

# ***The Politics and Geopolitics of Energy***

## **A Panel Discussion**

***Joe Barnes, James A Baker III Institute for Public Policy, Rice University***

***Don Jacobsen, Noble Drilling***

***Dr. Ernest Moniz, MIT Energy Initiative***

***Ed Verona, US-Russia Business Council***

***Moderator: Richard Westney, Westney Consulting Group***



## I. Geopolitical Perspective

- Presentations
  - Global: Joe Barnes (Baker Inst.)
  - US: Dr. Ernest Moniz (MIT)
- Panel Discussion
- Q&A

## II. Industry Perspective

- Presentations
  - Global: Ed Verona (USRBC)
  - US: Don Jacobsen (Noble)
- Panel Discussion
- Q&A

# Developments in Petroleum and Natural Gas Markets: An International Perspective



**Joe Barnes**

**Bonner Means Baker Research Fellow**

**James A. Baker III Institute for Public Policy,  
Rice University**



**JAMES A. BAKER III  
INSTITUTE FOR  
PUBLIC POLICY  
RICE UNIVERSITY**

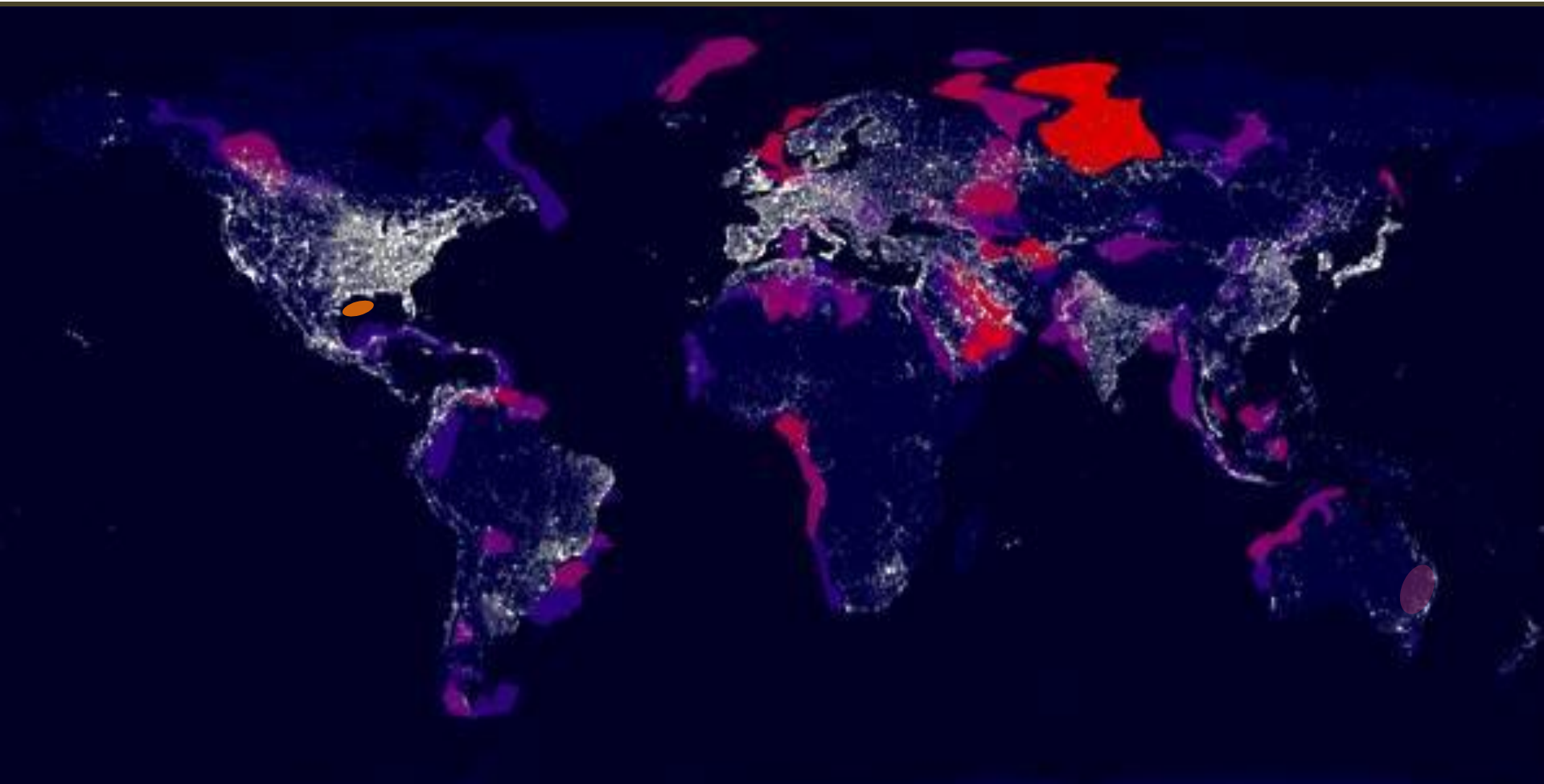
# Developments in Petroleum and Natural Gas Markets: An International Perspective





- **Center of the Energy World Shifting Back to the Americas**
- **Unconventionals Changing Global Energy Landscape**

**Prior to 2005, it looked like remaining large reserves were far from end-use markets and Middle East/FSU supplies would dominate global market ala “peak oil”**



**New World Vision: Shale will alter the energy security picture for major end-use markets, limiting individual producer petro-power and creating a more competitive marketplace for LNG and potentially enable further market liberalization in Europe and elsewhere**



