

The oil spill threatens the economy and energy security of the United States

Offshore Drilling: An Argument in its Defense

The moratorium does not lead to any real reduction in environmental risks, while the loss of production in the Gulf caused by it would cost America \$1.3 billion a year and further reduce employment levels

T

he political and economic fallout from the deepwater blowout will continue long after the well is sealed and the cleanup is completed.

An immediate casualty of the oil spill is the loss of U.S. offshore oil production with the prospects that future increases in output are at risk.

by **LUCIAN PUGLIARESI, BEN MONTALBANO and TRISHA CURTIS**

Although subject to an ongoing court battle, the U.S. government has placed a moratorium on deepwater offshore drilling activity until November 30, 2010 – with no guarantee it will be lifted on that date.

New regulations, longer regulatory reviews and a substantial slowdown in gaining access to the oil and gas resources of the Gulf of Mexico and offshore Alaska appear inevitable.

The government argues that until the causes of the Macondo blowout and solutions to future blowouts are known, deepwater drilling presents an unacceptable risk to the waters and coastlines surrounding the United States.

But is the moratorium actually delivering substantial environmental and safety benefits, particularly considering the harm to U.S. energy security and the loss in employment and revenues to state and federal governments?

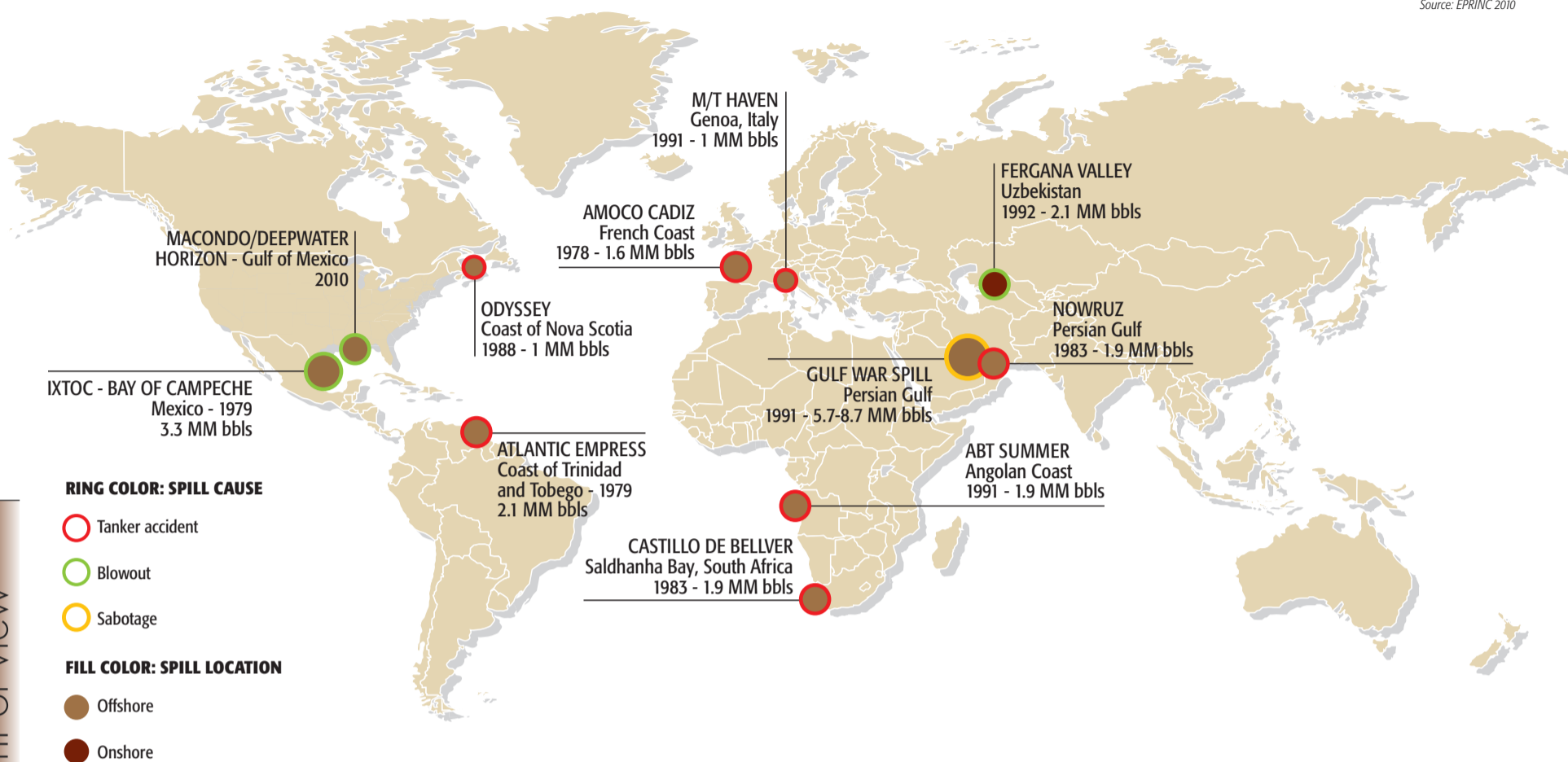
Deepwater Wells. In 2001 U.S. deepwater oil production surpassed shallow water production.¹ Eighty percent of U.S. offshore oil production comes from wells operating at water depths of 1000 feet or more.² Since 1947 over 50,000 wells have been drilled in the Gulf's federal waters.

