



U.S. DEPARTMENT OF
ENERGY

Oil and
Natural Gas



AFTER MACONDO

The road ahead

Presentation to the
Ultra Deepwater Advisory Committee

Christopher Smith
Deputy Assistant Secretary
Office of Oil and Natural Gas

23February 2011



Jason Anderson

Aaron Dale Burkeen

Donald Clark

Stephen Curtis

Gordon Jones

Roy Wyatt Kemp

Karl Dale Kleppinger, Jr.

Blair Manuel

Dewey Revette

Shane Roshto

Adam Weise

A high-stakes balancing act

Oil and
Natural Gas

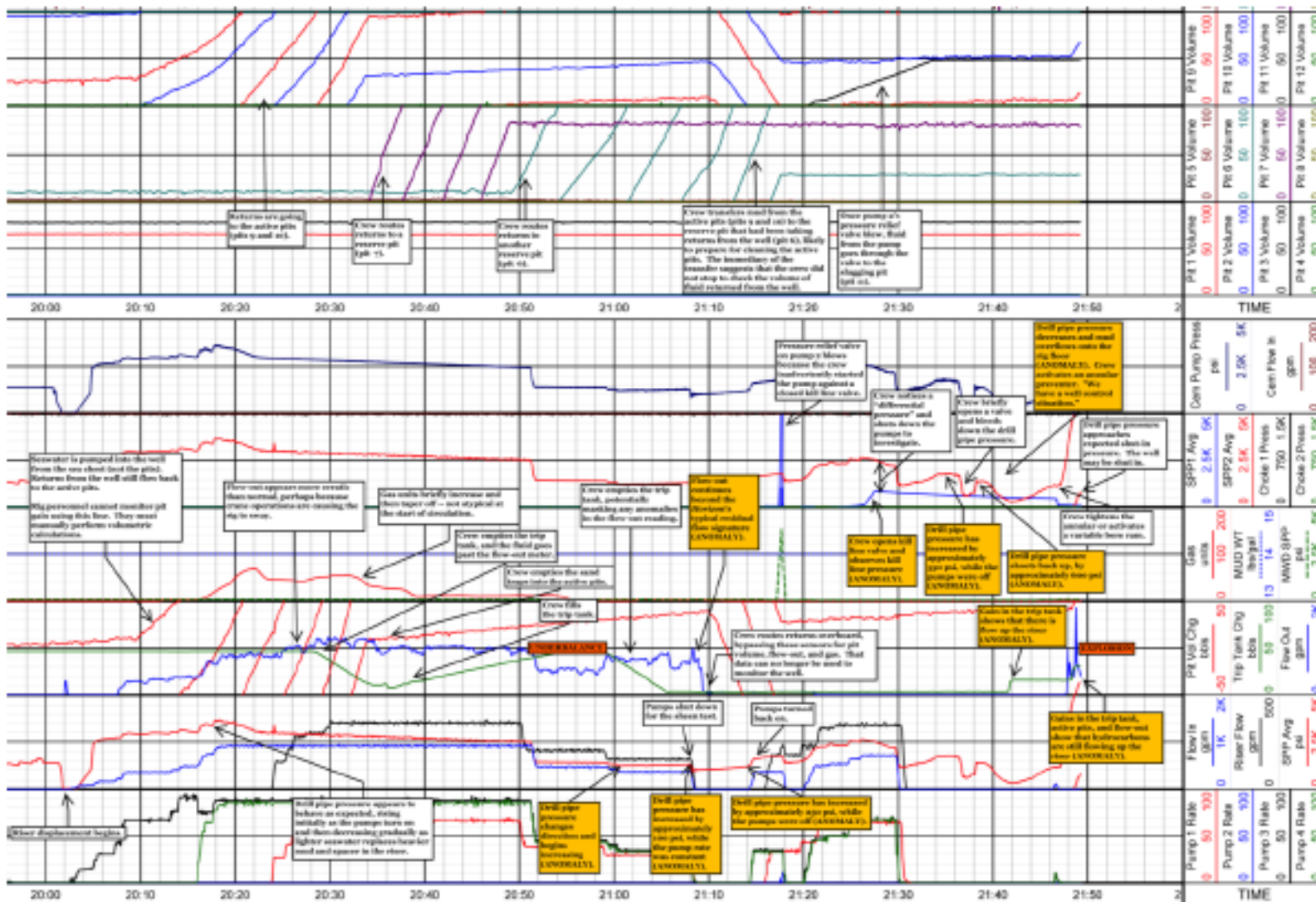


- Hydrostatic pressure vs. formation pressure
- Pore pressure vs. fracture gradient
- Data vs. intuition
- Time (money) vs. safety

A string of challenges and questionable decisions...