*\*Over 6,600 tcf of shale according to ARI/EIA report, 2011*

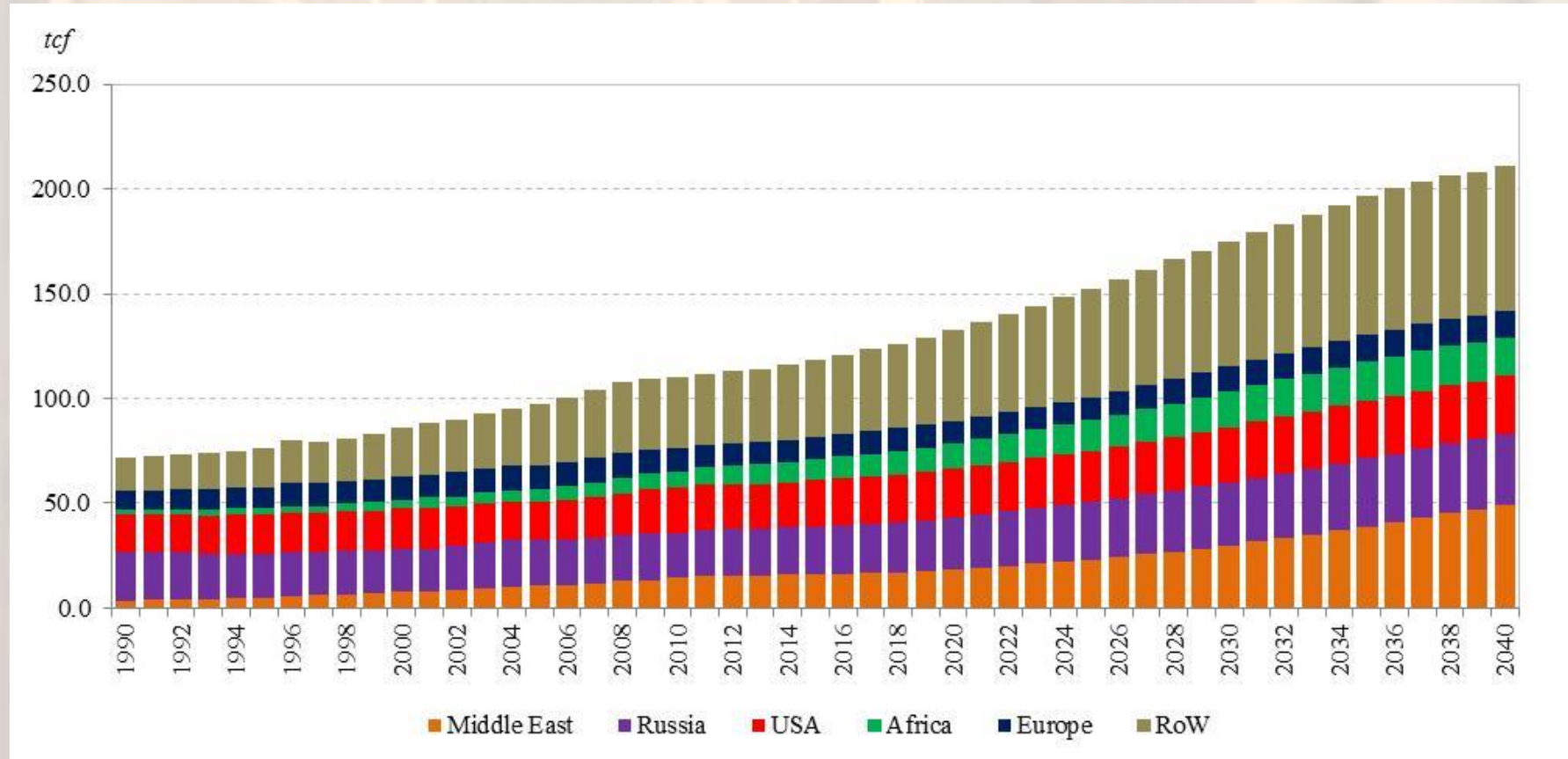
***Which best describes the United States:***

- A. World's largest producer of oil.**
- B. World's third largest producer of oil.**
- C. World's seventh largest producer of oil**
- D. World's eleventh largest producer of oil**



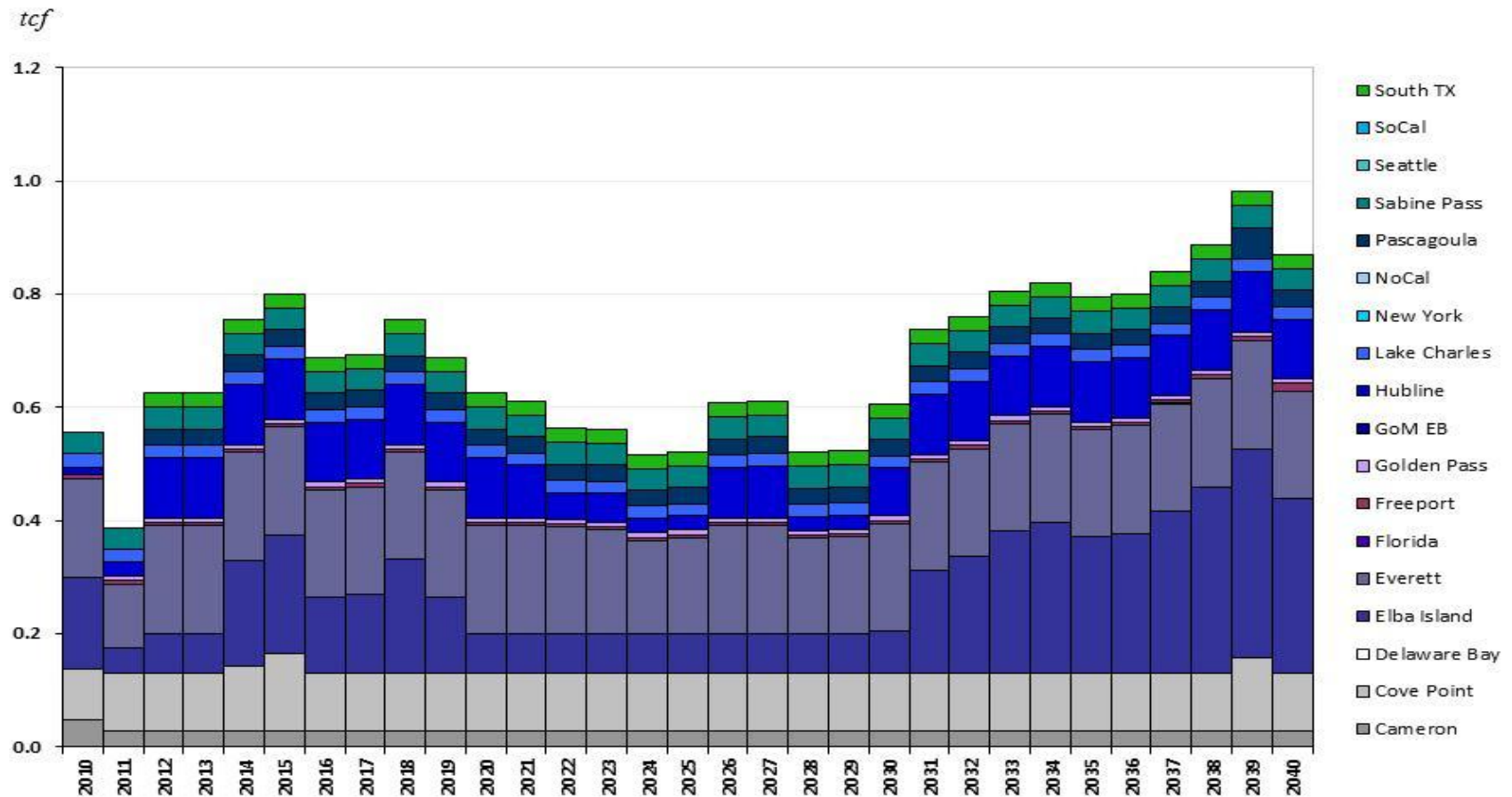
# Baker Institute Reference Case: Need for U.S. LNG Imports Virtually Eliminated for Two Decades

Very low re-gas terminal capacity utilization through 2040.



# Baker Institute Reference Case: Need for U.S. LNG Imports Virtually Eliminated for Two Decades

Very low re-gas terminal capacity utilization through 2040.



