

LSU Energy Summit

Young Professional in Energy

October 26, 2010

Outline

- Financial State of the Union
- Macro Trends in Energy
- Words from the Wise



Financial State of the Union

California

- California – Gross domestic state product \$1.8 trillion
- 10th largest economy in the world
- Roughly \$20 billion budget deficit
- Selling racetracks?
- Traders are betting that California is just as apt to default on their bonds as Portugal, and almost as likely as Iraq. Roughly a 1 in 4 chance



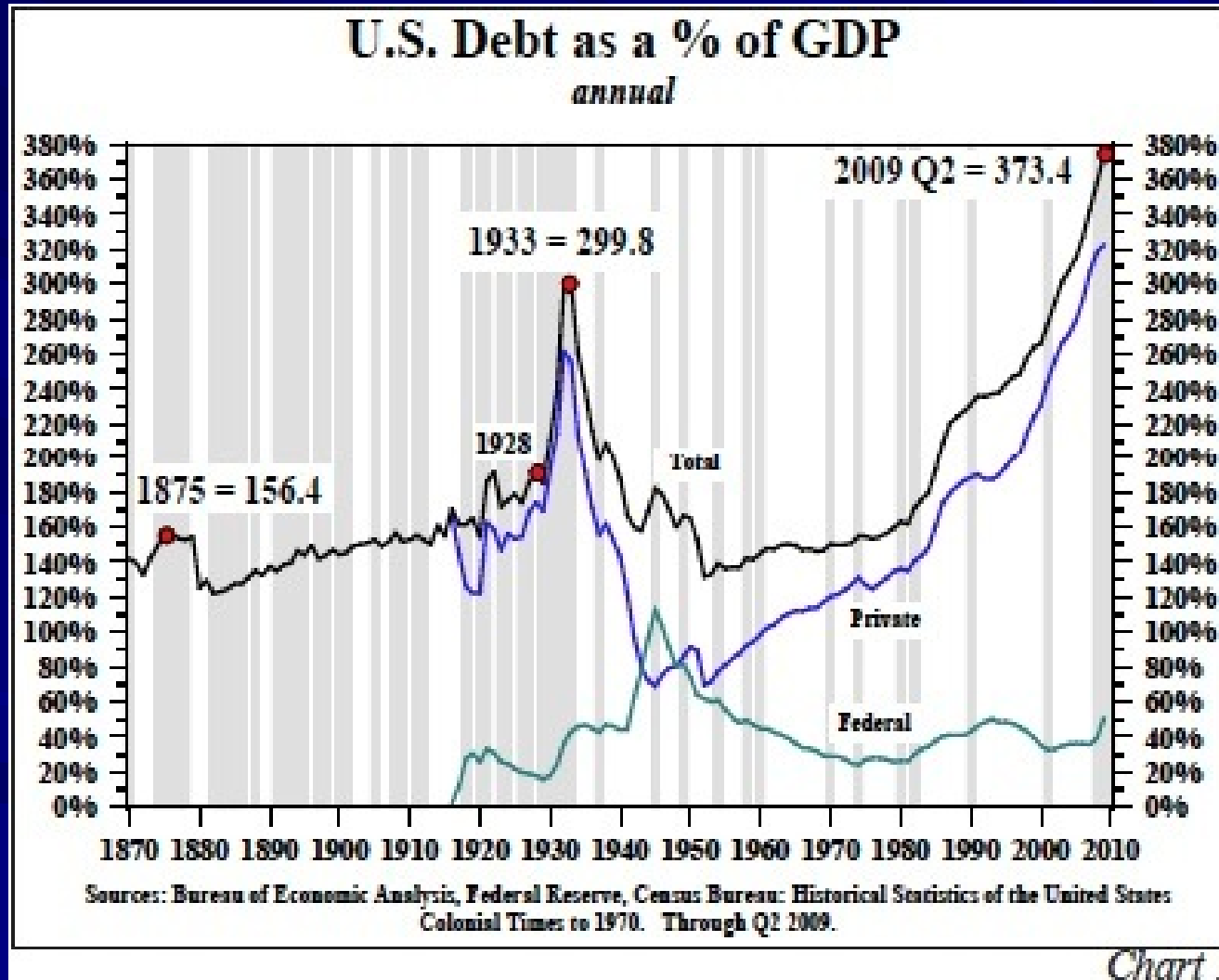
Over levered System

- Individual
- State
- Federal Government
- Western World

World Financial Asset Stats

- Ratio of world financial assets to world GDP grew from 100% in 1980 to 200% in 1993 to 316% in 2005
- Over the same period, the absolute level of global financial assets increased from \$12 trillion to \$140 trillion
- Total notional value of all swaps increased from \$106 trillion to \$531 trillion between 2002 and 2006.
- Notional value of equity derivatives increased from \$2.5 trillion to \$11.9 trillion over the same period while the notional value of credit default swaps increased from \$2.2 trillion to \$54.6 trillion

U.S. Debt as a % of GDP



Don Briggs on Economy

- “The biggest fear that all of us have today is that in the next several years is where we land in the global market and what our economy is going to look like because we dealing with a potential train wreck with social security and medicare, and close to \$100 trillion in unfunded programs that eventually we are going to have to meet. And we are not going to be able to meet them. If I were a young person I would be more concerned about that than anything because that is going to have a huge impact on all of us.”

James Rickards

- James Rickards, lawyer and 35 years on Wall Street in capital markets, former general counsel at Long Term Capital Management
- Market risk analysis firm currently consults for the Department of Defense, Department of Navy, and Director of National Intelligence
- “Either the slide resumes and we finally get to the market bottom that we never hit in 2009, or they keep printing money to paper it over, eventually destroying the dollar and undermining the entire economy.”



Fantasy Finance

- Given the state of the world and the growth prospects for developed countries we have 3 options:
 - Cut spending and start to reduce our debts
 - Print money to inflate our way out
 - Default
- Healthcare legislation... 2 options
- Fed has chosen option 2

