

# PARADIGM *Research*

## PUBLIC FORUM



## Position Paper

### SEPTEMBER 2010-2011

ALLOWING DEEP WATER OFFSHORE OIL DRILLING IS  
IN THE BEST INTEREST OF THE UNITED STATES.

**The Paradigm Research Public Forum Position Paper  
September 2010  
by David Cram Helwich**

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## INTRODUCTION

### **Resolved: Allowing deep water offshore oil drilling is in the best interest of the United States.**

The season's first Public Forum debate topic asks students and coaches to evaluate the desirability of deep water (or "deepwater") offshore oil drilling, which is a particularly salient issue because of this summer's ongoing coverage of the disaster that struck the Deepwater Horizon drilling rig in the Gulf of Mexico, an incident that released millions of gallons of oil into the Gulf and threatened the coastal communities and wildlife of the Gulf. This promises to be a very interesting topic that will spark a number of informative debates, not only because of the recency and high-quality of research materials on the subject, but because the benefits and drawbacks of deepwater drilling touch upon many of the most important issues facing our country, including the potential threats posed by oil dependence and human-induced climate change. This essay will provide a brief analysis of the resolution and assess some of the most likely pro and con arguments on the topic.

First, we need to define some terms. According to the Mineral Management Services, the federal agency most recently responsible for regulating deepwater drilling activities, "deep water" drilling occurs at a depth of at least 1,000 feet, while "ultra deep water" drilling occurs at even greater depths (Lesley D. Nixon et al, "Deepwater Gulf of Mexico 2009: Interim Report of 2008 Highlights," OCS REPORT, Mineral Management Service, May 2009, p.9). Ultra deepwater drilling is clearly a subset of deepwater drilling, and thus is likely covered under the resolution. Therefore, teams should be careful in trying to limit their opponents to arguments for and against deepwater drilling, not offshore drilling as a whole. Although deepwater drilling is becoming more common and its share of the country's oil production is likely to increase in the future, a large quantity of the research materials about offshore drilling assume so-called "shallow water" drilling (at depths of less than 1,000 feet). As with many public forum resolutions, this one asks teams to compare two actions (allowing deepwater drilling versus prohibiting deepwater drilling) without providing much guidance about which values we should consider when assessing the desirability of deepwater drilling. Likewise, the resolution also does not suggest the criteria by which debaters should weigh competing value claims about drilling beyond an appeal to "the best interest of the United States," which is itself quite vague. Consequently, you need to give serious thought to which public goods you consider important, and why those values are important, and then proceed to shape your cases around those judgments. Most pro cases will generally address the importance of promoting energy independence and national economic development, while many con cases will focus on the negative environmental effects of oil drilling and the relative benefits of pursuing alternative energy technologies.

The pro side has a number of very strong arguments. Perhaps the most effective argument in the "pro toolbox" is the fact that offshore drilling in general, and deepwater drilling in particular, is inevitable, regardless of whether the United States allows it. There is very good evidence showing that major oil companies are increasingly shifting to deepwater exploration and production, and will thus pursue deepwater projects in promising areas off the coast of West Africa and Brazil, irrespective of U.S. policy on the question. In fact, one analyst claimed that the recent U.S. drilling moratorium in the Gulf of Mexico actually spurred an expansion of deepwater drilling in Brazil because the moratorium freed up scarce drilling equipment for use in Brazil's Tupi deepwater field. Much of this new, overseas deepwater production will end up being exported for use in the United States. If you can win that deepwater drilling and the consumption of the resulting oil is inevitable regardless of whether or not drilling is banned domestically, you can undercut most of the potential con arguments about the drawbacks of deepwater drilling in general. Another, related argument is that even if the U.S. does not engage in deepwater drilling, it will find the oil from other sources, whether those be shallow water drilling, onshore drilling, or unconventional oil sources, all of which pose similar environmental and health risks. A second strong pro argument is that even though oil consumption and deepwater drilling have serious drawbacks, there is simply no fuel technology that is yet capable of replacing petroleum. We have included evidence arguing that frequently cited "post-petroleum" energy sources are either not feasible with current technology or have drawbacks that far exceed those of oil. Therefore, a shift away from deepwater drilling (and oil in general) could pose serious problems for an American economy that is heavily dependent on cheap energy resources. There is very good evidence in the "topshelf" section arguing that a ban on deepwater drilling would impose trillions of dollars in economic losses upon the U.S. economy and American consumers because of resulting higher energy prices.

