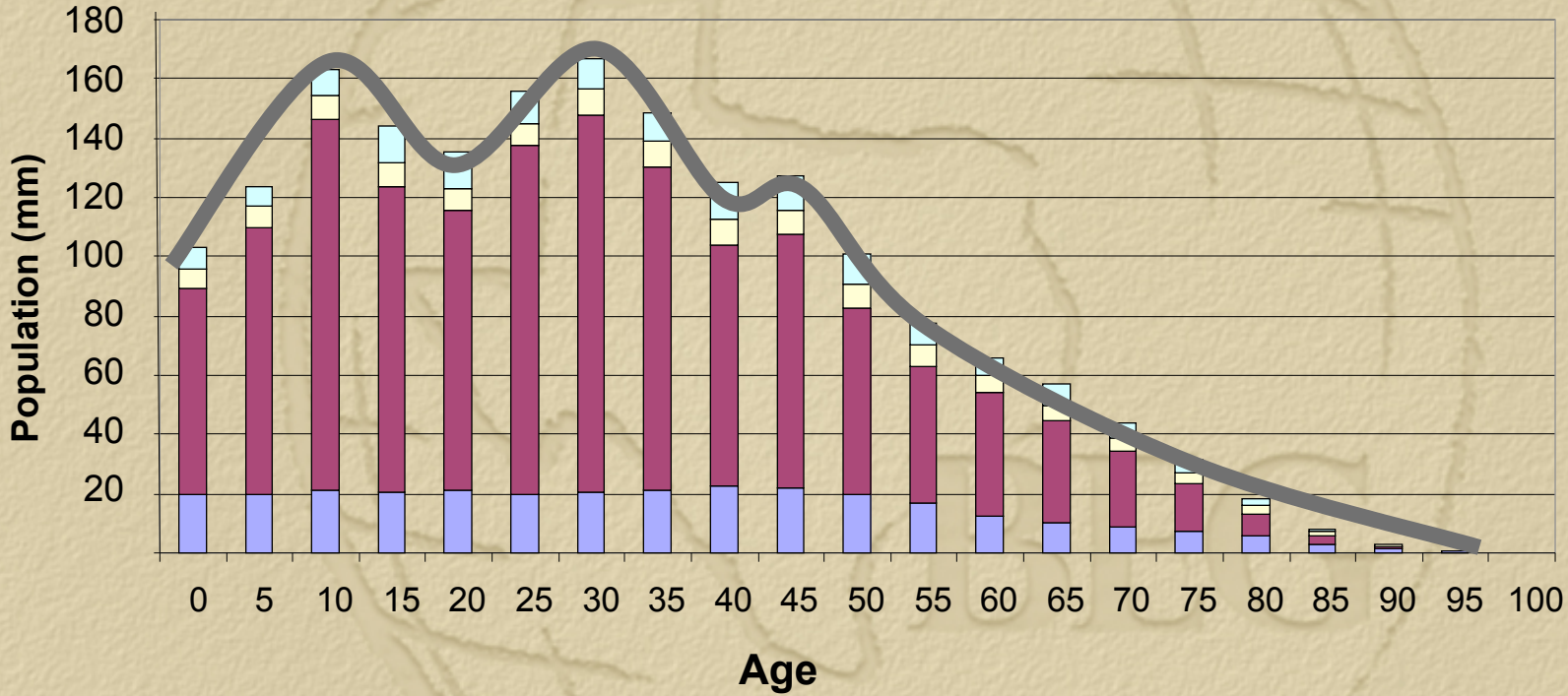
Age Demographics *Developing Nations*



- Brazil '03
- Saudi '04
- India '01
- Mexico '03

Source: UN Website

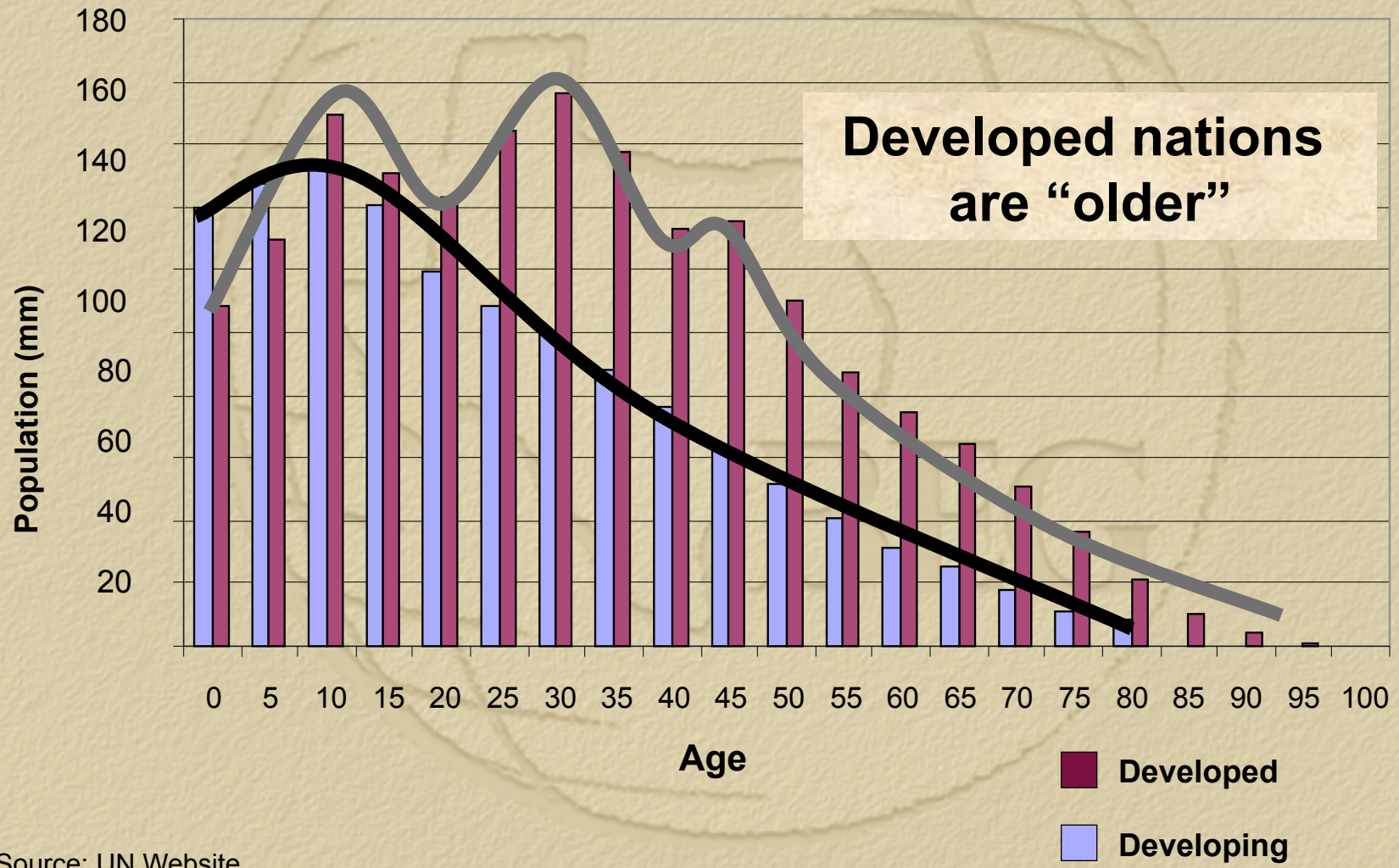
Age Demographics *Developed Nations*