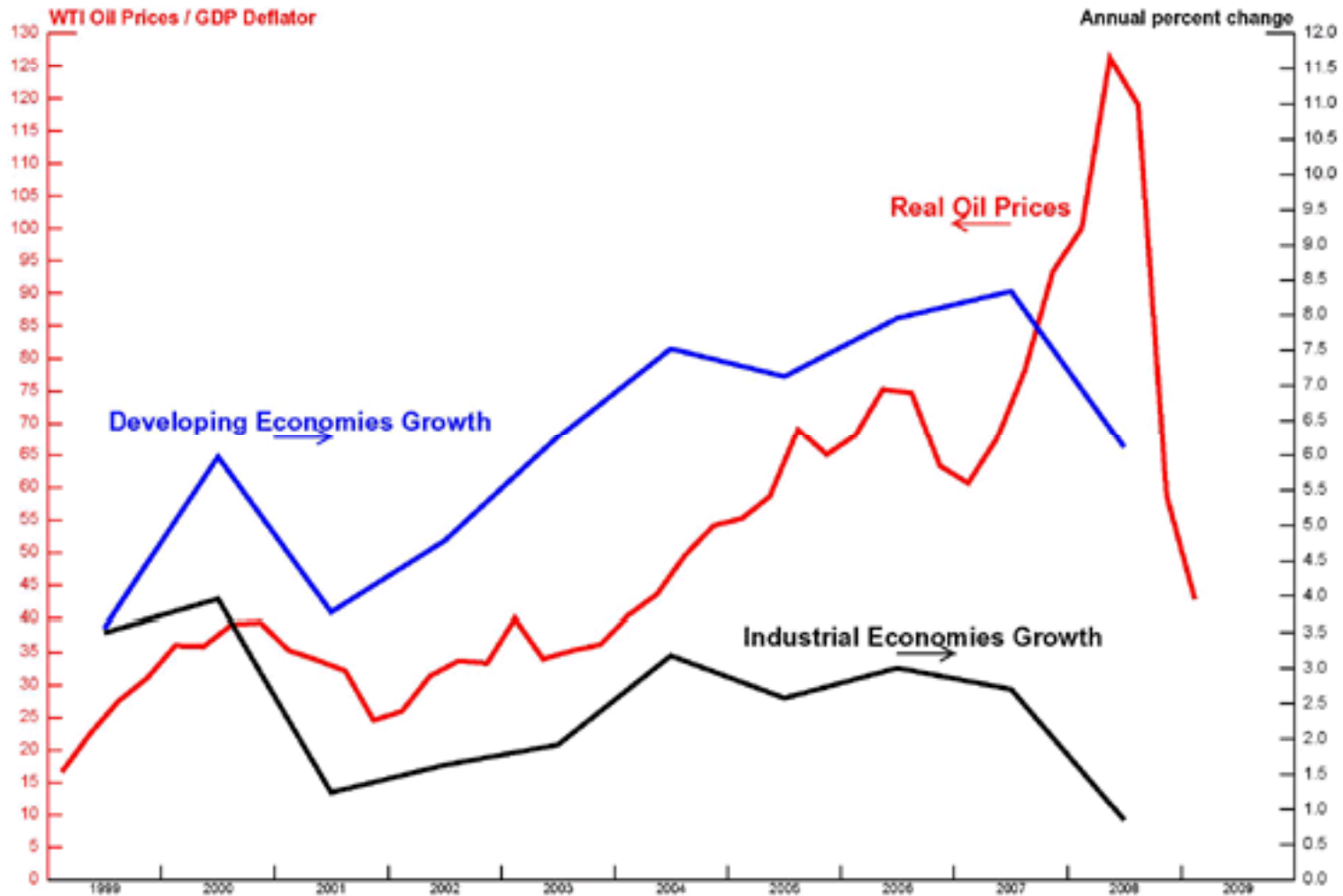
The screenshot shows the top navigation bar of the ESPN Fantasy and Games website. At the top, there are links for 'EDITIONS: USA', 'DEPORTES', and 'More'. Below that, there are links for 'CITIES: BOSTON', 'CHICAGO', 'DALLAS', 'LOS ANGELES', and 'NEW YORK'. On the right side of the top bar, it says 'Andrew Activate Insider | Sign'. The main header features the ESPN logo on the left, the 'FANTASY AND GAMES' logo in the center, and a search bar on the right. Below the main header, there is a navigation bar with links for 'myESPN', 'NFL', 'MLB', 'NBA', 'NHL', 'NCAA FB', 'NCAA BB', 'NASCAR', 'SOCCER', and 'MORE SPORTS'. To the right of these links are 'FANTASY & GAMES', 'WATCH & LISTEN', 'PAGE 2 & COMMENTARY', and 'SHC & MO'. At the bottom of the navigation bar, there are links for 'Fantasy and Games Home', 'Football', 'Baseball', 'Basketball', 'Hockey', 'Soccer', 'Uber', 'Streak', 'Poker', 'Arcade', and 'All Games'.

Kyle Bass



- Managing Member at Hayman advisors
- Testified as an expert witness before the House of Representatives Financial Services Capital Markets Subcommittee
- Made millions betting against the mortgage crisis
- “there is not enough money in the world to soak up the tens of trillions of dollars of deleveraging that must occur over the next few years.”

Oil price vs GDP Growth



Source: Wall Street Journal; Bureau of Economic Analysis; IMF WEO Database, April 2009.

The Good News

- What do Microsoft, Disney, McDonald's, Southwest Airlines, Johnson & Johnson and Krispy Kreme all have in common?
- All were founded in recessions, depressions or bear markets.
- Energy entrepreneur opportunities?

Oil inflationary hedge

- "The endowment world is terribly worried about inflation, and sees investing in oil and gas assets as an inflation hedge"

Eric Mullins, co-CEO Lime Rock Resources

- JPMorgan Expects Oil to Rally, Sees Any Price `Setback' as a Signal to Buy

- "A declining dollar increases the appeal of energy as an inflation hedge. "