Third, there are a number of analysts who argue that offshore drilling, particularly in deep water areas, is vital to mitigating the impact of U.S. dependence on foreign energy sources and staving off the long-term effects of declining global oil production ("peak oil"). Although the con team will likely argue (and perhaps win) that deepwater drilling by itself will not solve U.S. energy dependence, there is some pretty good evidence arguing that domestic deepwater supplies can provide a cushion against foreign oil shocks and provide enough supply to allow a smoother transition away from oil and other fossil fuels. There are a number of reasons why delaying peak oil and decreasing U.S. energy dependence are in the interests of the United States. Many analysts argue that the lesson to be learned from the Deepwater Horizon disaster is to make drilling safer and to improve our ability to respond in the event of a potential spill, not to shift away from deepwater drilling altogether. Finally, there is some interesting evidence arguing that offshore oil drilling is actually GOOD for the environment because it decreases natural oil seepages from the ocean floor, which are both larger and more dangerous than potential human-induced oil spills. The 'pro' section also includes some "answers to answers" blocks that provide responses to many of the most common con objections.

There are also a number of potent con arguments, many of which derive from criticism of both the Deepwater Horizon disaster the corporate and government response to the ensuing oil spill. Perhaps the best con argument is continued dependence on petroleum is simply too dangerous for our society and the environment, and that attempting to hang on to a petroleum economy will seriously undermine American interests. For example, oil consumption is a major contributor to global climate change, which is caused (at least in part) by the burning of fossil fuels and subsequent increase in the concentration of carbon dioxide in the atmosphere. Oil production and use also cause a number of other environmental problems, including air pollution and groundwater contamination, while continued oil dependence increases the risk of wars over access to oil. Second, oil production itself, particularly in deepwater environments, is very dangerous and carries a large number of ecological risks. There is good evidence arguing that spills and other accidents are virtually inevitable, and that subsequent oil spills risk devastating the economies of coastal communities and causing untold environmental damage. This is particularly true in new drilling areas in the Arctic, where difficult weather conditions may delay response times. Many analysts argue that the lack of a total environmental catastrophe in the Gulf was averted only because the relatively high temperatures increase the evaporation of the oil, conditions that will not be replicated in cold northern climes. Third, con teams should focus their arguments on why spurring a transition to alternative energy sources better promotes American interests. There are a number of researchers and advocacy organizations who argue that alternative fuels, like corn- and cellulose-based ethanol and hydrogen, along with other energy sources like wind, solar, and nuclear power, can wean us away from fossil fuels and better safeguard the environment. There is even evidence that so-called "unconventional" sources of oil, such as shale and tar sands, can provide for our energy needs for many years. Finally, there are some very compelling answers to the most likely pro arguments. Many researchers doubt that there is much recoverable deepwater oil, and a number of advocates claim that additional drilling will do little to either increase American oil production or promote energy independence.

Best of luck!

## DEEPWATER DRILLING SIGNIFICANT NOW: GENERAL

### 1. NEW, CHEAP DRILLING TECH PROMISES A MASSIVE EXPANSION OF DEEPWATER PRODUCTION

Brian Handwerk, "Deepwater Drilling May Open New Oil Frontiers," NATIONAL GEOGRAPHIC NEWS, 9-11-06, <http://news.nationalgeographic.com/news/2006/09/060911-gulf-oil.html>, accessed 8-20-10.