- Russia '04
- China '00
- France/UK '04
- US '04

Source: UN Website

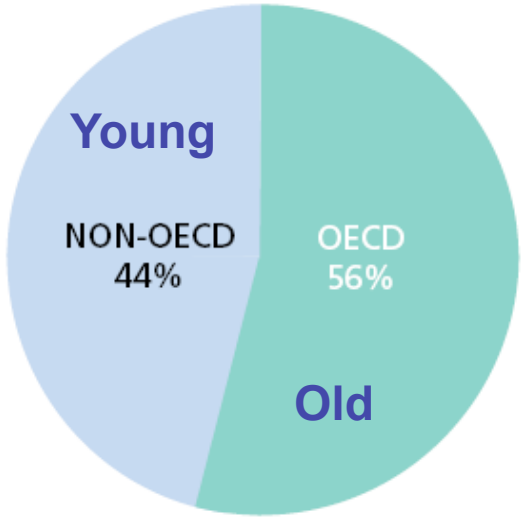
Age Demographics



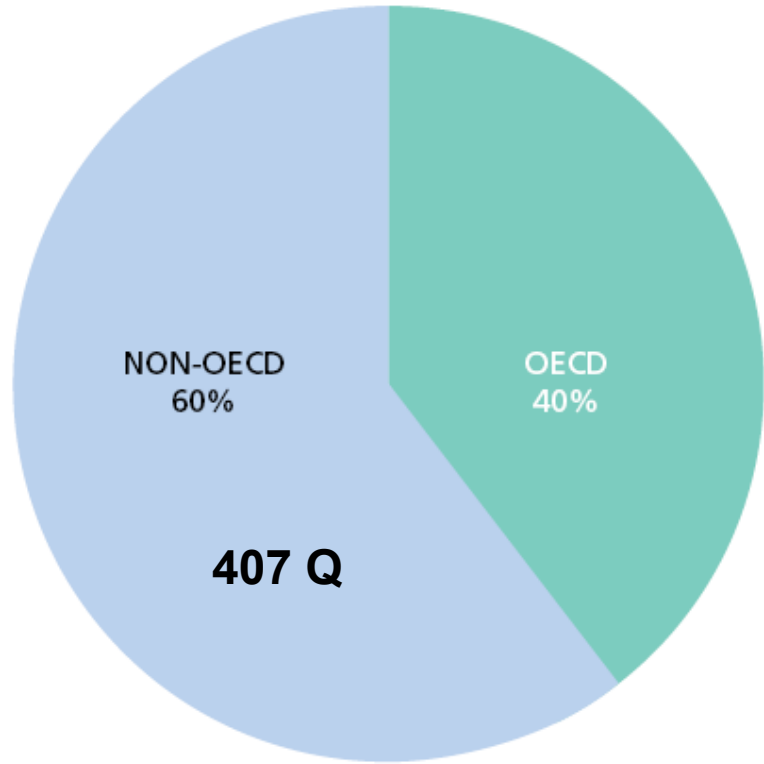
Source: UN Website