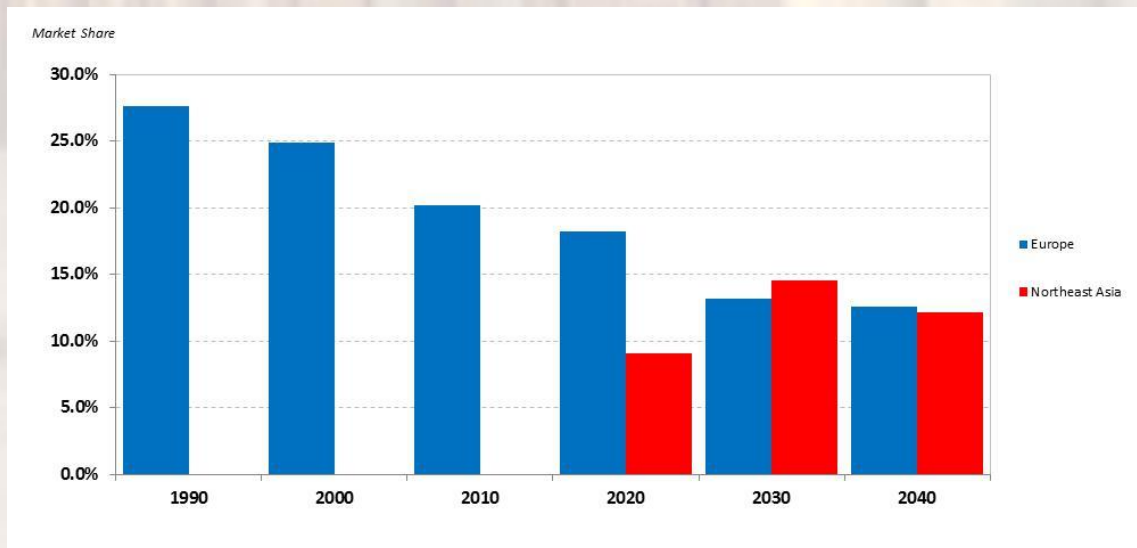
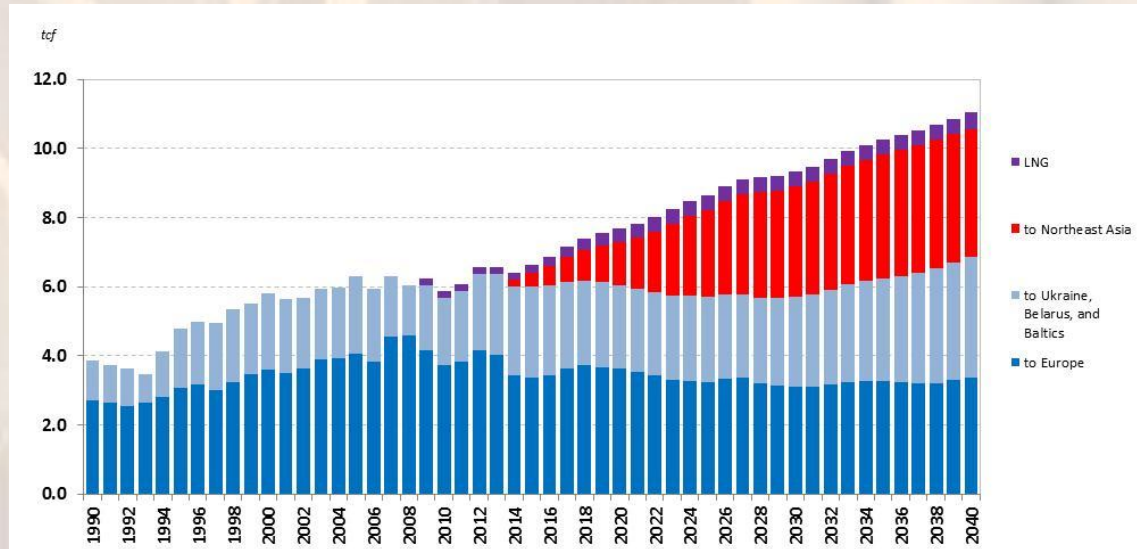
***Should the United States ban the export of natural gas to keep domestic prices low?***

**A. Yes**

**B. No**

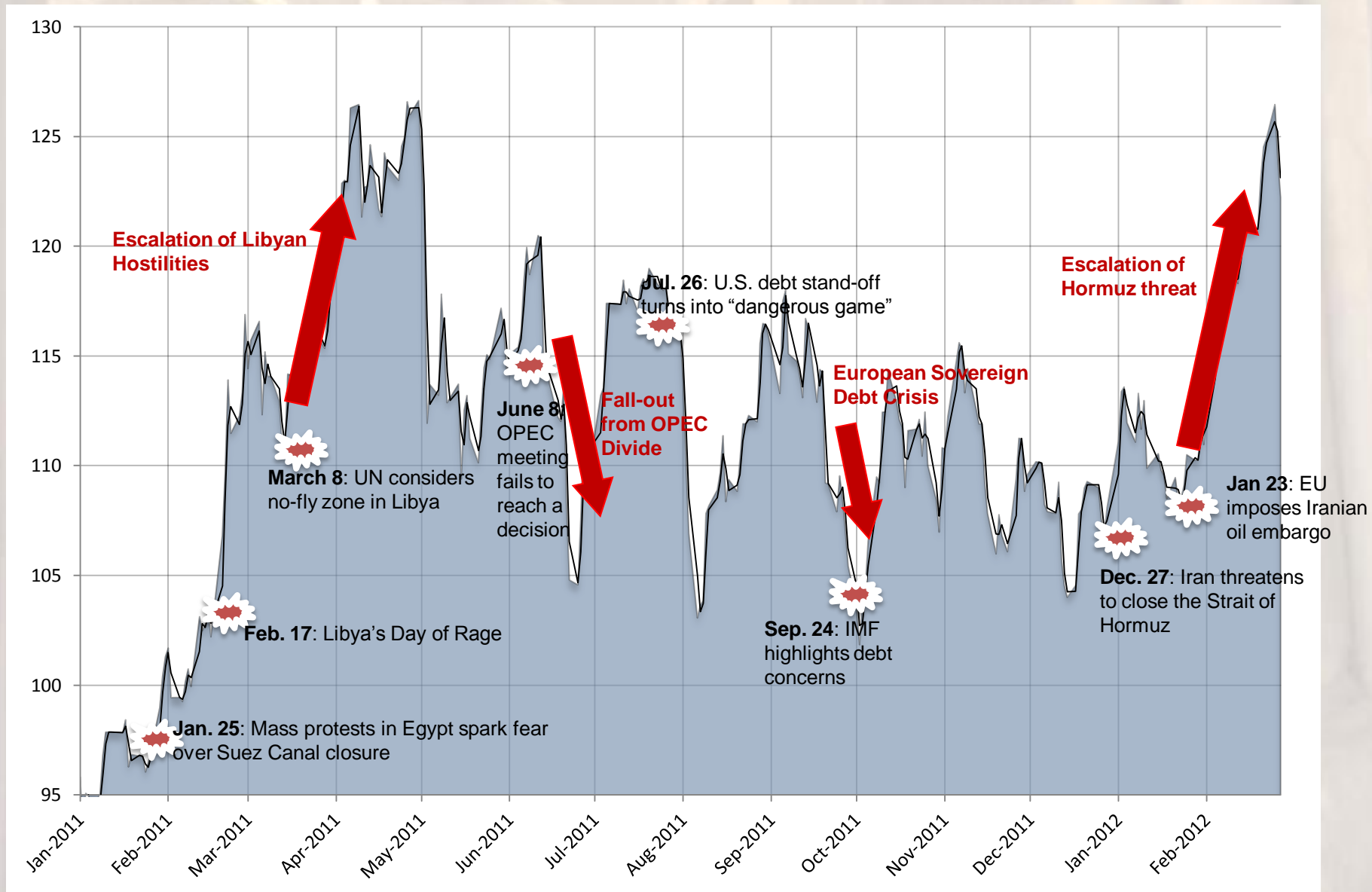
# Baker Institute Reference Case: Russian Exports, 1990-2040

- Russian opportunities to Europe are diminishing as a result of shale production growth and Europe's increased pull on LNG.
- The market share of Russia in non-FSU Europe is falling and could be below 13% by 2040.