The find, potentially the United States' largest in four decades, could yield from 3 to 15 billion barrels of crude oil. Even though the top estimate would not do much to slake the nation's growing thirst for fuel, it could boost existing U.S. reserves by 50 percent. But experts suggest that the cutting-edge technologies used to create and operate the well are far more important than any single oil find. Such technologies could open access to previously unattainable oil across the globe. And high oil prices are making the enormous startup costs worth the gamble. "It's giving folks greater confidence to explore in the deepwater Gulf region," said Judson Jacobs, director of upstream technology for Cambridge Energy Research Associates (CERA) in Boston, Massachusetts. The Gulf is hardly unique, he adds. Other promising deepwater locations await exploration off the coasts of Brazil, the United Kingdom, West Africa, and Southeast Asia.

### 2. DEEPWATER PRODUCTION GLOBALLY IS ALREADY 6.4 MILLION BARRELS PER DAY

Sarah Arnott, "Shell Defends Deep-Water Oil Drilling, as Profits Soar," THE INDEPENDENT, 7-30-10, [www.independent.co.uk/news/business/news/shell-defends-deepwater-oil-drilling-as-profits-soar-2039028.html](http://www.independent.co.uk/news/business/news/shell-defends-deepwater-oil-drilling-as-profits-soar-2039028.html), accessed 8-22-10.

"Offshore oil production has increased at a very high rate in the last decade, as deep-water drilling becomes more of a conventional realm of production," said Manouchehr Takin, a senior analyst at the Centre for Global Energy Studies (CGES). By mid-2010, deep-water oil production was about 6.4 million barrels per day, according to the CGES. Around a quarter came from Brazil, where sub-salt finds in recent years have between 15 and 20 billion barrels of oil proved, and anything from 50 to 150 billion of estimated reserves -- equivalent to another Kuwait. Another fifth of current production is from the Gulf of Mexico, some 15 per cent from Angola and 10 per cent from Nigeria.

### 3. DEEPWATER PRODUCTION WILL BECOME AN INCREASINGLY LARGE PART OF GLOBAL OIL PRODUCTION

Sarah Arnott, "Shell Defends Deep-Water Oil Drilling, as Profits Soar," THE INDEPENDENT, 7-30-10, [www.independent.co.uk/news/business/news/shell-defends-deepwater-oil-drilling-as-profits-soar-2039028.html](http://www.independent.co.uk/news/business/news/shell-defends-deepwater-oil-drilling-as-profits-soar-2039028.html), accessed 8-22-10.

So far deep-water oil represents only a fraction of total global production, which runs at more than 84 million barrels per day. But the potential is vast as recent discoveries become producing wells. "Looking at the next 10 or 15 years, the expectation is that offshore and especially deep offshore will make more and more of a contribution in terms of both the oil reserves being discovered and the oil being produced," said Mr Takin.

### 4. OIL PRODUCTION IS SHIFTING TO DEEPWATER SITES -- LACK OF NEW FINDS, LAST FRONTIER FOR EXPLORATION

Toni Johnson, "U.S. Deepwater Drilling's Future," Backgrounder, Council on Foreign Relations, 5-27-10, [www.cfr.org/publication/22204/us\\_deepwater\\_drillings\\_future.html](http://www.cfr.org/publication/22204/us_deepwater_drillings_future.html), accessed 8-17-10.

The upward trend in deepwater Gulf projects is mirrored around the world as oil companies look for new sources of production amid higher oil prices and growing global demand. Many older wells are experiencing production decline and new finds are often more expensive to extract and harder to refine, which some environmental and energy experts say heralds the end to cheap and easy oil (McClatchy). Production from unconventional sources such as oil sands is on the rise, and deepwater drilling is considered one of the last frontiers in oil exploration. Oil investment analyst D. Barry McKennitt said the only reason anyone is willing to drill in deepwater with the depths, temperatures, and other significant technical challenges is that other opportunities are closed. "They don't do it just for exercise," he said.