Geopolitical Shift

2004 – 445 QUADRILLION BTU PER YEAR



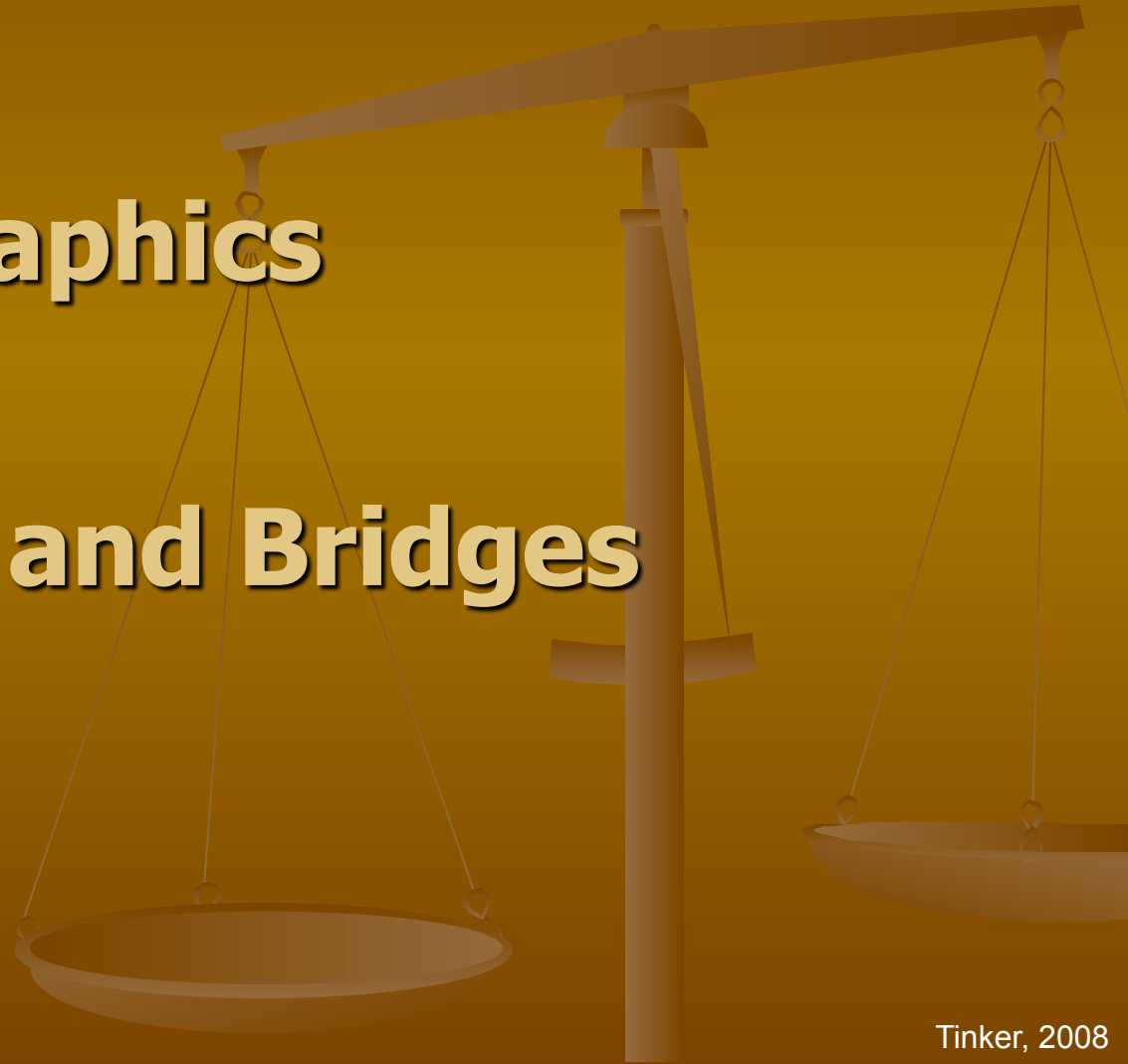
2030 – 678 QUADRILLION BTU PER YEAR



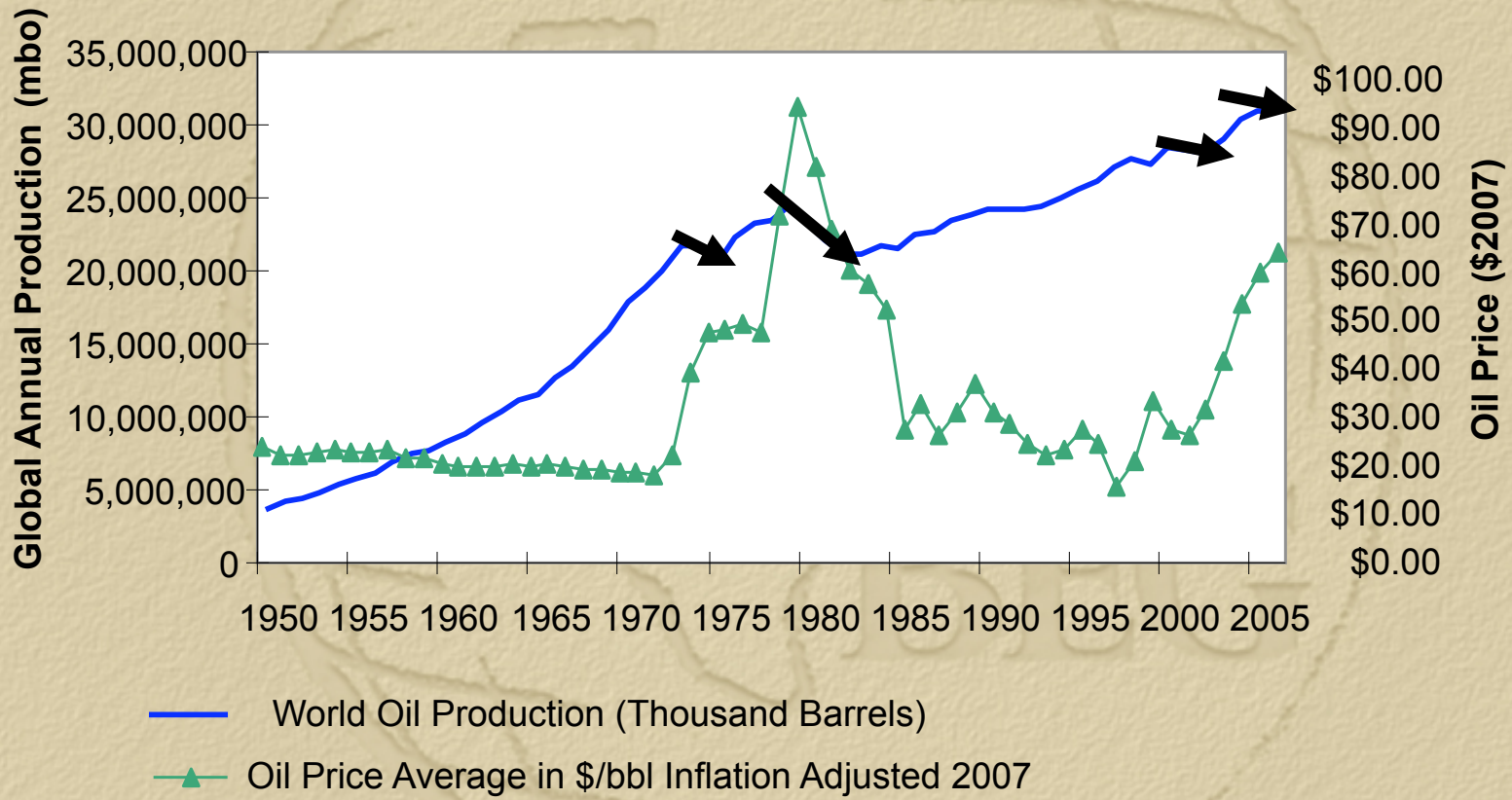
Source: IEA, *World Energy Outlook 2006*.