# Brent Crude Oil (USD/BBL)



# Over ten shale plays have high liquids potential

- Total technically recoverable resource endowment may exceed 60 billion barrels
- Oil potential is widely distributed geographically
- North Dakota (Bakken); Texas-New Mexico (Permian Basin, Avalon, Bone Springs, Wolfcamp, Eagleford); Ohio (Utica); Pennsylvania (Marcellus); Colorado-Wyoming (Niobrara); Florida (Sunniland); Louisiana (Tuscaloosa); Oklahoma (Mississippi Lime); California (Monterrey Basin)
- Technical and cost challenges rapidly being overcome through experience; over 1 million b/d expected by next year



***How much more would you pay for a gallon of gasoline in order to stop Iran from enriching weapons grade uranium?***

- A. Nothing.**
- B. Up to a dollar.**
- C. Up to five dollars.**
- D. More than five dollars.**



**Dr. Ernest Moniz**

**Director, MIT Energy Initiative**

**Director, Laboratory for Energy and the Environment**

**Former US Undersecretary of the US Department of Energy**



Engineering Systems Division



***What should be the role of the Federal Government in promoting the development of new technologies with strategic importance?***

- A. No role; let the free enterprise system come up with the best solutions**
- B. Limited role; only if not possible for private enterprise**
- C. Significant role; back selected players with investment, loans, or loan guarantees**
- D. Major role; dominate industries when strategically important solutions are not economically viable**

***The debate around US energy independence has surfaced yet again. Assuming the right government policies were in place (and the wrong ones removed) how likely is it that the energy industry can make the US energy independent in 10 years?***

- A. Totally impossible**
- B. Possible but unlikely**
- C. Somewhat likely**
- D. Very likely**

***Much of the politics and geopolitics of energy is driven by different perceptions about global warming – its severity, sources, as well as the extent and pace needed to reduce carbon emissions and replace fossil fuels with renewables. With which of these statements do you most agree?***

- A. The data that supports global warming is insufficient to support any substantive changes in energy policy or regulation**
- B. There is no doubt that weather patterns have changed and global temperatures increased, but this is within normal variations and not primarily due to human activity**
- C. Global warming is real and driven to a significant extent by human activity, therefore it is important to use government to spur the growth of green energy**
- D. Global warming is a critical threat to the long term survival of humankind and drastic actions are required if catastrophe is to be averted**

***How do we square support for renewable energy in an environment of sharply falling natural gas prices?***



***What would be the ramifications of a truly global market in natural gas?***

***How likely is it that the US will become a significant exporter of LNG?***

- ***How much and when?***
- ***What are the issues involved?***
- ***Should the US Govt. bar the export of LNG?***

***Is there anything more the government should do to encourage transition away from gasoline and Diesel as our primary transportation fuels?***

# The Politics & Geopolitics of Energy: THE RUSSIA CASE



**Ed Verona**  
**President & CEO**  
**US – Russia Business Council**



**Washington**  
1110 Vermont Avenue  
Office 350  
Washington, DC 20005  
USA

1-202-739-9180  
[www.usrbc.org](http://www.usrbc.org)

**Moscow**  
Novinsky bulvar 8  
Office 907  
121099 Moscow  
Russian Federation

7-495-228-5896  
[www.usrbc.org/ru](http://www.usrbc.org/ru)