Oil and Natural Gas

Figure 4.7.12. Last two hours of Sperry-Sun data.



“This wouldn’t have happened to us”

Oil and
Natural Gas



The immediate causes of the Macondo well blowout can be traced to a series of identifiable mistakes made by BP, Halliburton, and Transocean that reveal such systematic failures in risk management that they place in doubt the safety culture of the entire industry.

OIL SPILL COMMISSION REPORT



Two decades after the Exxon Valdez oil spill, cleanup technology has progressed so little that the biggest advancement in the Gulf of Mexico disaster — at least in the public's mind — is an oil-water separator based on a 17-year-old patent and promoted by the movie star Kevin Costner.

NEW YORK TIMES, 24 JUNE 2011



I continue to believe that domestic oil production is an important part of our overall strategy for energy security, but I've always said it must be done responsibly for the safety of our workers and our environment

PRESIDENT OBAMA, APRIL 30, 2010

Using authority provided by Subtitle J of EPLA 2005 the Department of Energy has refocused activities conducted within the program to address concerns about environmental sustainability and safety.

SEC. 999B. ULTRA-DEEPWATER AND UNCONVENTIONAL ONSHORE NATURAL GAS AND OTHER PETROLEUM RESEARCH AND DEVELOPMENT PROGRAM. 42 USC 16372.

(a) **IN GENERAL.**—The Secretary shall carry out the activities under section 999A, to maximize the value of natural gas and other petroleum resources of the United States, by increasing the supply of such resources, through reducing the cost and increasing the efficiency of exploration for and production of such resources, while improving safety and minimizing environmental impacts.

(b) **ROLE OF THE SECRETARY.**—The Secretary shall have ultimate responsibility for, and oversight of, all aspects of the program under this section.

(f) **AWARDS.**—

(1) **IN GENERAL.**—Upon approval of the Secretary the program consortium shall make awards to research performers to carry out research, development, demonstration, and commercial application activities under the program under this section. The program consortium shall not be eligible to receive such awards, but provided that conflict of interest procedures in section 999B(c)(3) are followed, entities who are members of the program consortium are not precluded from receiving research awards as either individual research performers or as research performers who are members of a research collaboration.

(e) **ANNUAL PLAN.**—

(1) **IN GENERAL.**—The program under this section shall be carried out pursuant to an annual plan prepared by the Secretary in accordance with paragraph (2).

(2) **DEVELOPMENT.**—

(A) **SOLICITATION OF RECOMMENDATIONS.**—Before drafting an annual plan under this subsection, the Secretary shall solicit specific written recommendations from the program consortium for each element to be addressed in the plan, including those described in paragraph (4). The program consortium shall submit its recommendations in the form of a draft annual plan.