Observations

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- **Balance and Bridges**

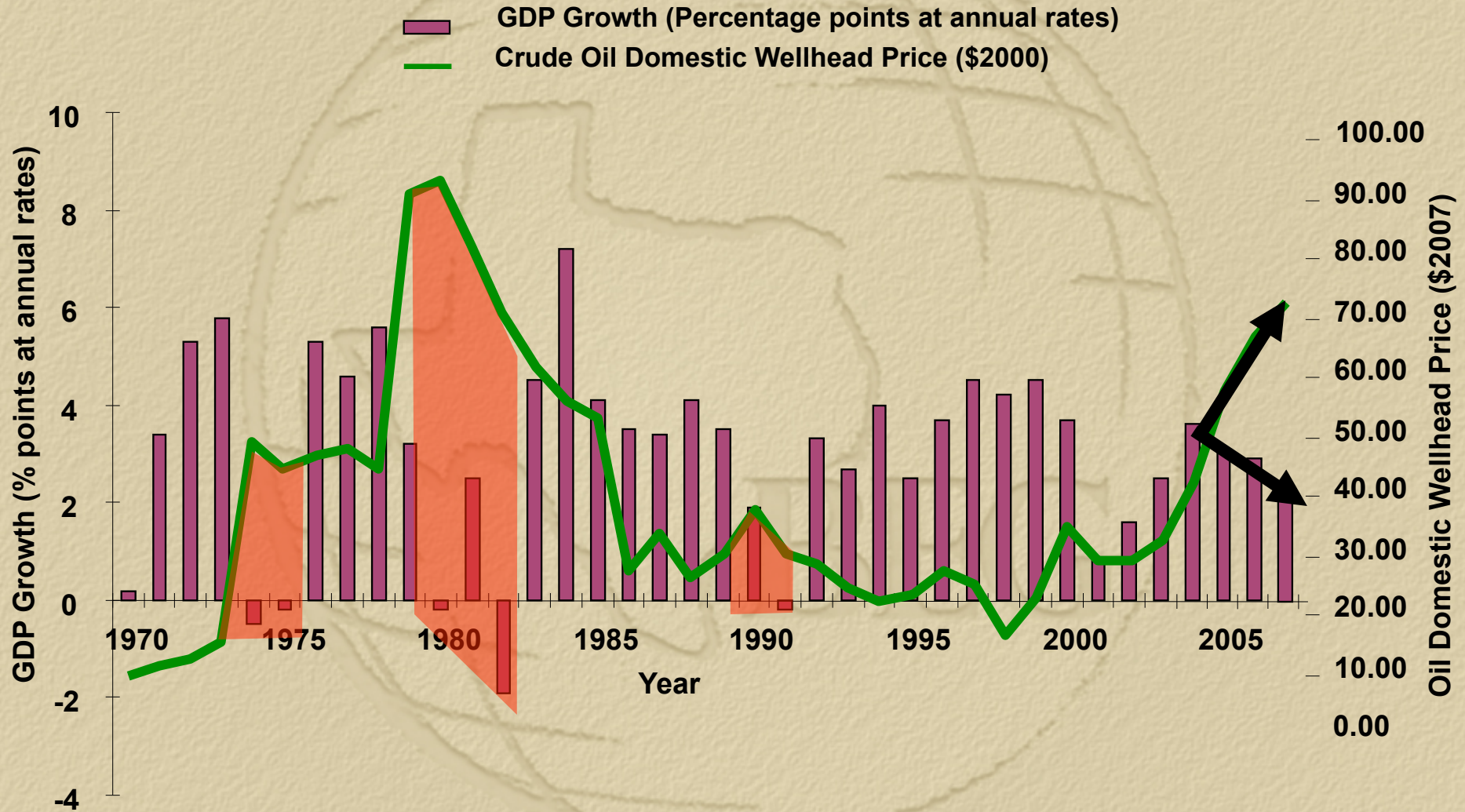


Global Oil



Source: 1980-2007 Energy Information Administration As of January 2008
(www.eia.doe.gov/pub/international/iealf/crudeoilreserves.xls), 1950-1980
OPEC (<http://www.opec.org/library/>)