## DEEPWATER DRILLING SIGNIFICANT NOW: GENERAL cont'd

### 5. DEEPWATER DRILLING HAS EXPANDED RAPIDLY -- IS A PHENOMENON OF THE LAST 15 YEARS

Toni Johnson, "U.S. Deepwater Drilling's Future," Backgrounder, Council on Foreign Relations, 5-27-10, [www.cfr.org/publication/22204/us\\_deepwater\\_drillings\\_future.html](http://www.cfr.org/publication/22204/us_deepwater_drillings_future.html), accessed 8-17-10.

Drilling in deepwater and ultra-deepwater (depths of five thousand feet or more) just started becoming economically profitable and technically feasible on a large scale in the last decade, in part due to significantly higher oil prices. A 2009 report from the MMS (PDF) on deepwater in the Gulf of Mexico shows there were as many as thirty-six deepwater rigs in the Gulf in 2008, compared with just three in 1992. More than 20 percent of the 169 mobile offshore drilling units (MODU) in operation worldwide in 2008 are located in the Gulf of Mexico. Gulf MODUs capable of drilling five thousand feet or more -- the depth of the Deepwater Horizon accident -- represent roughly a third of all ultra-deepwater drilling operations globally, according to the MMS report. In February 2010, Transocean Ltd, which contracts MODU rigs like Deepwater Horizon to oil companies, posted significant quarterly revenue from its ultra-deepwater rigs, while revenue from its shallow-water rigs declined. Nearly half Transocean's shallow-water rigs have been idle, while its ultra-deepwater rigs were booked through the end of the year. The oil industry publication RigZone, said the "rift in the rig market underscores how oil companies that are hard-pressed to find new oil reserves are still willing to spend big, as long as it's in such frontier regions as offshore Brazil, West Africa, and the deepwater U.S. Gulf of Mexico, where giant fields are thought to lie."

## DEEPWATER DRILLING SIGNIFICANT NOW: UNITED STATES/GULF OF MEXICO

### 1. ARE OVER 140 DEEPWATER PRODUCTION FACILITIES IN GULF, NUMBER IS EXPANDING RAPIDLY

Lesley D. Nixon et al, "Deepwater Gulf of Mexico 2009: Interim Report of 2008 Highlights," OCS REPORT, Mineral Management Service, May 2009, p.10.

Since then, deepwater exploration and production technology has tremendously advanced. In February 1997, there were 17 producing deepwater projects, up from only 6 at the end of 1992. Since then, industry has been rapidly advancing into deep water, and many of the anticipated fields have begun production. At the end of 2008, there were 141 producing projects in the deepwater GOM, up from 130 at the end of 2007 (Richardson et al., 2008). Over the last 15 or so years, leasing, drilling, and production moved steadily into deeper waters. There are approximately 7,310 active leases in the U.S. GOM, 58 percent of which are in deep water. (Note that lease statuses may change daily, so the current number of active leases is an approximation.) Contrast this to approximately 5,600 active GOM leases in 1992, only 27 percent of which were in deep water. There was a maximum of 31 rigs drilling in deep water in 2008, compared with only 3 rigs in 1992. Likewise, deepwater oil production rose about 786 percent and deepwater gas production increased about 1,067 percent from 1992 to 2007. Production from seven deepwater fields began in 2008, including Thunder Horse, the largest daily producer in the GOM. Appendix A provides locations and additional information for these fields and projects.

### 2. DEEPWATER DRILLING IS RESPONSIBLE FOR 70% OF THE OIL COMING OUT OF THE GULF

Lesley D. Nixon et al, "Deepwater Gulf of Mexico 2009: Interim Report of 2008 Highlights," OCS REPORT, Mineral Management Service, May 2009, p.xi.

There were 15 industry-announced discoveries in 2008, almost double the number of discoveries in 2007. Deep water has continued to be a very important part of the total Gulf production, providing approximately 70 percent of the oil and 36 percent of the gas in the region. At the end of 2008, there were 141 producing projects in the deepwater Gulf, up from 130 at the end of 2007. The 20 highest producing blocks in the Gulf continue to be located in deep water. Seven deepwater projects, including Thunder Horse, began production last year. The Thunder Horse Field is now the largest producer in the Gulf, with production of approximately 260,000 barrels of oil per day.