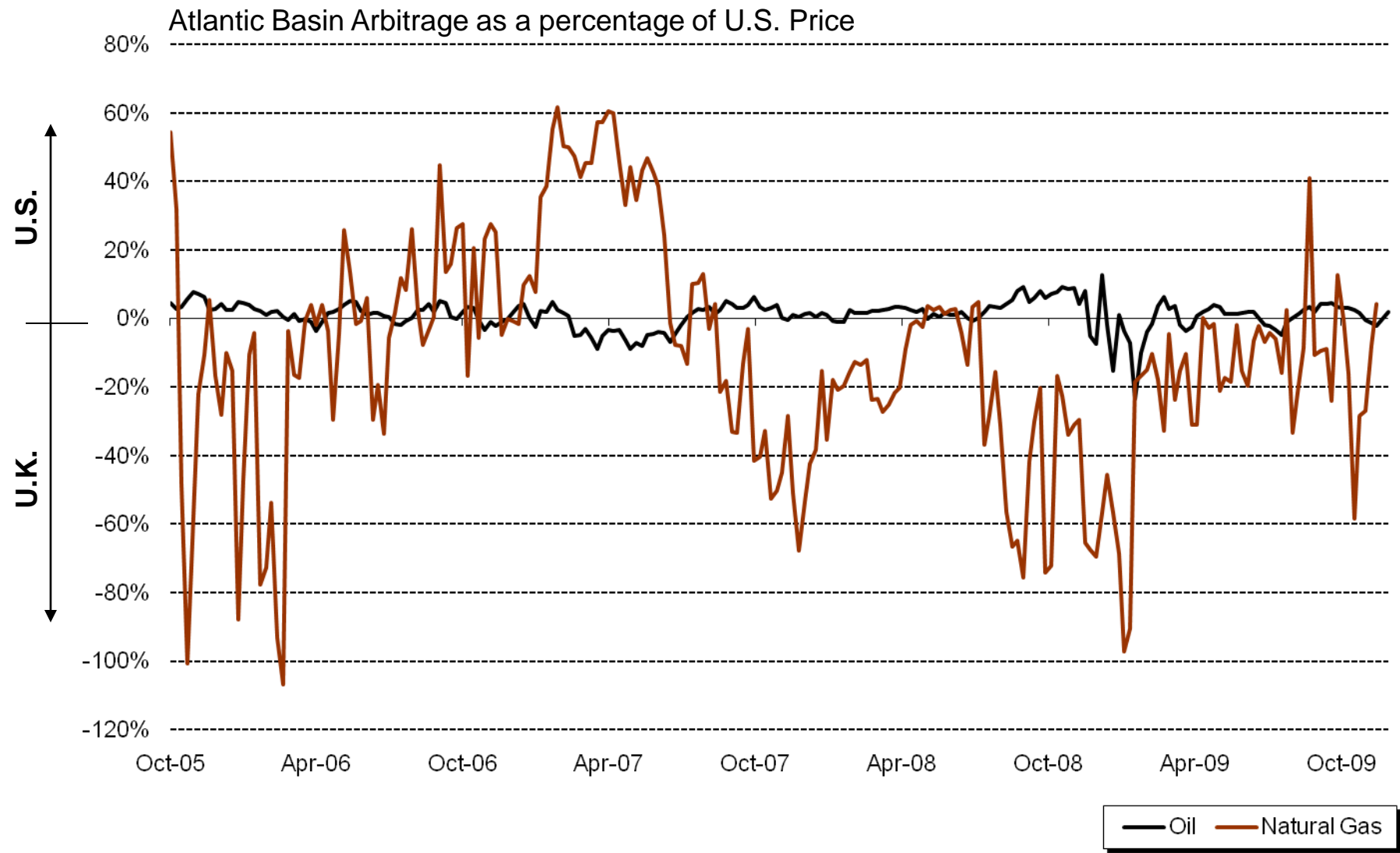
(B) **SUBMISSION OF RECOMMENDATIONS; OTHER COMMENT.**—The Secretary shall submit the recommendations of the program consortium under subparagraph (A) to the Ultra-Deepwater Advisory Committee established under section 999D(a) and to the Unconventional Resources Technology Advisory Committee established under section 999D(b), and such Advisory Committees shall provide to the Secretary written comments by a date determined by the Secretary. The Secretary may also solicit comments from any other experts.



DOE's goals can only be accomplished through an effective public-private partnership with industry

RPSEA and NETL have made great strides in creating an effective, collaborative partnership.