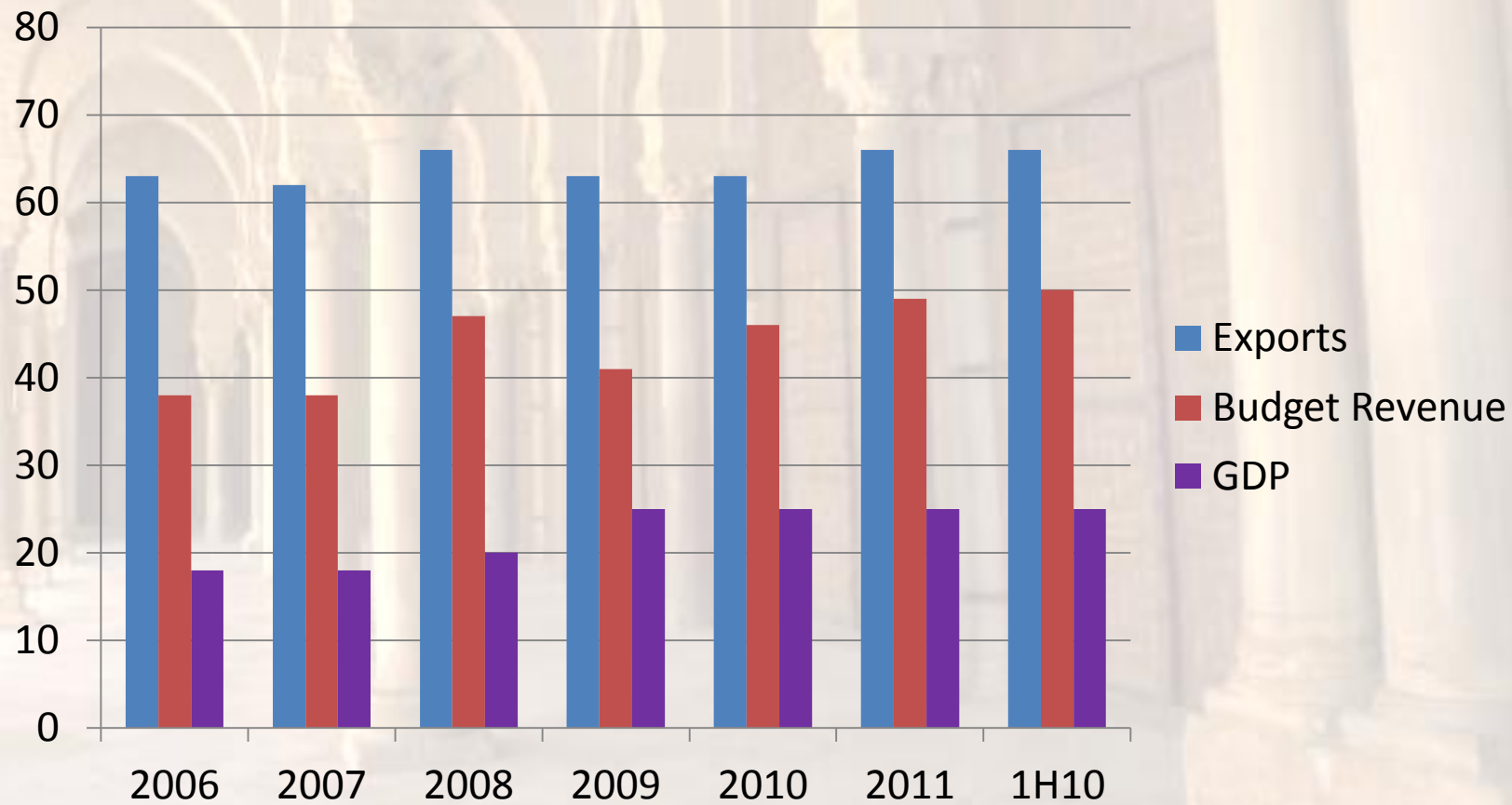


# Historical Context: Yamal Pipeline Construction

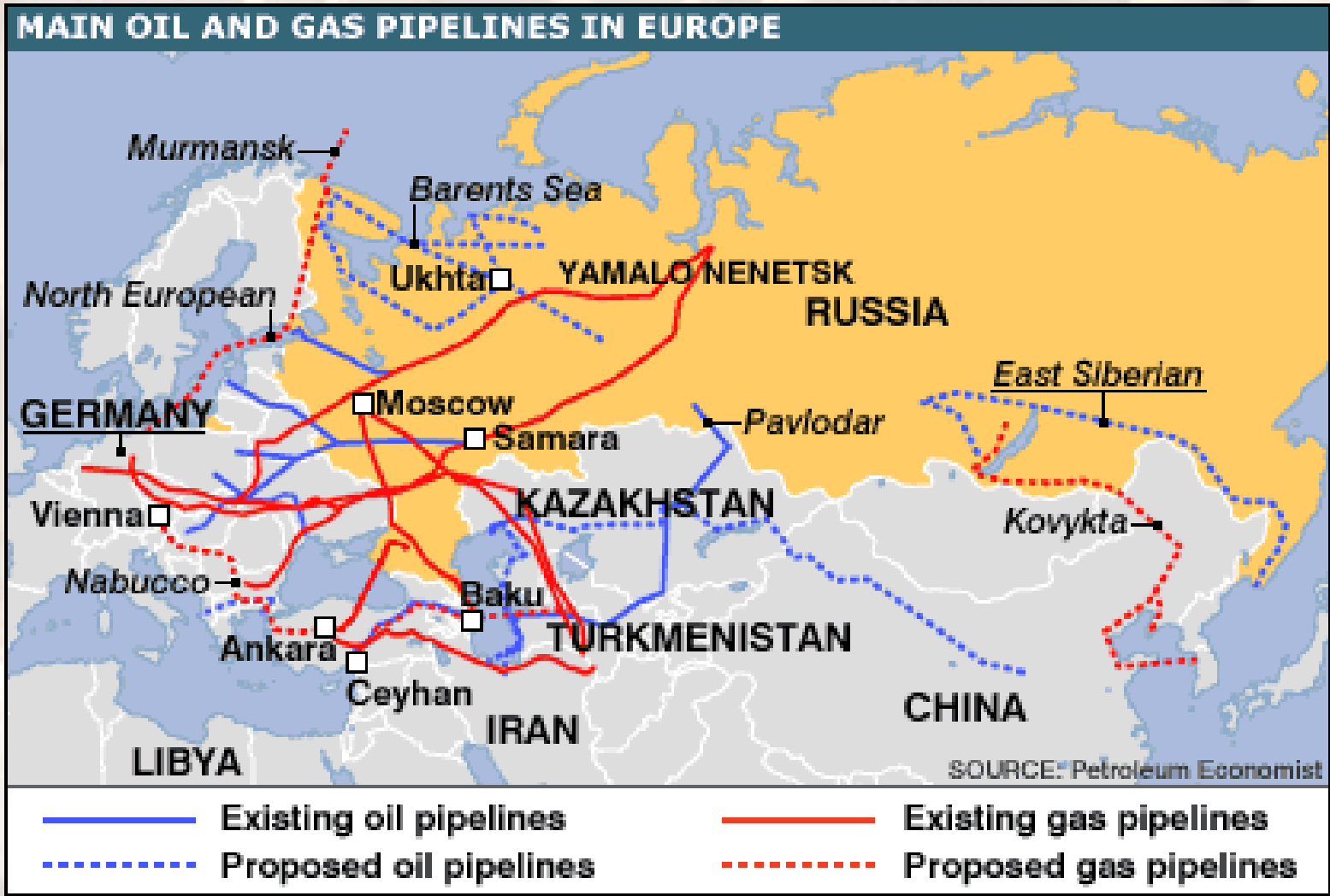


# Russia's Reliance on Oil and Gas

Oil & Gas as a percentage of:



Sources: RF Ministry of Finance, State Statistical Service, Federal Customs Service



# Russia and the Third Energy Package





# Alternative Routes: Nord Stream





# Alternative Routes: Nord Stream



# Alternative Routes: South Stream

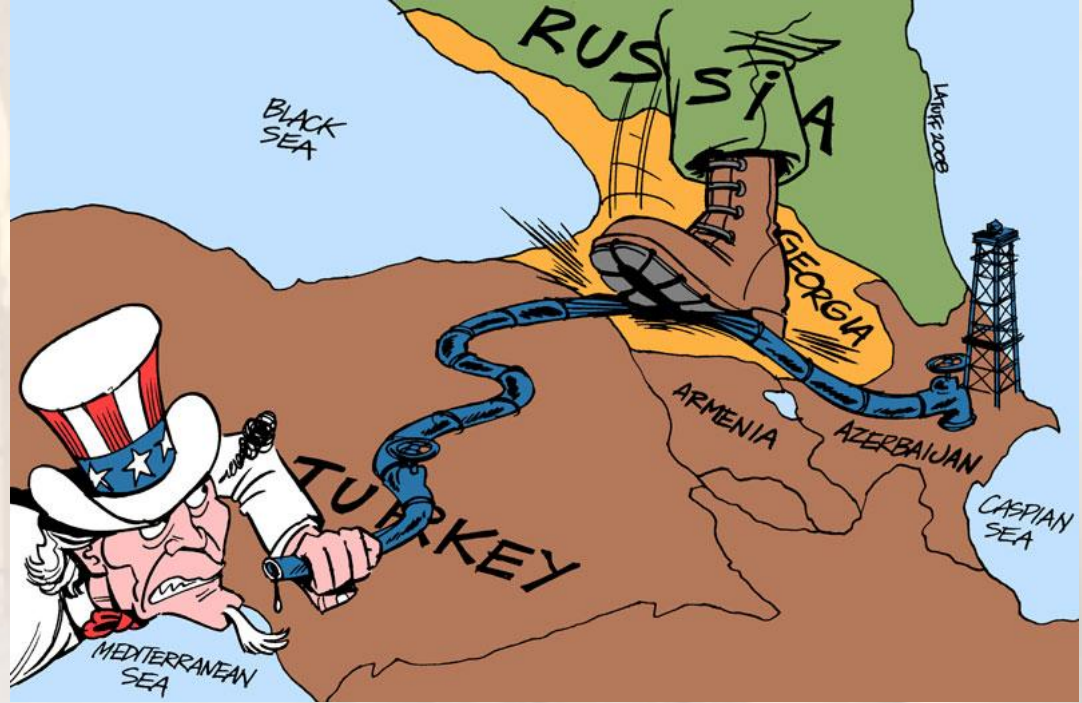


# Alternative Routes: Silk Road Pipelines



Source: IEA and National Pipeline Research Society of Japan

# Alternative Routes: Baku-Tbilisi-Ceyhan





## Eastern Siberian Pacific Ocean Pipeline



Source: Platts, ERINA





TNK-BP Signing Ceremony (2003)