### 3. OFFSHORE OIL PRODUCTION IS LARGE AND GROWING -- PARTICULARLY FROM DEEPWATER AREAS

Stephen P. Brown, nonresident fellow, Resources for the Future, "Some Implications of Tightening Regulation of U.S. Deepwater Drilling," BACKGROUND, Resources for the Future, July 2010, p.2.

A substantial portion of total U.S. oil and natural gas production comes from offshore wells. As shown in Figure 1, the U.S. Energy Information Administration (EIA) projects U.S. offshore oil production at 1.7 million barrels per day (8.7 percent of total U.S. supply) in 2010 (U.S. EIA 2010a). Prior to the oil spill, EIA projected U.S. offshore oil production would grow to 2.4 million barrels per day (10.7 percent of total U.S. supply) by 2035. Most of the growth in U.S. offshore oil production would come from deepwater and ultra-deepwater areas.

## DEEPWATER DRILLING SIGNIFICANT NOW: UNITED STATES/GULF OF MEXICO cont'd

### 4. OFFSHORE FIELDS HOLD A TREMENDOUS AMOUNT OF OIL

Bruce Allen, co-founder, SOS California, "How Offshore Oil and Gas Production Benefits the Economy and the Environment," HERITAGE FOUNDATION BACKGROUNDER n. 2431, 11-30-09, [http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#\\_ftn12](http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#_ftn12)

The oceans surrounding the United States hold tremendous oil and natural gas potential, but much of that potential is not being realized. Nearly 85 percent of these waters -- the Atlantic, the Pacific, and the eastern Gulf of Mexico -- are off-limits to exploration and drilling. Government studies estimate that these restricted areas hold at least 19 billion barrels of oil -- nearly 30 years' worth of current imports from Saudi Arabia -- and oil estimates are known to increase as exploration occurs. The greatest untapped potential lies in the Pacific. Producing this oil would increase oil supplies, lower prices, and generate large tax revenues -- while creating thousands of jobs in the domestic energy industry.

### 5. ULTRA-DEEPWATER PRODUCTION IS REVERSING THE DECLINE IN GULF PRODUCTION

Stephen P. Brown, nonresident fellow, Resources for the Future, "Some Implications of Tightening Regulation of U.S. Deepwater Drilling," BACKGROUNDER, Resources for the Future, July 2010, p.2-3. In the Gulf of Mexico, for example, we have seen a transition from oil production in shallow water (water depth of less than 1,000 feet) to deepwater (water depth between 1,000 and 4,999 feet), and more recently to ultra-deepwater (water depth greater than 4,999). Shallow water production peaked in 1998. Deepwater production peaked in 2004. In contrast, ultra-deepwater production has risen sharply since that time -- reversing a decline in overall Gulf of Mexico oil production that began in 2003 (U.S. EIA 2010b).

### 6. THERE ARE HUGE RESERVES OFF THE COAST OF SANTA BARBARA

Bruce Allen, co-founder, SOS California, "How Offshore Oil and Gas Production Benefits the Economy and the Environment," HERITAGE FOUNDATION BACKGROUNDER n. 2431, 11-30-09, [http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#\\_ftn12](http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#_ftn12)

The presence of natural oil seeps has led to the discovery of some of the world's largest oil fields. The second-largest oil field ever discovered, the Cantarell "supergiant" field, was discovered after a fisherman, Rudesindo Cantarell, repeatedly complained to the Mexican national oil company PEMEX that his fishing nets were being covered with oil in the Gulf of Mexico. PEMEX had no oil operations in Mr. Cantarell's fishing area. The company investigated the source of the offshore oil and subsequently discovered an offshore oil field in 1976 which had produced more than 12 billion barrels of oil by 2007. Although being depleted rapidly, the Cantarell field is still one of Mexico's largest single sources of oil production. At current rates of oil seepage off the Santa Barbara coast, about 7 billion barrels of oil may already have seeped into the California coastal marine environment over the last 100,000 years. The lifespan of the Santa Barbara offshore oil seeps is estimated to exceed 400,000 years. Seven billion barrels of oil represents approximately 25 percent of all current U.S. oil reserves. Seven billion barrels of new Santa Barbara offshore oil production would supply all of California's current imported oil needs for the next 25 years.