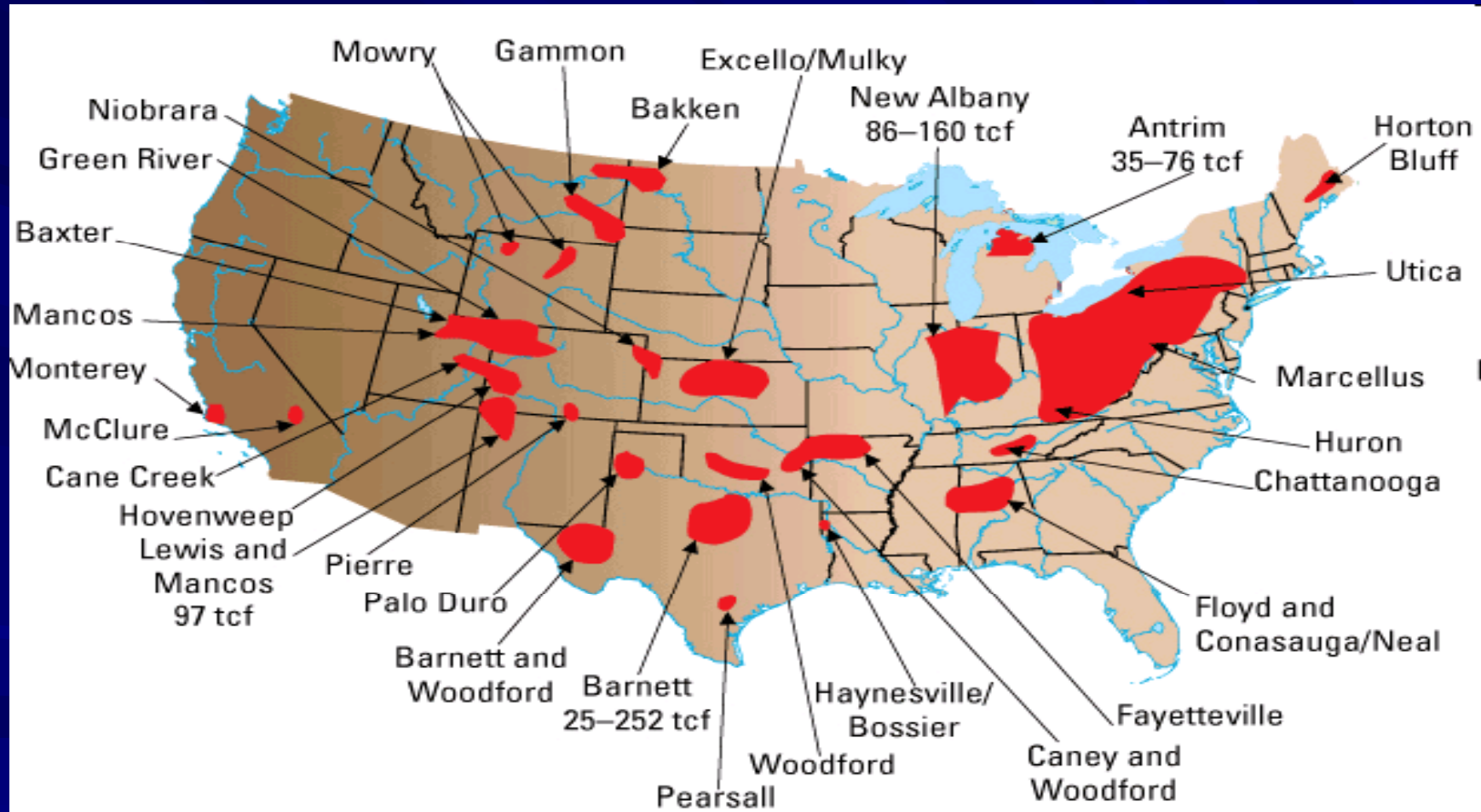
Bloomberg Oct. 22nd

Energy Trends

Trends affecting Young Professionals

- Shale Plays
- GOM moratorium
- International oil: Chinese Demand
- Aging energy workforce