Rosneft-Statoil Signing Ceremony



Rosneft-ExxonMobil Signing Ceremony

# Regulatory Implications from Macondo



**Don Jacobsen**  
**Senior Vice President**  
**Industry & Government Relations**  
**Noble Corporation**







**What changes have these events brought?**



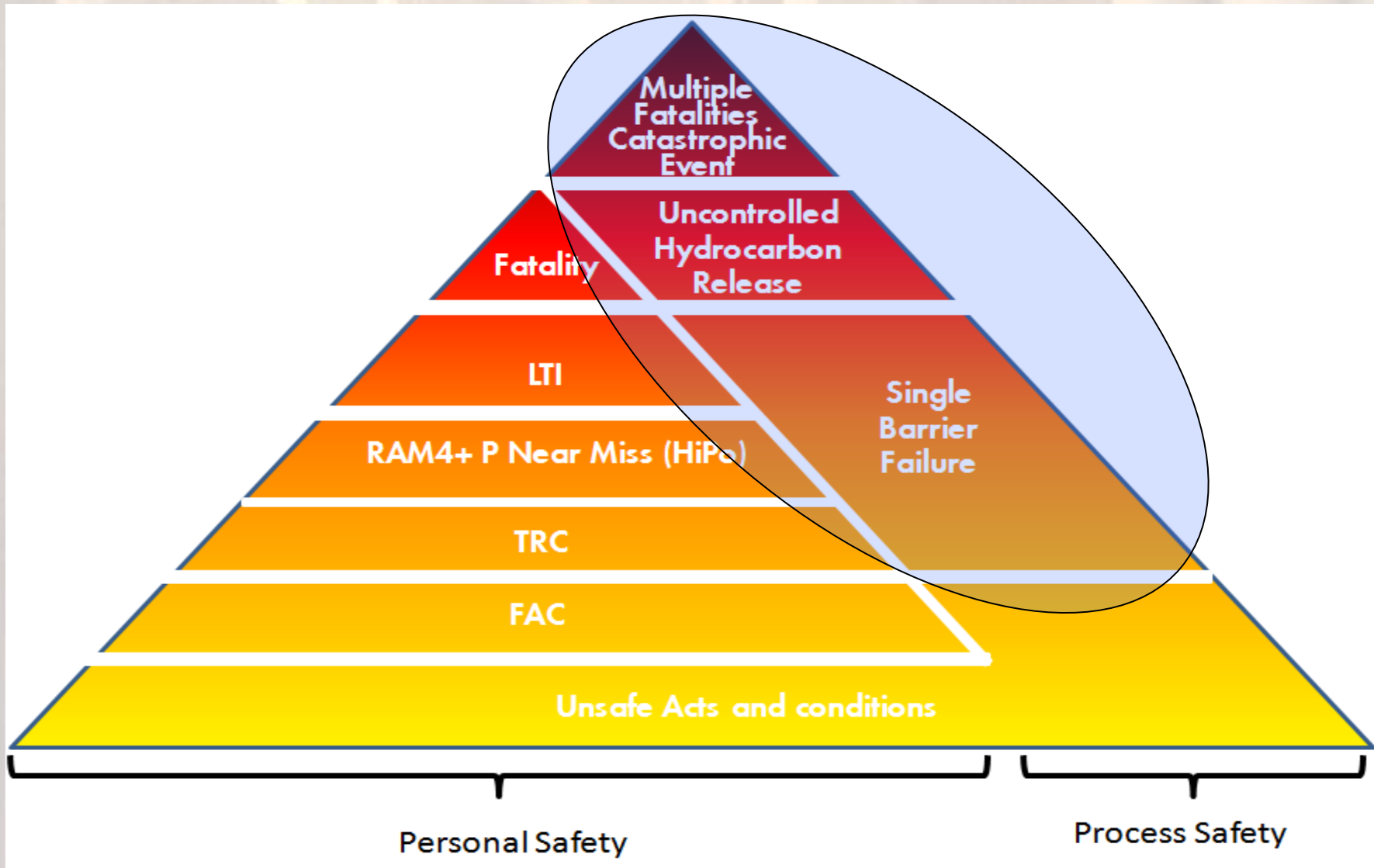
**How does the level of safety now in the offshore oil and gas industry compare to early 2010?**

- A. Significantly worse**
- B. Somewhat worse**
- C. Not really different**
- D. Somewhat better**
- E. Significantly better**

**How familiar are you with “Process Safety”?**

- A. Never heard of it**
- B. Heard something about it**
- C. Aware of it**
- D. Reasonably familiar with it**
- E. Understand it well**

# More Focus on Process Safety



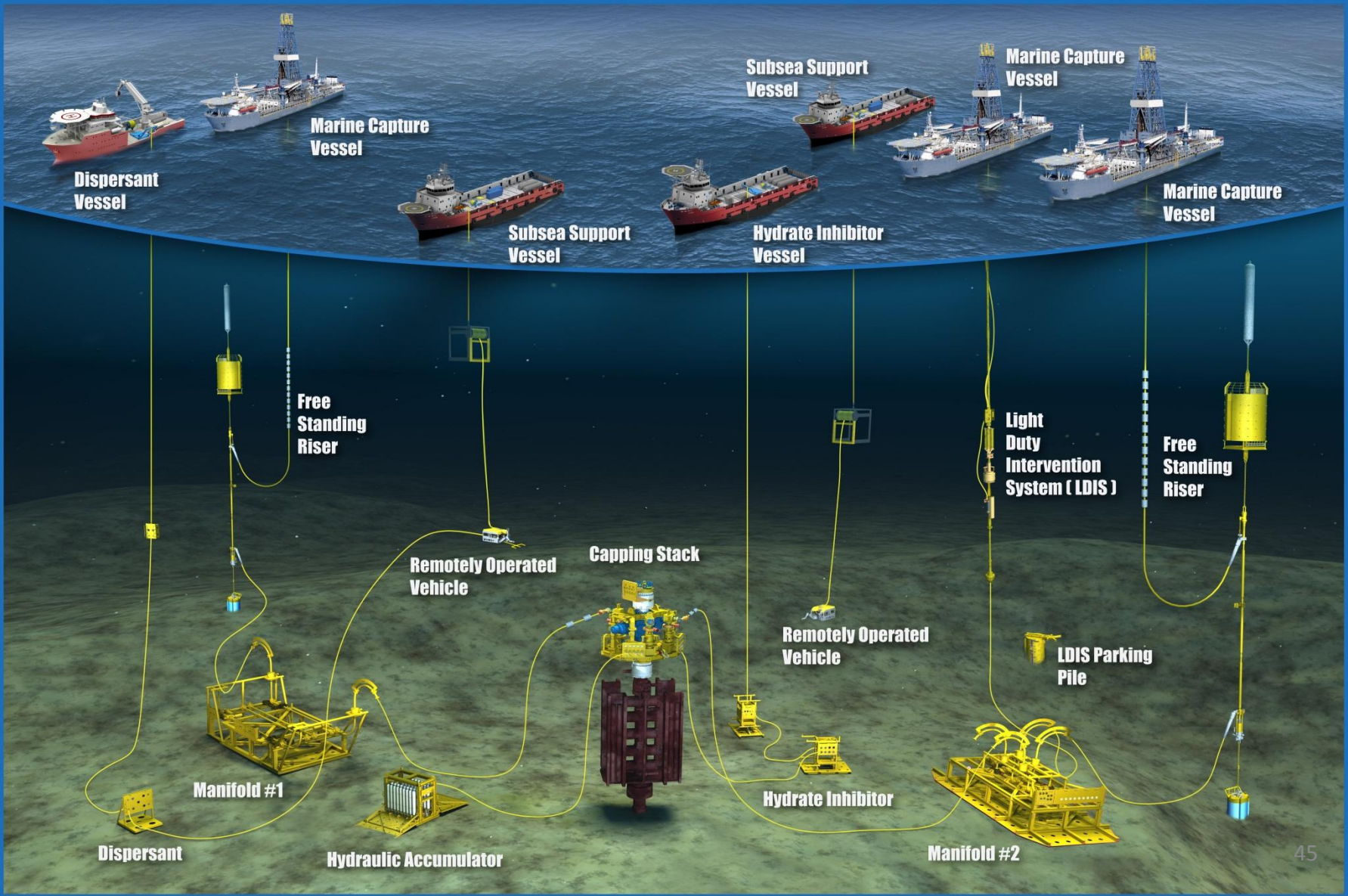
- **Drilling moratorium immediately enacted**
- **Regulatory body (MMS) completely overhauled**
  - Revenue collection, leasing and enforcement split into 3 separate agencies
- **New regulations/requirements quickly promulgated**
  - Worst Case Discharge and Blowout Response
  - Adequate Spill Response & Well Containment
  - Workplace Safety Rule: SEMS
  - Drilling Safety Rule (Interim Final Rule): Well Integrity and BOP Requirements
- **Offshore Energy Safety Advisory Committee established**
- **Access restricted to new offshore areas (e.g. East Coast)**
- **Additional safety regulations forthcoming**