Over 4,000 of these wells have been drilled beyond 1,000 feet. Approx-



ELEVEN LARGEST OIL SPILLS WORLDWIDE

Source: EPRINC 2010



RING COLOR: SPILL CAUSE

- Tanker accident
- Blowout
- Sabotage

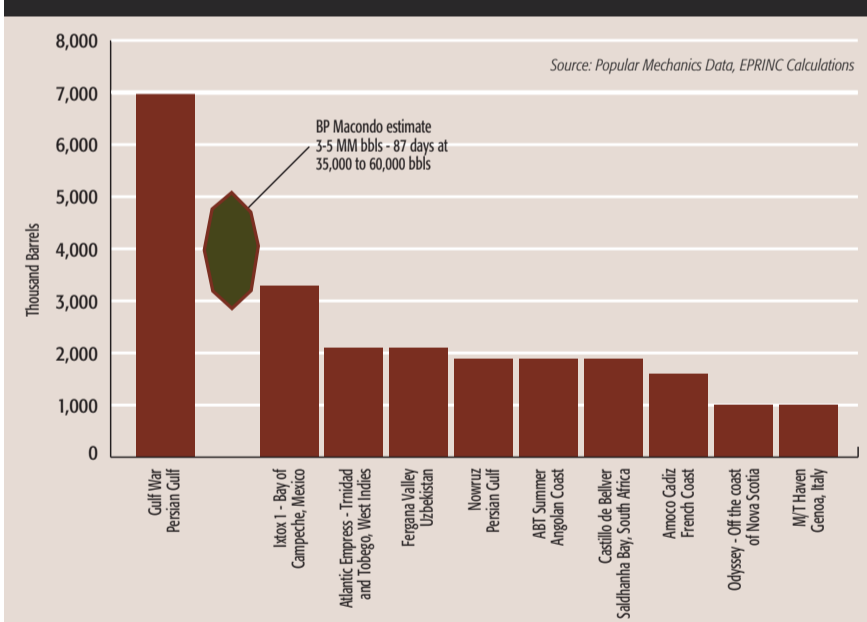
FILL COLOR: SPILL LOCATION

- Offshore
- Onshore

point of view

The offshore Alaska and deepwater Gulf of Mexico are the most prospective petroleum provinces for expanding domestic supply of crude oil. Leaving these resources in the ground will not prevent equivalent quantities of oil and gas from being consumed; instead, unrealized production of oil and gas will largely be replaced by imports

THE AMOUNT OF BLACK GOLD LOST



Source: Popular Mechanics Data, EPRINC Calculations

Figure 1 – The map shows the locations of the eleven largest oil spills of the last twenty years. Only three (circled in green) were caused by blowouts, while seven (circled in red) were attributable to accidents involving oil tankers. The largest loss of oil in recent history was caused by the Gulf War in 1991, when between 5.7 and 8.7 million barrels were destroyed. The quantities of oil lost are shown in the diagram to the left: The volume of oil spills due to tanker accidents is more than double those due to blowouts.