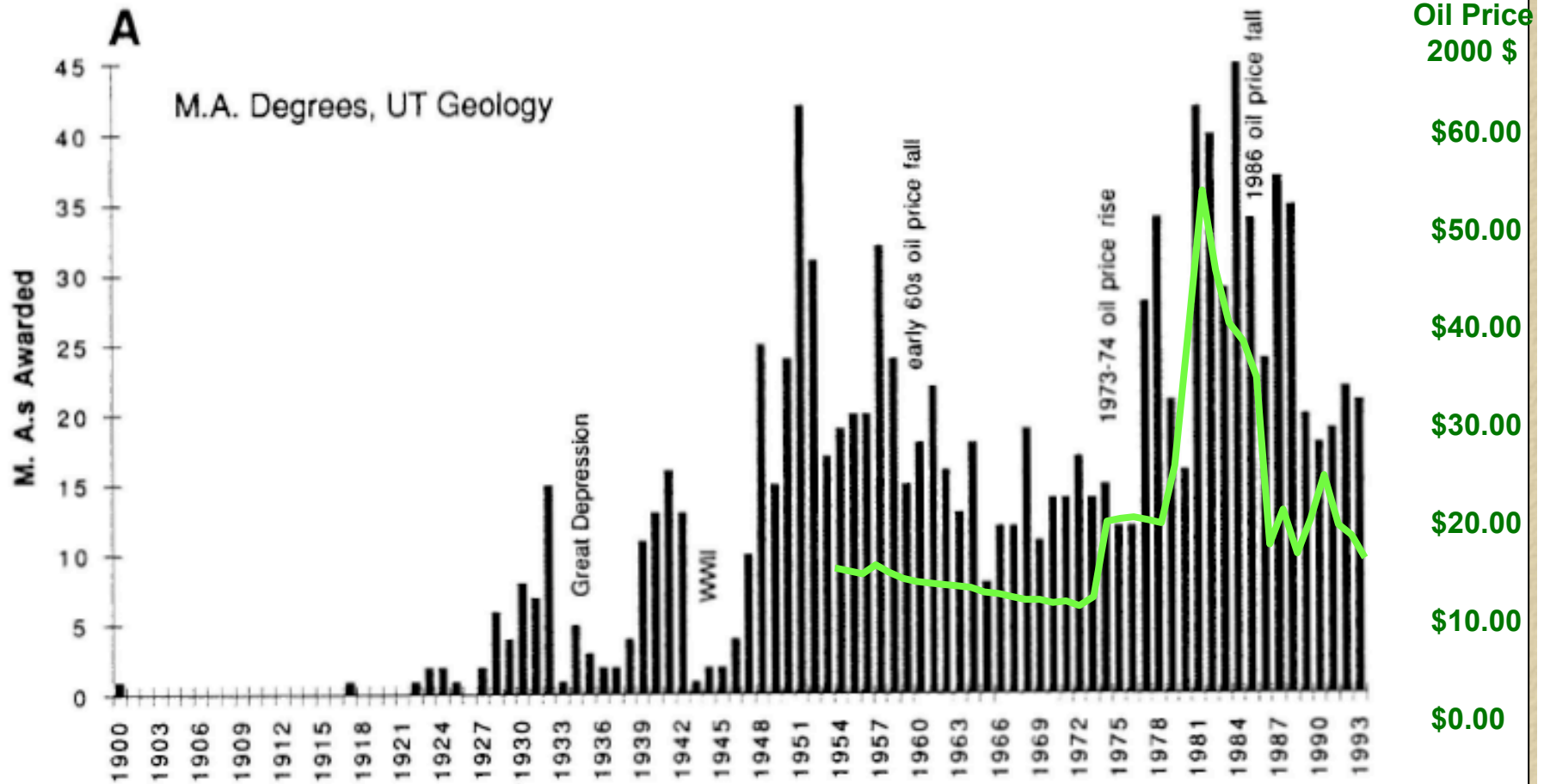
Oil and Economy



Energy-Economy Cycles

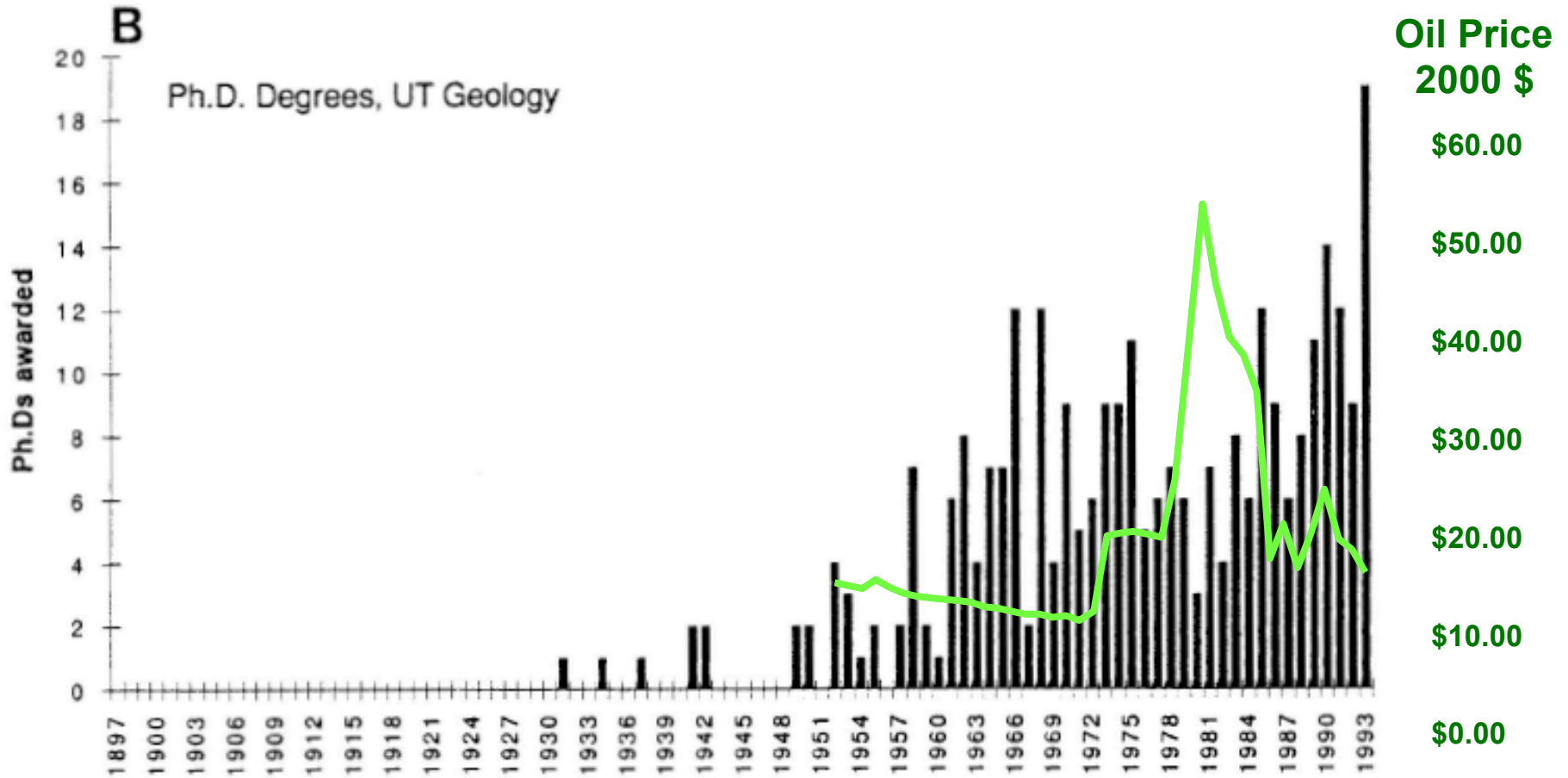


Department of Geosciences, University of Texas Total Masters