## DEEPWATER DRILLING SIGNIFICANT NOW: UNITED STATES/GULF OF MEXICO cont'd

### 7. MOST GULF RESERVES ARE IN DEEP WATER

Stephen P. Brown, nonresident fellow, Resources for the Future, "Some Implications of Tightening Regulation of U.S. Deepwater Drilling," BACKGROUND, Resources for the Future, July 2010, p.3.

The shift in Gulf of Mexico oil production is in line with proved reserves. About 20 percent of the proved oil reserves in the Gulf of Mexico are in shallow water, whereas about 80 percent occur in deepwater and ultra-deepwater areas (Table 1). As the petroleum industry advances its exploitation of oil resources, ultra-deepwater oil production is expected to continue growing in importance. Additional offshore production is expected in areas opened up by the removal of the Congressional moratorium on drilling in the Eastern Gulf of Mexico, Atlantic, and Pacific regions of the Outer Continental Shelf.

### 8. DEEPWATER PROJECTS WILL KEEP THE GULF A PREMIER GLOBAL OIL PRODUCTION ZONE

Lesley D. Nixon et al, "Deepwater Gulf of Mexico 2009: Interim Report of 2008 Highlights," OCS REPORT, Mineral Management Service, May 2009, p.58.

The future of deepwater GOM exploration and production remains very promising. The large number of active deepwater leases, the development of important new discoveries, the growing deepwater infrastructure and new technologies, and the onset of ultra-deepwater production are all indicators of this maturing and yet still expanding frontier. All of these factors will ensure that the deepwater GOM will remain one of the world's premier oil and gas basins.

### 9. GULF DEEPWATER IS ONE OF THE MOST PROMISING PLACES FOR EXPANDED U.S. PRODUCTION

Jad Mouawad, "Oil Industry Sets a Brisk Pace of New Discoveries," NEW YORK TIMES, 9-23-09, [www.nytimes.com/2009/09/24/business/energy-environment/24oil.html](http://www.nytimes.com/2009/09/24/business/energy-environment/24oil.html), accessed 8-23-10.

One of the largest finds this year was made by a small producer, Heritage Oil, at the Miran West One field in the Kurdistan region of northern Iraq. It found nearly two billion barrels of oil and plans to drill a second well before the end of the year. While the central government of Iraq has had a hard time attracting investors to develop its huge fields, local authorities in Kurdistan have been successfully wooing foreign producers. Meanwhile, in the Gulf of Mexico, BP's discovery proves that the area remains one of the most promising oil regions in the United States. BP has estimated that the Tiber field holds four billion to six billion barrels of oil and gas, which would be enough, in theory, to meet domestic consumption for more than a year. "In 30 years I've been in the business, the Gulf of Mexico has been called the Dead Sea countless times," said Bobby Ryan, the vice president of global exploration at Chevron. "And yet it continues to revitalize itself."

### 10. SEVENTY PERCENT OF GULF OIL COMES FROM DEEPWATER PROJECTS

Lesley D. Nixon et al, "Deepwater Gulf of Mexico 2009: Interim Report of 2008 Highlights," OCS REPORT, Mineral Management Service, May 2009, p.47.