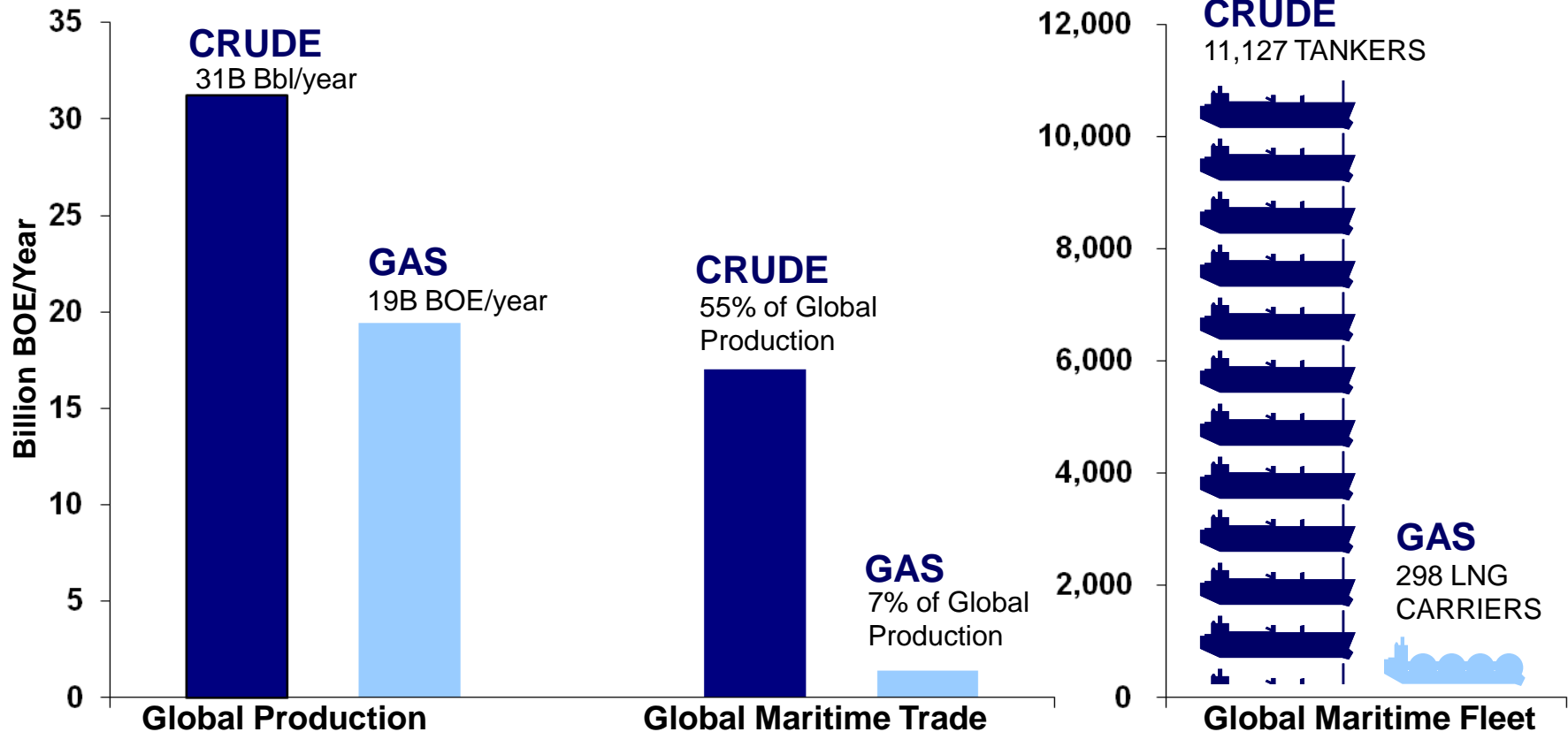
Natural Gas: a Uniquely Domestic Commodity