- **Joint Industry Task Forces established to address findings from Macondo investigations**
  - BOP equipment
  - Well design/integrity
  - Subsea well control and spill response
- **Well containment/response companies are established**
  - Marine Well Containment Company (MWCC)
  - Helix Well Containment Group
  - Subsea Well Response Group (outside GOM)
- **Created the Center for Offshore Safety (COS)**





# MWCC Interim Containment System



## Mission...

Promote the highest level of safety for offshore drilling, completions, and operations by:

- effective leadership,
- communication,
- teamwork,
- safety management systems, and
- independent third-party auditing and certification.

Requirements for Third Party SEMS Auditing and Certification of Deepwater Operations

CENTER FOR

EFFECTIVE

Training Program Requirements for Auditors and Audit Team Leads Performing Third Party SEMS Audits of Deepwater Operations



CENTER FOR

EFFECTIVE

Qualification and Competence Requirements for Audit Teams and Auditors Performing Third Party SEMS Audits of Deepwater Operations



CENTER FOR OFFSHORE SAFETY PUBLICATION COS-2-01

EFFECTIVE DATE: 27 August 2012



- **UK, Norway, NL, and DK regulators reviewed existing regulations and practices**
- **Differences addressed some of the issues raised by DW Horizon:**
  - Mature goal setting safety regimes
  - Safety culture with work force involvement
  - Close participation with industry on safety efforts
- **Some potential improvements noted for process safety and potential major incident events, but largely business as usual**

- **EC published draft legislative proposal for offshore safety (Oct 2011)**
  - Centralize control of offshore HSE instead of individual countries regulating activities in their own waters
  - Issued in the form of a regulation rather than a directive (the first EC attempt at this)
  - Cited UK, Norway and other NS regulatory regimes as strong, but are pushing for unified approach
- **North Sea regulators, industry, and trade unions are adamantly opposed to this regulation**
  - EC has no regulatory competency in this area
  - Would require regulatory overhaul by member countries



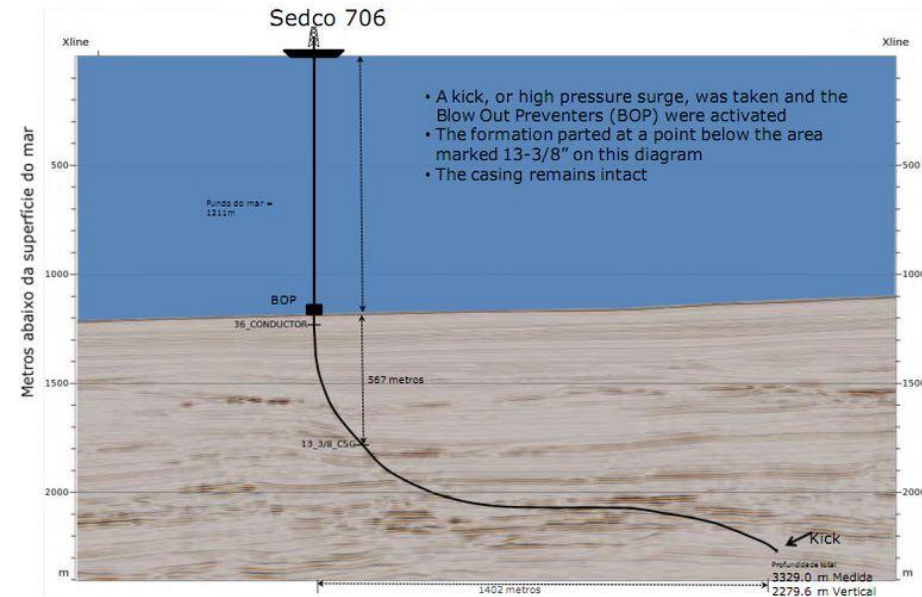
- **No new regulations introduced after the Deepwater Horizon incident, however...**
- **Increasing level of regulatory oversight**
  - ANP (Brazil O&G regulator)
  - Brazilian Navy
  - Labor Ministry
- **Lack of clear legal framework for environmental incidents**
  - ANP, IBAMA, Navy, public prosecutors, Federal officials, and even unions can initiate simultaneous and/or conflicting claims
  - Criminal charges have been raised to demonstrate “enforcement of accountability”
  - Unlimited civil liability for compensation and/or recovery costs





# Chevron Frade Incident in Brazil

## Drilling Schematic

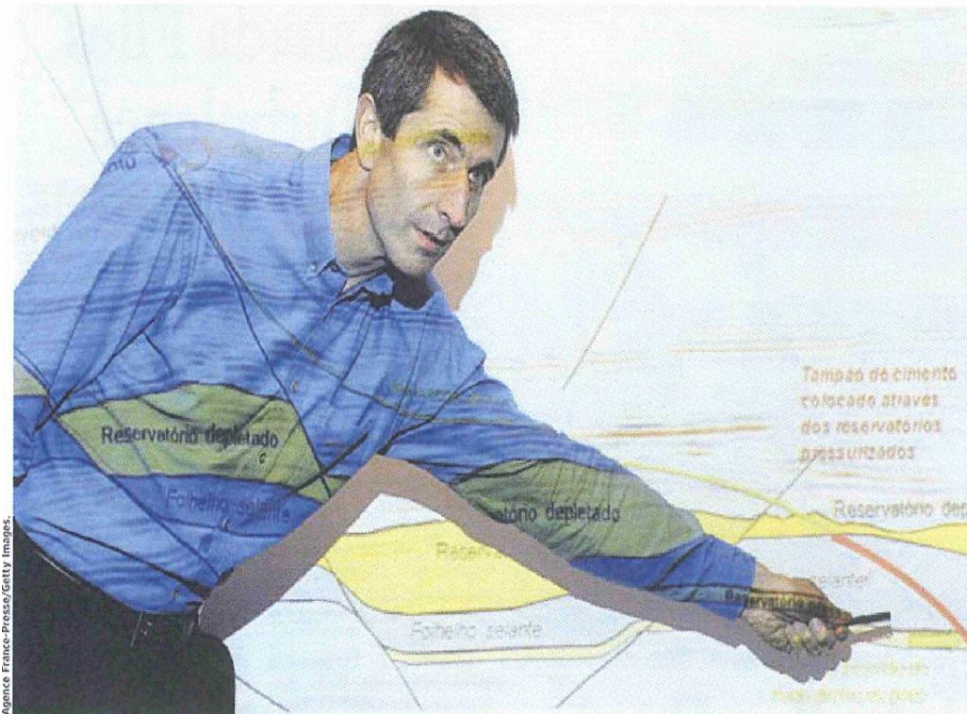


- A well kick occurred while drilling below 13 3/8\" casing
- The well was shut-in and the BOP functioned as designed
- A day later, an oil sheen was reported in the field
- Oil was detected seeping through the seabed 30m from the wellhead
- The flow was stopped within 4 days
- Total oil volume that escaped to the ocean is estimated at 2400 bbls

THE WALL STREET JOURNAL.