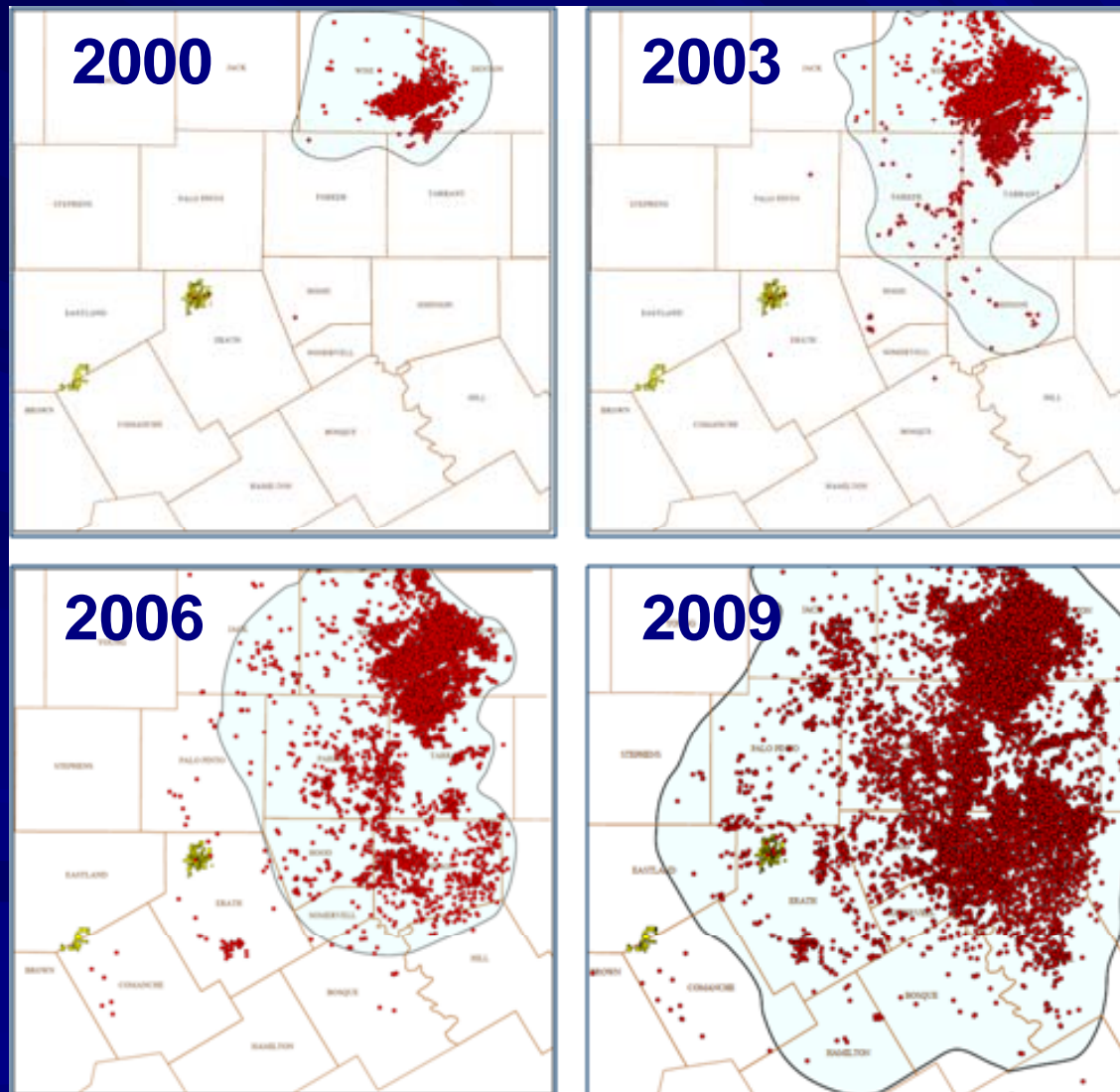
U.S. Shale Basins



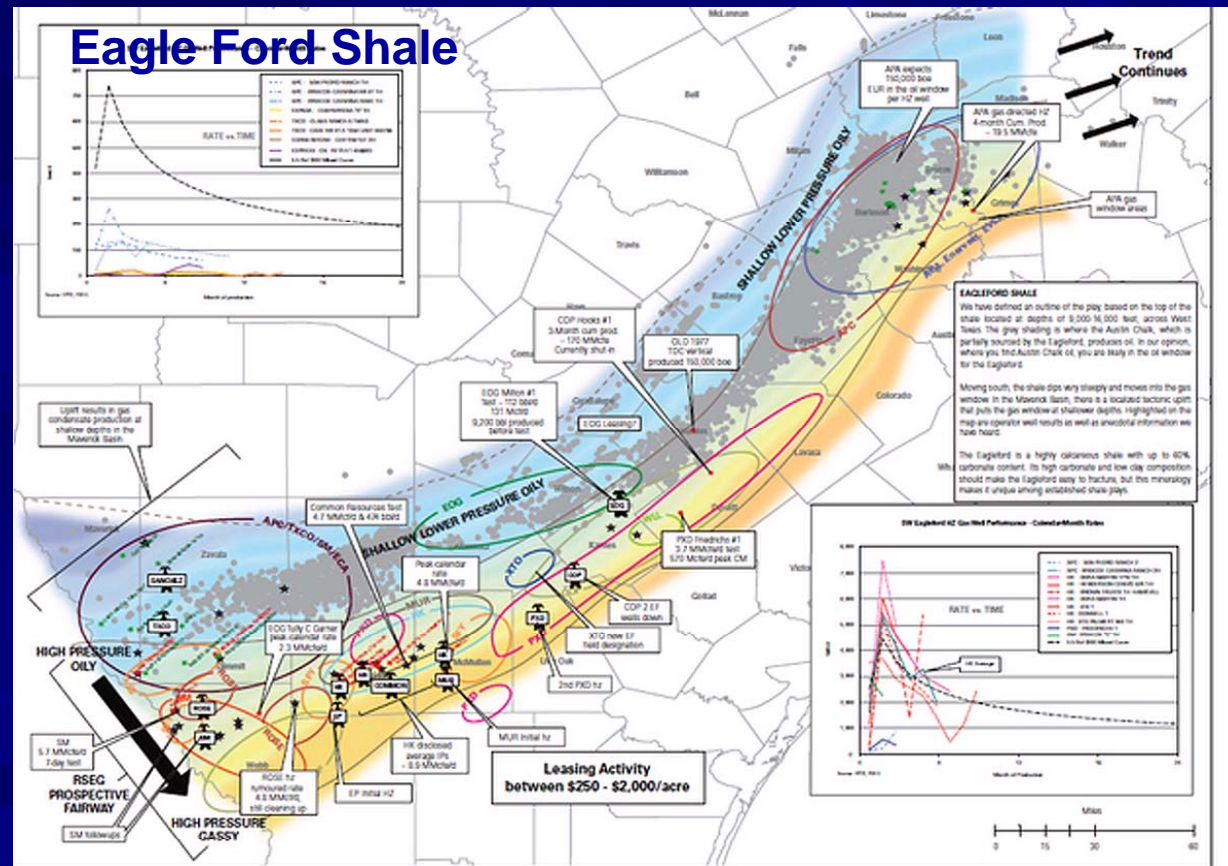
Shale

- A new IHS CERA study to include a discovered resource base of 2,000 trillion cubic feet in North America, with another 1,000 Tcf expected to be found.
- “This is an order of magnitude larger than the proved reserves recognized by the U.S. Energy Information Administration only two years ago. In addition, the estimated shale-gas resources in Canada exceed 500 Tcf,” the study says.

Progression of Barnett Shale



Oil Shales = Tremendous Opportunity



GOM: Moratorium Lifted - de facto?

- Jack Gerard American Petroleum Institute
- Raymond James Marshall Adkins –
 - move to lift the moratorium before Nov. 30 "has all the makings of political grandstanding ahead of the midterms elections."
- OFS majors weigh in
- “what is unnerving about that is what are those new regulations, are they going to keep changing month to month?”

Good News for GOM

- “in the next five years we will probably see shortages in oil with considerably higher oil prices.”
- “No matter what happens the GOM is going to come back and when it comes back it is going to be come back in a big way”.

Don Briggs, Louisiana Oil & Gas Association

- “It’s shortages that cause people to get scared, petrified, and we are in for shortages, there is no question about it.”

John Hofmeister, CFAE

China



China

- Industrialization of a Country
 - Population eats better
 - Uses more energy



- “China’s daily oil demand is now about 8 million barrels, the second-highest level of oil demand in the world after the U.S. That demand has been increasing about 9% per year for several years.”