mately 700 wells have been drilled at 5,000 feet or greater.³ The federal waters of the Gulf of Mexico's Outer Continental Shelf (OCS) currently have over 7,000 active oil and gas leases with over 4,000 Exploration and Production (E&P) platforms in operation. These facilities produce roughly 1.7 million barrels per day (MM bbl/d), accounting for over 90 percent of all offshore U.S. oil production (federal and state waters combined), one third of all U.S. crude oil production, and 10 percent of U.S. natural gas production. Spills from E&P activities are rare in the Gulf of Mexico and in all American waters. The Macondo spill is the

first offshore domestic E&P spill to release more than 100,000 barrels (bbls). The scale of the Macondo spill is unprecedented in the history of the Gulf's 50,000 wells – blowout induced spills in particular have been exceedingly rare in the Gulf. From 1979 to 2009, "a total of approximately 1,800 barrels was spilled on the Federal OCS as a result of blowout events."⁴ From 1980 to 2009 there were 125 spills in the OCS over 50 bbls. The spills averaged 216 bbls each, totaling 27,000 bbls over a 30 year time period. OCS oil spills have diminished since the 1960s and 1970s even as production has continued to grow.

World's Worst Oil Spills. Oil spills have been prevalent throughout the history of the petroleum era; however, spills caused by loss of well control are extremely rare, particularly in U.S. waters. Historically, tankers have been responsible for four times the amount of oil in U.S. waters than E&P activity. Tanker accidents represent the most frequent source of oil spills in Figure 1 and are comparable in total volume. Of the spills listed in Figure 1, only two were caused by blowouts (excluding Macondo) and seven were caused by tanker accidents.

A Shift of the Risk. The National Academy of Sciences released a

study in 2003 examining the primary sources of petroleum in American waters.⁵

“Drilling and Extraction” account for less than 1 percent of all petroleum in American waters. The movement of petroleum by tanker accounts for approximately 4 percent. “Cars, boats, and other sources” contribute 32 percent and “natural seeps” account for nearly two-thirds (63 percent) of all petroleum in American waters.

Tanker accidents have historically released significantly more oil into U.S. waters than offshore E&P activity. Thus, a reduction in drilling activity will shift the risk of spillage from local production to tanker transport because the U.S. will import additional volumes of oil to offset lost domestic offshore production.

Lost Production Expected. The Gulf is currently responsible for 30 percent of domestic oil production and as of January 2010 was producing at its highest historic rate, 1.7 MM bbl/d.

The six month moratorium on deepwater E&P activity will have an appreciable impact on production in both the short and long-term. The Energy Information Administration (EIA) projects that the moratorium will reduce production by 31,000 bbl/d in the fourth quarter of 2010 and 82,000 bbl/d in 2011.⁶ A sampling of assessments by investment banks forecast lost production ranging from 100,000 bbl/d to 400,000 bbl/d should the ban remain in place for six to 12 months.

The International Energy Agency (IEA) estimated possible lost production at 100,000-300,000 bbl/d by 2015 as a result of “tighter legislation” from the spill. Should other oil producing countries adopt similar restrictions, the world could lose 800,000-900,000 bbl/d of production, according to IEA’s forecast.

The moratorium on offshore Alaska production also poses considerable risks to domestic output as it will further delay access to the potential of the Chukchi Sea. This delay in access to the Chukchi Sea could contribute to an accelerated loss in domestic production due to the cost structure of the Trans Alaskan Pipeline System (TAPs). TAPs is experiencing continued declines in throughput and rising costs per barrel shipped. Current throughput is approximately 670,000 bbl/d (barrels per day) and declining at about 6 percent per year. Once production falls to below 300,000 bbl/d costs will accelerate and the lower volume of crude moving through TAPs will require major modifications in the transport system. In the absence of new crude supplies, the rising cost structure of TAPs may force early abandonment of North Slope production. This issue should command high priority and be careful review by the Obama Administration.

More Imports. Oak Ridge National Laboratory (ORNL) estimates the eco-



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nomical penalty of oil imports to the U.S. economy at 14.70 dollars per barrel, in addition to the price of the oil itself.⁷ Lost Gulf production, which would be supplanted by imports, would cost the U.S. economy an additional 1.3 billion dollars per year if 250,000 bbl/d of production are lost. Some legislators and policy makers are recommending a reduction in offshore drilling and replacement of lost production with alternative fuels and conservation. However, such a strategy represents a false choice. Alternative fuels can help to reduce net imports of crude oil and petroleum products, but these alternatives (biofuels, electric vehicles, natural gas

vehicles, new auto fuel standards) offer only limited opportunity to substantially lower oil imports in the near to medium term. Even under the most optimistic scenario for using alternative fuels and technologies, the U.S. will import large volumes of petroleum in the next 10-20 years.