Sources: Energy Information Administration, World Gas Intelligence

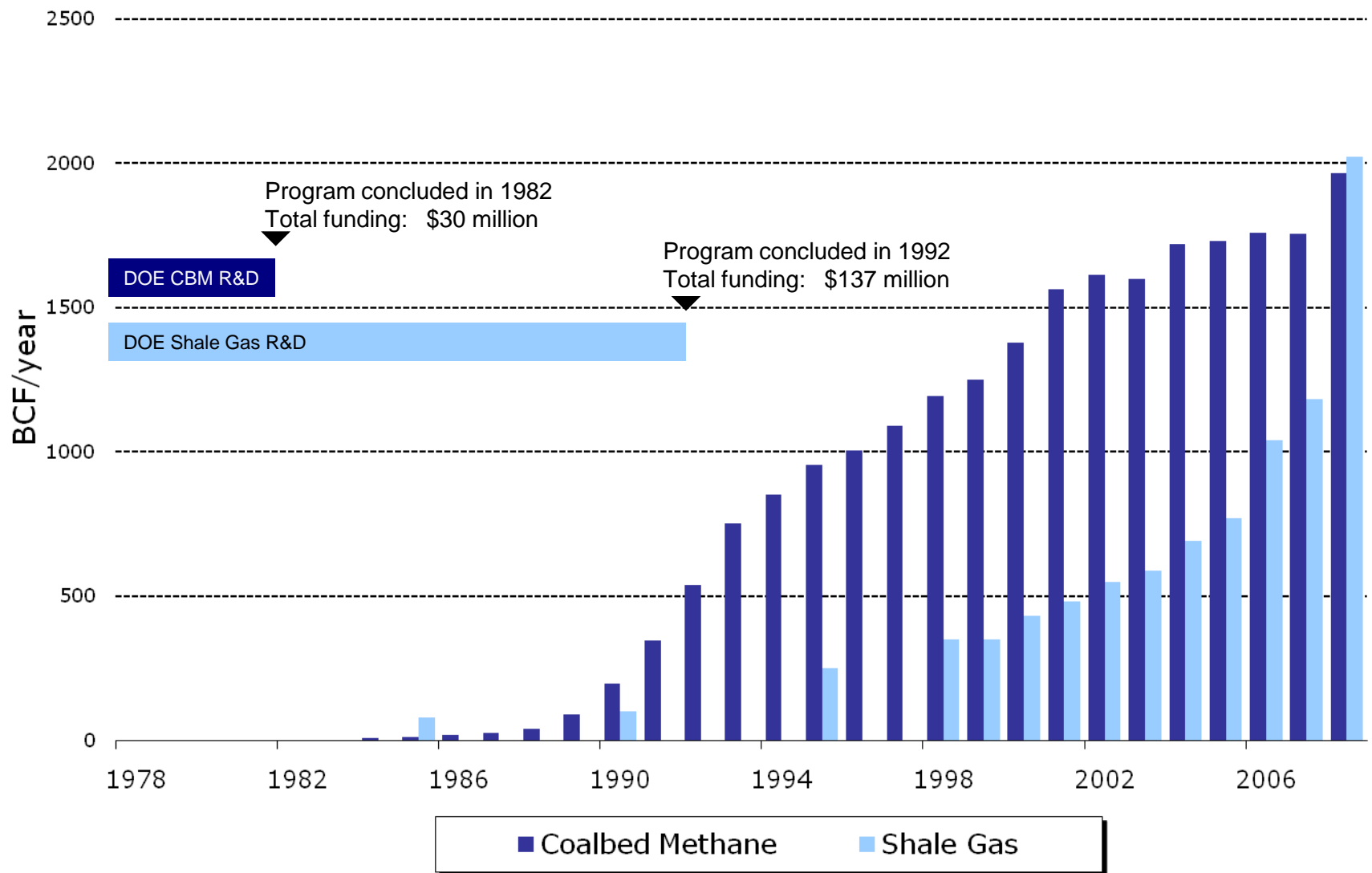
Structural differences between oil and gas drive global arbitrage

Oil and Natural Gas



Sources: EIA, BP Statistical Review of World Energy, June 2009, Pacific L.A. Marine Terminal LLC, GIIGNEL