Mark Hutchinson IHS CERA senior director for Asia

Source: IHS CERA

Chinese Auto Stats

- 156 cities have doubled population
- 1995 -10 million vehicles, today there are 60 million
- 13.6 million vehicles sold in 2008 surpassing auto sales in the U.S. for the first time



“Year over year sales growth is phenomenal...Sales grew 23% annually from 2000 to 2009.” Britta Gross, Director of Global Energy systems GM

Chinese Demand

- by 2020, China is expected to have to import 70% of its crude oil needs

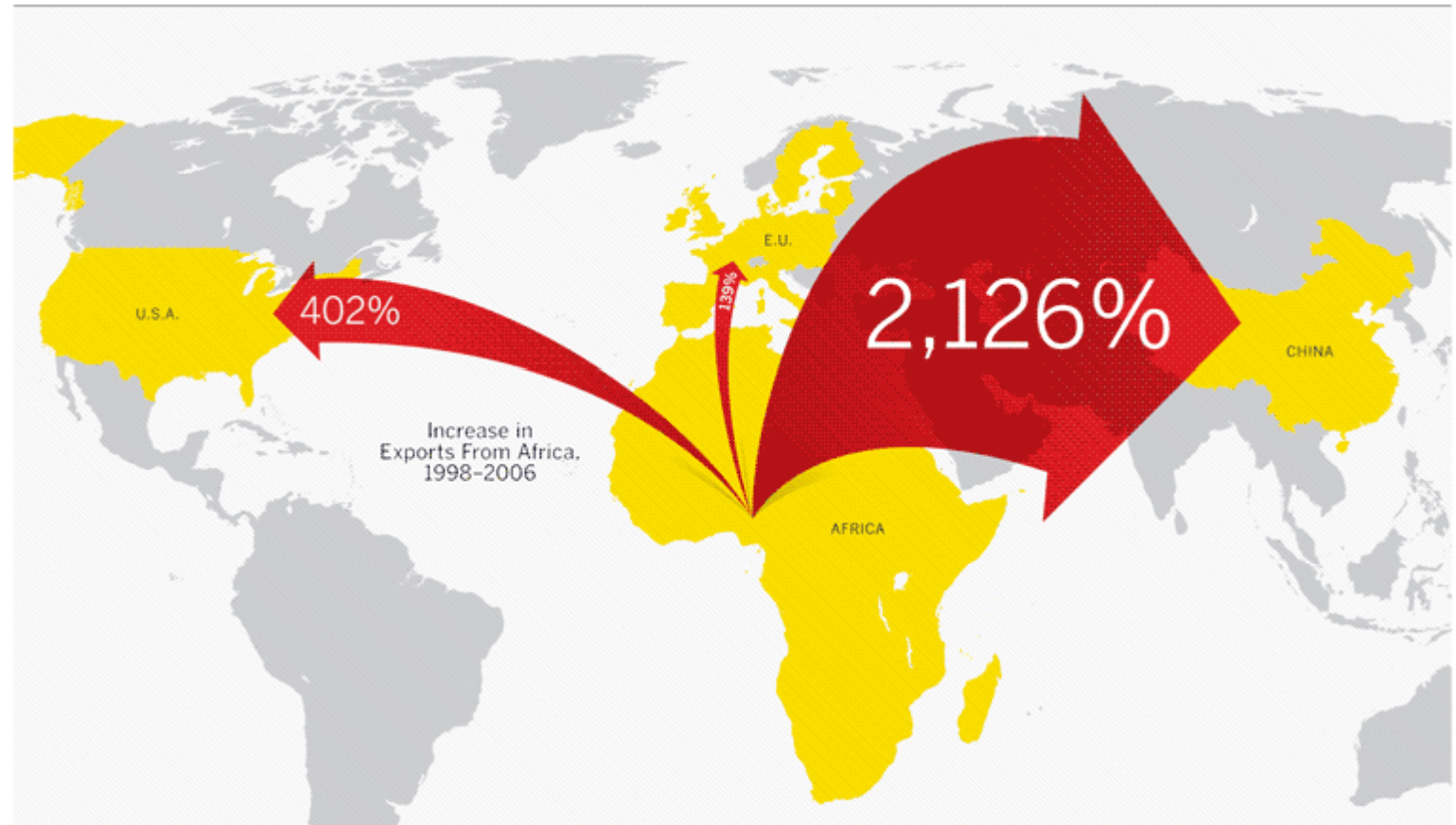


Source: IHS CERA

Exports from Africa: 1998-2006

The Race for Raw Materials

Thanks to aggressive deal making in the sub-Sahara, China has dramatically boosted its economic footprint in Africa.