\*\*\*\*

## CORPORATE NEWS



Chevron's Brazil head, George Buck, faces up to 31 years in jail if convicted of Brazilian environmental-crime and other charges filed Wednesday.

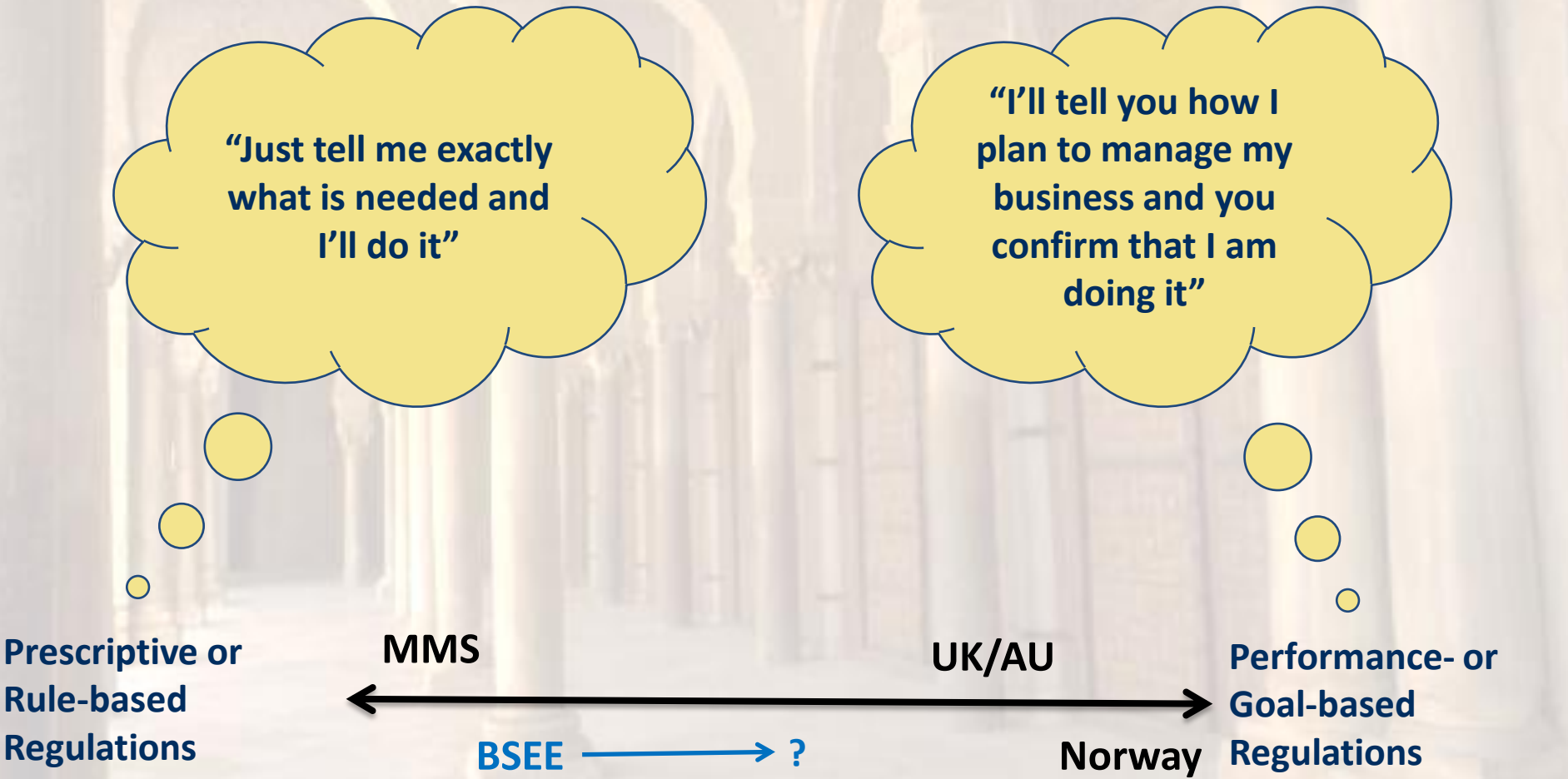
# Brazil Charges Chevron

*Oil Giant, Transocean and Executives Accused of Environmental Crimes in Leak*



## The objectives of the IRF are:

- To promote best sustainable safety performance globally
- To enable an exchange of information among regulators on:
  - Offshore health and safety trends
  - Industry health and safety performance
  - Lessons from incidents
  - Industry best practice
  - Regulatory practice
  - Measuring the effectiveness of regulatory activities
- To provide a network of offshore petroleum health and safety regulators for mutual support and advise when required



**Should oil and gas regulators take a prescriptive or goal based approach to ensure safety in the offshore industry?**

- A. Completely prescriptive**
- B. Moderately prescriptive**
- C. Half and half**
- D. Moderately goal based**
- E. Completely goal based**



## ***What will (or should be) the role of the International Oil Field Service Companies?***

- ***Should they operate production assets and be responsible for production rates?***
- ***Should they take equity positions?***
- ***How would these choices impact their traditional client base?***



## *Is “Peak Oil” dead?*

*The world is not running out of oil itself, but rather its ability to produce high-quality cheap and economically extractable oil on demand. After more than fifty years of research and analysis on the subject by the most widely respected & rational scientists, it is now clear that the rate at which world oil producers can extract oil is reaching the maximum level possible. This is what is meant by Peak Oil.*

*Oil is now being consumed four times faster than it is being discovered...*

*With great effort and expenditure, the current level of oil production can possibly be maintained for a few more years, but beyond that oil production must begin a permanent & irreversible decline. The Stone Age did not end because of the lack of stones, and the Oil Age won't end because of lack of oil. The issue is lack of further growth, followed by gradual, then steep decline. Dr King Hubbert correctly predicted peaking of USA oil production in the 1970's on this basis.*

*Source: Peak Oil Information and Strategies*

***Sophisticated, international oil-field service companies provide NOCs with a viable alternative to IOC supermajors as a source of exploration and development expertise.***

- ***How does this impact the growing influence of international NOCs (“INOCs”)?***
- ***To what extent will this change the strategies of the IOCs?***
- ***How will increased NOC capability alter the geopolitics of oil & gas?***

***The Arctic region is considered the last truly frontier region for oil and gas development in the world. Given the environmental, technological, economic, and national sovereignty challenges with exploration and development, will this really develop into a significant oil and gas producing region?***