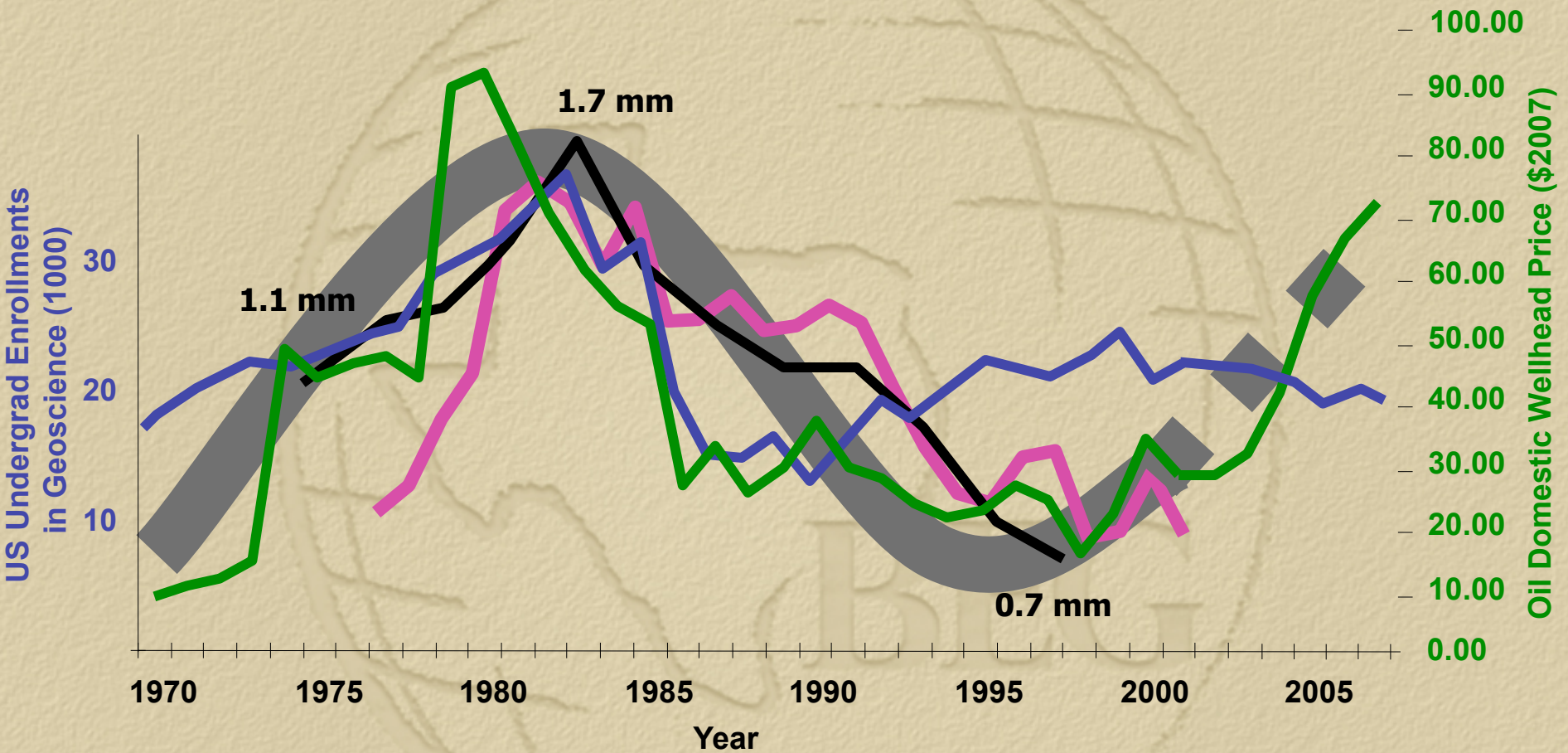


Department of Geosciences, University of Texas

Total Ph.D.s



Compound Cycles

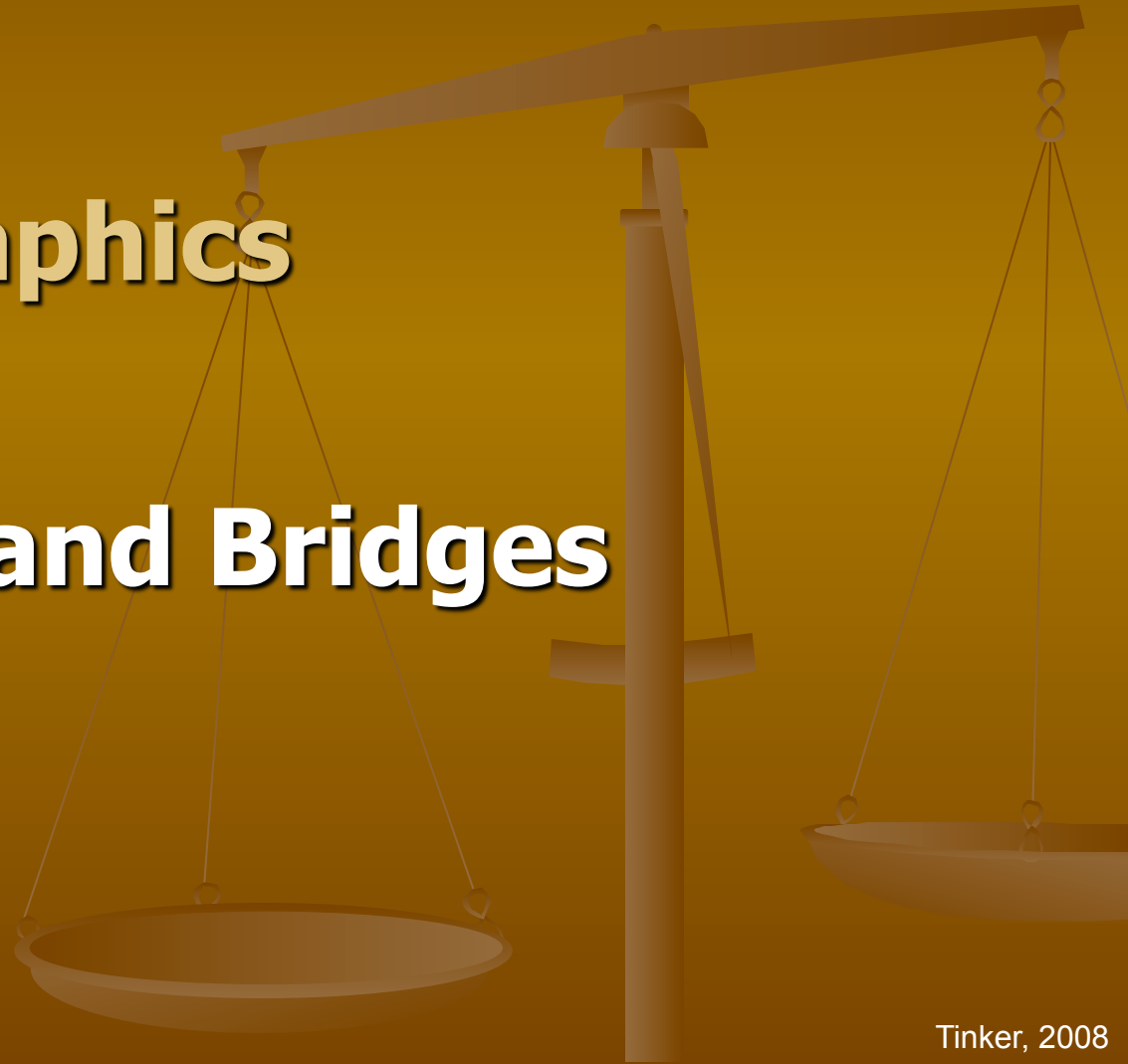


Employees Large O&G Co

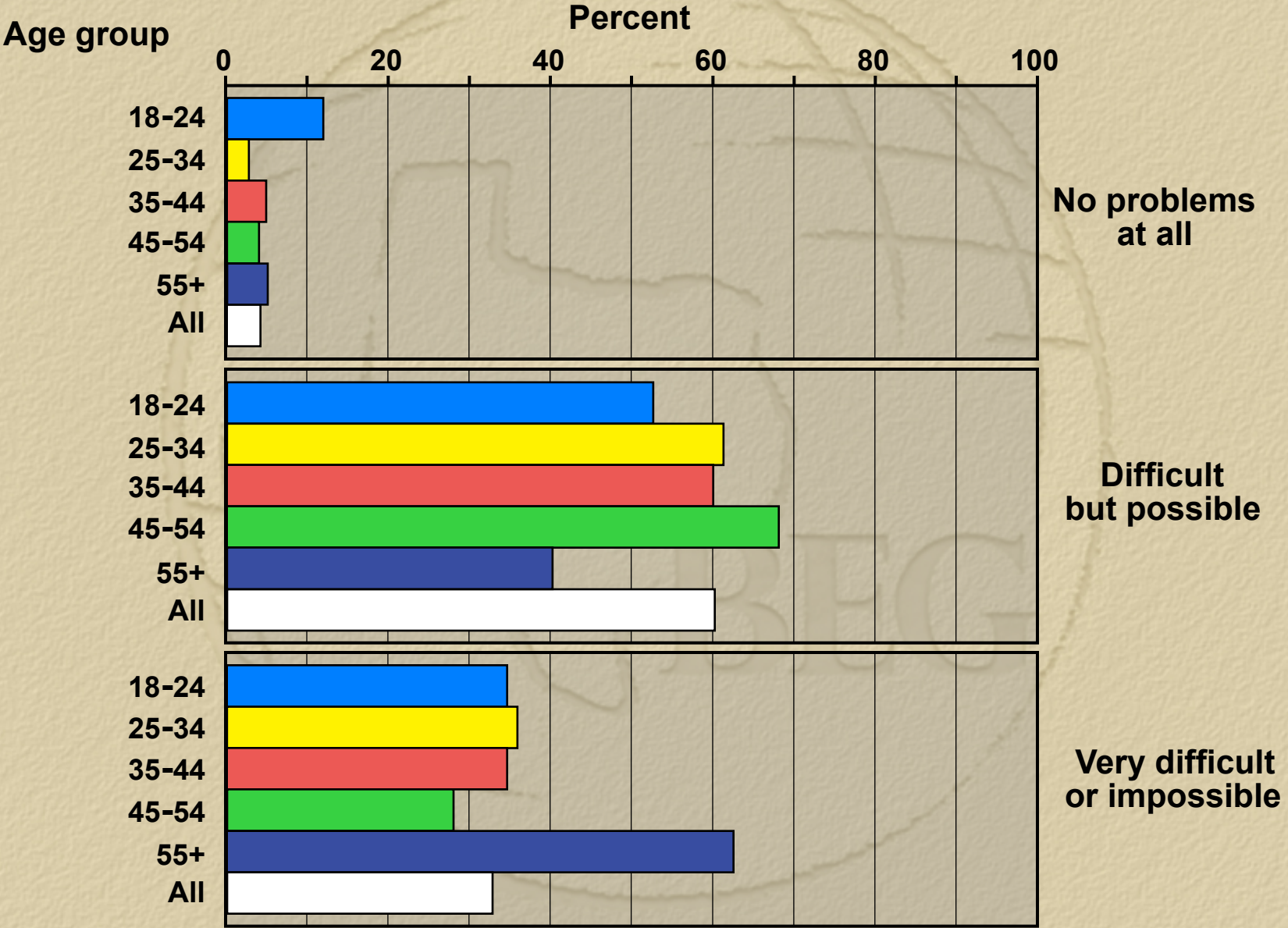
US Upstream R&D 2004 Dollars CERA

Observations

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- **Balance and Bridges**



HOW EASY IS IT TO MANAGE DUAL CAREERS IN THE OIL AND GAS INDUSTRY?