Source: Fast Company

China: Recent List of Deals

- \$4.6 billion by Sinopec to buy a stake in Canadian oil-sands company Syncrude Canada.
- \$3.1 billion by China National Offshore Oil Corporation (CNOOC) to explore and produce gas in Latin America through a 50/50 joint venture with Bidas Energy Holdings.
- \$3 billion by CNOOC for control of a coal-liquefaction joint venture with Australia's Altona Energy.
- \$3 billion by Sinochem for a 40% interest in Brazil's Peregrino offshore oilfield from Statoil.
- \$3 billion combined by PetroChina and Royal Dutch Shell for Australia's Arrow Energy and its gas reserves to supply a planned Liquefied Natural Gas project in Queensland.
- \$1.8 billion by PetroChina for 60% working interest in Athabasca Oil Sands' MacKay River and Dover oil sands projects—as well as recent negotiations with Ineos Group Holdings to invest in Scotland's only oil refinery.
- Approximately \$1.5 billion for China National Petroleum Corp to acquire a 35% interest in 40 Middle East oil fields from Syria Shell Petroleum Development.
- \$561 million by Sinopec to acquire a 60% stake in the Puffin Oilfield in the Timor Sea from Australia's AED Oil.
- \$515 million by CNOOC to acquire a 24.5% interest in the South China Sea Panyu oil block from Devon Energy.
- China's top offshore oil producer, CNOOC Ltd, will pay \$1.1 billion for a stake in a U.S. shale oil and gas field, testing the U.S. political climate for the first time since its 2005 failed bid for Unocal.

Aging Energy Workforce

Energy Aging stats

- Ernst & Young believes that there is an open-ended demographic gap that is not being addressed, and feel the “window of opportunity for knowledge transfer is short and getting shorter.”
- “The oil industry’s aging workforce and infrastructure—inadvertent byproducts of cyclical discontinuities between costs/price and supply/demand...constitute grave threats to sustained reliance on hydrocarbons as the energy source that fuels globalization. “

Energy Aging Talk

- “we are losing the field hand side of the business, a lot of our technical guys are getting older and it is getting difficult to replace these guys...if someone comes in with the experience I need I will hire them”

Gulf Coast Manager, Major Oilfield Service Co.

- “We don’t want to pursue layoffs, because we know if we do, we will not get these workers back.”

CEO, Publicly-traded E&P Co.

- “There will always be shortage and need for people in the industry, you are always going to need them.”

Don Briggs, Louisiana Oil & Gas Association

Conclusion: Words of Wisdom

Words from the Young

- “The importance of passing on lessons learned and best practices goes without saying. However, the key to the development of the younger workforce is for both the seasoned and incoming industry members to work side by side. The energy industry continually encounters new problems, so it is essential that everyone keep an open mind and continue to practice our innovations.”
- “the best way is to give us opportunity when we deserve it. Lots of smart young professionals have entered the energy industry over the last 5-10 years.”
- “As a professional I just don’t want to be written off. As a young person in the business I see that a lot.”

Words from the Wise

- “Energy is going to always be there...“Long term there is a bright future for anyone that wants to be in the energy industry.”

Don Briggs, Louisiana Oil & Gas Association

- “demand for oil and gas will grow and we will need innovation to meet these challenges, if you want to be in a business to capitalize on new ideas and innovation then energy is it.”

Gulf Coast Manager, Major Oilfield Service Co.

- “best time to get into the business”

CEO, Publicly-traded E&P Co.

Words from the Wise

- Energy is like Nutrition
- Energy must be available, affordable and sustainable

- “The more complexity you can encounter, the sooner, the better off you are in an energy career”
- “Your grandchildren will also work in the energy business.”
- “We are always going to need more energy not less. Because the world’s population is still growing and some 2 billion people have no energy. We need all of 10 forms of energy that we can develop. We need all of them and good news is there is more energy than we will ever use”

John Hofmeister, CFAE

Bridging the Gap

- What lessons can we learn from Vinny?



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