Leasing, drilling, and discoveries all stepped into deeper waters with time. Production, the final piece in the puzzle, is no exception. In 2007, approximately 70 percent of the GOM's oil production and 36 percent of its natural gas were from wells in 1,000 ft (305 m) of water or greater. Figure 23 illustrates deepwater projects that began production in 2007 and 2008 and those expected to commence production in the next 5 years. Seven deepwater projects went online in 2008: Bass Lite and Neptune in Atwater Valley; and Blind Faith, Mississippi Canyon Block 161, Raton, Thunder Horse, and Valley Forge in Mississippi Canyon. In addition to the projects displayed on Figure 23, more are likely to come online in the next few years but are not shown because operators have not yet announced their plans. See Appendix A for a listing of all productive projects.

## DEEPWATER DRILLING SIGNIFICANT NOW: ANSWERS TO: "DEEPWATER HORIZON DETERS"

### 1. DEEPWATER HORIZON ACCIDENT WILL HAVE NO IMPACT ON PACE OF DRILLING -- CHEVRON PROVES

Clifford Krauss, "Chevron Remains Committed to Deepwater Drilling," NEW YORK TIMES, Green Blog, 8-27-10,  
<http://green.blogs.nytimes.com/2010/08/27/chevron-remains-committed-to-deepwater-drilling/?ref=energy-environment>, accessed 8-27-10.

I caught up with Chevron's vice president for global exploration this week to ask him what impact the BP well disaster and the drilling moratorium in the Gulf of Mexico would have on his company's plans for future deepwater development. Green: Business "There is an easy answer," the Chevron vice president, Bobby Ryan, said without hesitation. "They have not changed." Chevron, the second-largest American oil company after Exxon Mobil, is one of the largest deepwater explorers in the Gulf of Mexico, and also has major deepwater projects in Europe, Asia and West Africa. The six-month drilling moratorium instituted by the Obama administration following the April 20 explosion of the Deepwater Horizon has suspended work on five Chevron deepwater wells. "Our plans are, the day that the moratorium is lifted, to go right back to the prospects we were drilling at the time work was suspended, as well as the other prospects that are in our queue," he said.

### 2. DRILLING IS HAPPENING NOW -- NEW TUPI FIELD OFF OF BRAZIL

BLOOMBERG, "Shell Starts Drilling Deepwater Oil Well Near Tupi Field in Brazil," 8-23-10,  
[www.bloomberg.com/news/2010-08-23/shell-starts-drilling-deepwater-oil-well-near-tupi-field-offshore-brazil.html](http://www.bloomberg.com/news/2010-08-23/shell-starts-drilling-deepwater-oil-well-near-tupi-field-offshore-brazil.html), accessed 8-27-10.

Royal Dutch Shell Plc, Europe's largest oil company, started drilling a well off Brazil's coast near the Tupi field, the largest discovery in the Americas in more than three decades, said the nation's oil regulator. The regulator, known as ANP, announced Shell's drilling development, 1-SHEL-23-RJS, today on its website. The well is in the Santos Basin's BM-S-54 block, north of Tupi, which was the Americas' largest discovery since Mexico's Cantarell in 1976. The well is also close to the Iara and Iracema oil fields. Shell sold 20 percent of the block to Paris-based Total SA in June, and last week said it is selling stakes in four other offshore Brazil blocks. Shell is selling non-crucial areas to help finance investments in its so-called core assets, said Michael Wang, an analyst at IHS Herold in Norwalk, Connecticut. "Some of the established players are taking advantage of market opportunities to sell assets, and people are willing to pay premiums for Brazil," said Wang in a telephone interview. Brazil "remains a core asset for Shell." Shell is producing oil at the Bijupira-Salema and Parque das Conchas projects in the Campos Basin. The four blocks Shell is selling, BS-4, BM-S-8, BM-S-45, and BM-ES-28, are in areas containing more natural gas than oil and considered less strategic for Shell, Wang said. Shell joins Spain's Repsol YPF SA, Brazil's OGX Petroleo & Gas Participacoes SA and Norway's Statoil ASA in selling oil assets in Brazil to raise money for development costs.