From Chadud, N., Tealdi, L., Howe, S., and Sprunt, E., 2007, How companies attract and retain talented engineers whose spouses have careers, in *Talent & Technology*, v. 1, no. 4, p. 5-10.

Dual Career Challenges



Goal: Reverse the trend of decreasing women in energy sciences throughout a full career

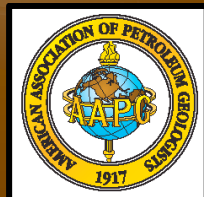
- **Maintaining a science edge in the “part time” years**
- **Separating what we want to do from what we are willing to do**
- **Reverse discrimination**
- **Precedent setting and consistency of policies**
- **Avoiding flexibility dysfunction**



Bridge

Industry, Government, Academe

- Complex global issues pose technological and social challenges requiring an integrated approach
- Each sector has different time scales for decision making, and are motivated by different opportunities
- Science, policy and commercialization are critical partners for the future
- Bridge across the canyons and peaks



PETER



1.21

Policy Maker!

4c) Expand

~~$x^3 + 2x - 2$~~

$$(a+b)^n$$

Very young Peter

$$= (a + b)^n$$

2 ?
/

$$= (a + b)^n$$

$$= (a + b)^n$$

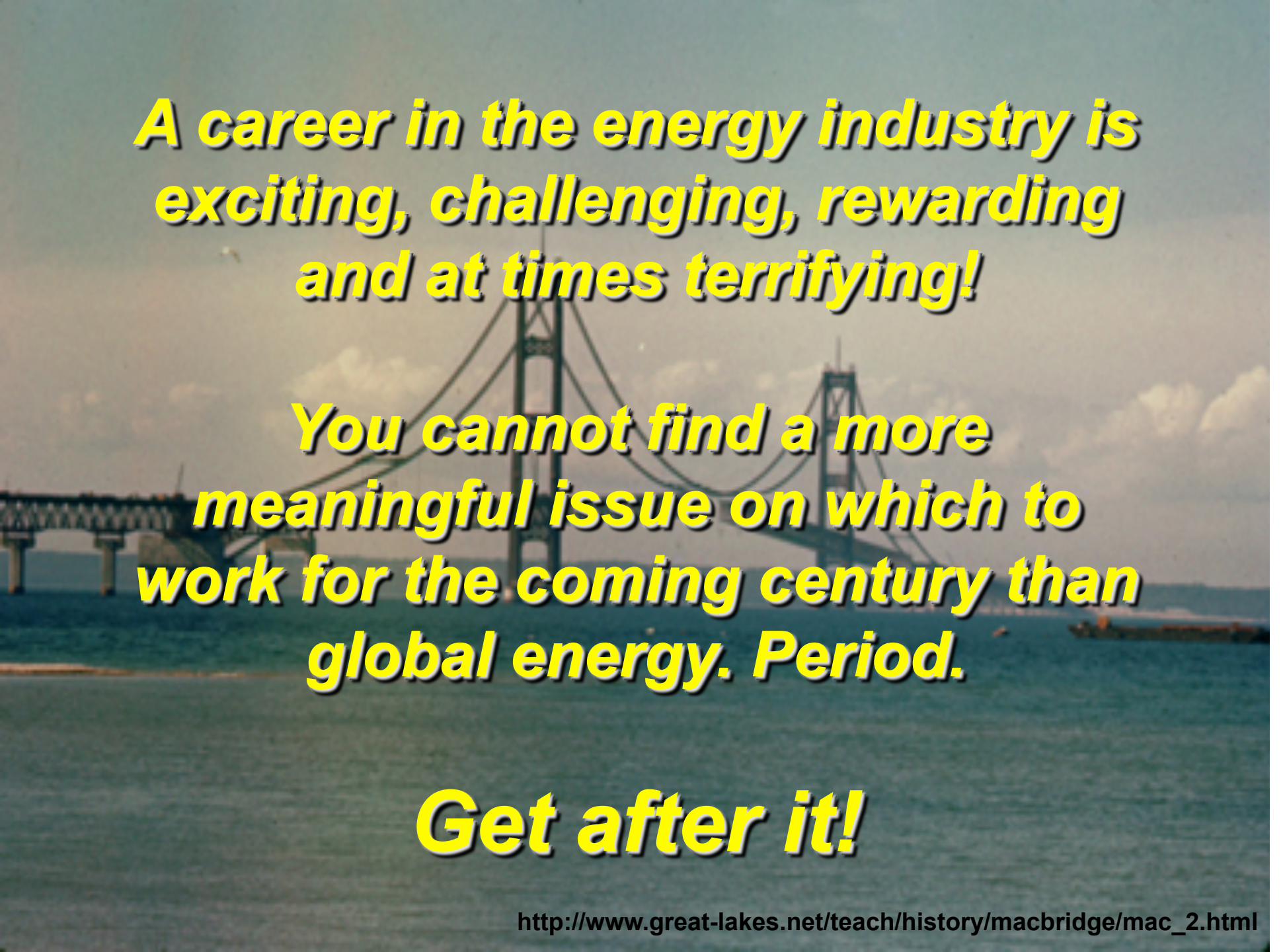
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etc...

Summary Concepts

- **Fossil fuels are essential for many decades**
- **Price volatility is likely; must enjoy change**
- **Global demographics are evolving**
- **Talent is the fundamental priority**

Government/industry/academe must work together to bridge across the cycles in order to create a stable environment that attracts and retains the best talent in the world.

A large suspension bridge, likely the Mackinac Island Bridge, spans across a wide body of water. The bridge's towers and cables are visible against a sky with scattered clouds. The water is a deep blue-green color. The text is overlaid on the image in a bold, yellow, italicized font with a black outline.

A career in the energy industry is exciting, challenging, rewarding and at times terrifying!

You cannot find a more meaningful issue on which to work for the coming century than global energy. Period.

Get after it!