There is No Alternative. The direct revenue consequence to the federal government, contribution to economic growth, employment, and energy security are all benefits from offshore drilling. This benefit stream places the federal government as the petroleum industry’s most important partner. The moratorium is not deliv-

ering any genuine reduction in net risk to the environment as domestic offshore production will shift to imports by tanker (a more risky transport mechanism). More importantly, the offshore Alaska and deepwater Gulf of Mexico are the most prospective petroleum provinces for expanding domestic supply of crude oil. Leaving these resources in the ground will not prevent equivalent quantities of oil and gas from being consumed; instead, unrealized production of oil and gas will largely be replaced by imports. Although there is considerable debate over the size of the domestic offshore resource, estimates of recoverable reserves continue to climb and the value of the resource is substantial. EPRINC estimates that a failure to develop these important domestic reserves could reduce prospective federal revenues between 20-40 billion dollars per year. Large employment losses and revenues to the Gulf states are also at risk. According to a recent estimate from Minerals Management Service “offshore operations” in America provide 150,000 direct jobs.⁸ The same operations support an additional 285,000 indirect jobs, bringing total offshore employment (direct and indirect) to roughly 435,000 jobs.⁹ Note that BP alone paid a total of 14.8 billion dollars to the federal government in corporate income taxes and an additional 6 billion dollars in production taxes (bonus bids and royalties). Similar payments were made by many other companies producing oil and gas in the U.S. offshore. Given the large revenue, employment, and energy security benefits of offshore drilling, finding a path that builds public confidence is essential to sustain these revenues to the government and deliver the much needed employment and energy security benefits. To date, none of the alternative fuels and fuel technologies generates this level of revenue to the federal government – and many require large subsidies that will likely continue for years.

ANNUAL LOST REVENUES AND ECONOMIC COSTS

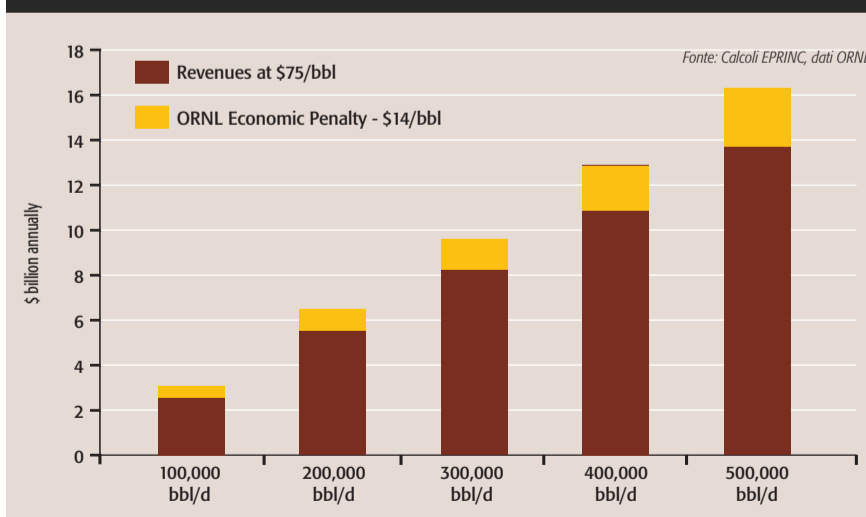


Figure 2 - A loss in production of 250,000 barrels per day in the Gulf of Mexico would cost the U.S. economy \$1.3 billion a year.

NOTE

1. MMS defines deepwater as 1000 feet and shallow water as 500 feet.
2. Department of Interior. “Increased Safety Measures for Energy Development on the Outer Continental Shelf.” May 27, 2010.
3. Ibid.
4. Ibid.
5. Oil in the Sea III: Inputs, Fates, and Effects. 2003. The National Academies Press.
6. EIA June 2010 Short-term Energy Outlook.
7. Oak Ridge National Laboratory. Estimating the Energy Security Benefits of Reduced U.S. Oil Imports.
8. Department of the Interior. “Increased Safety Measures for Energy Development on the Outer Continental Shelf.” May 27, 2010.
9. Based on MMS direct employment data and indirect employment multiplier for the petroleum and natural gas sector of the U.S. economy from the Economic Policy Institute. “Updated Employment Multipliers for the U.S. Economy.” Josh Bivens, August 2003.