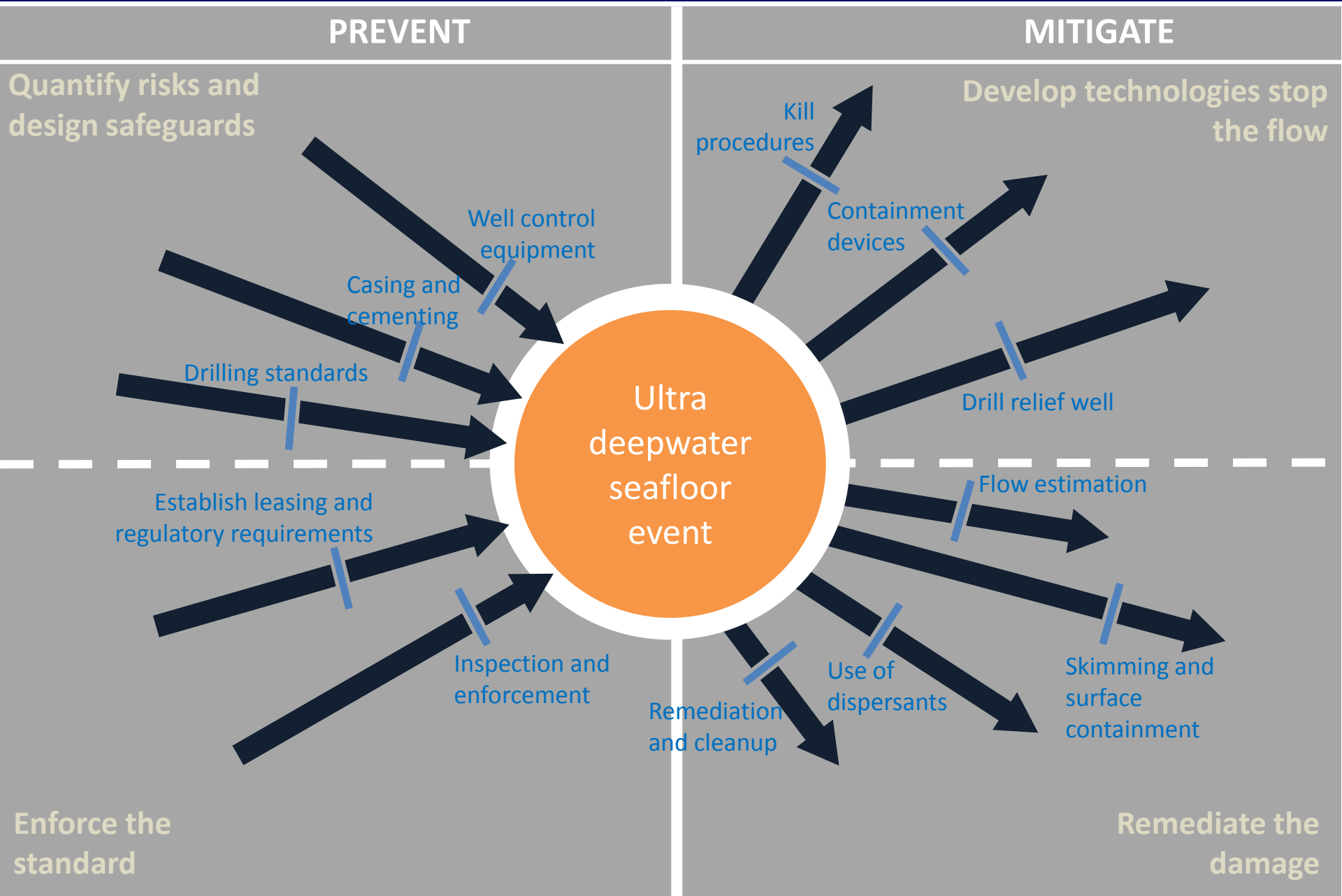
DOE has a successful track record of promoting innovation in the natural gas sector



Sources: EIA, DOE Department of Fossil Energy

Responding to the spill

Oil and
Natural Gas



1. Environmental and Safety Needs Related to Drilling, Completion, and Intervention
2. Increasing Safety of Early Appraisal and Development via Improved Geoscience and Reservoir Evaluation Technologies
3. Environmental and Safety Risks of Significantly Extending Subsea Tieback Distances
4. Enhance Technology for Dry Trees/Direct Well Intervention and Risers in 10,000' Water Depth to Improve Environmental and Safety Performance
5. Continuous Improvement and Innovation: Environmental and Safety



U.S. DEPARTMENT OF
ENERGY

Oil and
Natural Gas



QUESTIONS