**DEEPWATER DRILLING SIGNIFICANT NOW:  
ANSWERS TO: "DEEPWATER HORIZON DETERS" cont'd**

3. WE WILL DRILL AGAIN -- THE MACONDO OIL FIELD IS HUGE

Christopher Helman, "BP's Gulf Well: One of America's Biggest Oil Fields?" FORBES, 8-16-10, [/www.forbes.com/2010/08/16/americas-biggest-oil-fields-business-energy-oil-fields.html](http://www.forbes.com/2010/08/16/americas-biggest-oil-fields-business-energy-oil-fields.html), accessed 8-18-10. In early August BP's Doug Suttles said it was clear that the ocean floor under the Deepwater Horizon had significant oil and gas reserves and that BP would have to "think about what to do with that at some point." Pundits expressed outrage that BP would even leave open the option of some day drilling for that oil again. Outrage or not, don't expect the company to ditch the Macondo reservoir -- the actual name of the field -- anytime soon. That would mean walking away from one of the biggest oil reserves in the United States. BP ( BP -- news -- people ) Chief Executive Tony Hayward has given the field a likely range of between 50 million and 100 million barrels -- though he had good reason to downplay its size. Armchair geologists cite the well's bountiful flow of more than 60,000 bpd at the start of the disaster as evidence that it could hold closer to 1 billion barrels per day.

## DEEPWATER DRILLING DESIRABLE: TOPSHELF

### 1. ENDING OFFSHORE DRILLING WILL NEGATIVELY IMPACT THE U.S. ECONOMY -- TRILLIONS IN ECONOMIC LOSSES BECAUSE OF HIGHER ENERGY COSTS

David W. Kreutzer, PhD and senior fellow, Heritage Foundation, and John L. Ligon, policy analyst, Heritage Foundation, "The Economic Impact of an Offshore Drilling Ban," WEBMEMO, 7-1-10, <http://heritage.org/Research/Reports/2010/06/The-Economic-Impact-of-an-Offshore-Drilling-Ban>, accessed 8-24-10.

Since energy is a critical input for so many things, raising its cost will increase production costs throughout the economy. Though producers will pass most of the costs on to consumers, consumers will not be able to buy as much at these higher prices. Therefore, the higher energy prices cut the demand for all the other inputs, such as labor. As the higher costs for petroleum and natural gas ripple through the economy, there may be a few bright spots (such as suppliers of more energy-efficient capital goods), but the overall impact is decidedly negative. An offshore drilling ban cuts domestic energy production, raises energy costs, and shrinks the nation's economic pie. The broadest measure of economic activity, gross domestic product (GDP), drops \$5.5 trillion over the period 2011-2035. Employment levels fall below those projected to occur without a ban in place. By 2020, employment would be 1.4 million jobs lower than without the ban. By 2030, the projected gap reaches 1.5 million jobs. Of course, shrinking the economy makes families poorer. By 2020 the annual reduction in disposable income for a family of four exceeds \$2,000. This lost income exceeds \$3,000 per year in 2030 and is over \$4,000 per year in 2035. Pulling the Rug Out Petroleum and natural gas play a vital role in the U.S. economy and are likely to remain critical to economic activity for decades to come. The Department of Energy expects offshore production to be a bigger supplier of the nation's energy needs in the years ahead. If a total ban on offshore drilling is implemented by 2011, then by 2035 Americans could expect national income (GDP) to drop by \$5.5 trillion, total costs of imported oil to rise by \$737 billion, total disposable income to decrease \$54,000 per family of four, and job losses to exceed 1.5 million. A total ban on offshore drilling would pull the rug out from the economy's incipient recovery.

### 2. ENDING OFFSHORE DRILLING WILL HAVE A NEGATIVE IMPACT ON U.S. ENERGY SUPPLIES FOR DECADES

David W. Kreutzer, PhD and senior fellow, Heritage Foundation, and John L. Ligon, policy analyst, Heritage Foundation, "The Economic Impact of an Offshore Drilling Ban," WEBMEMO, 7-1-10, <http://heritage.org/Research/Reports/2010/06/The-Economic-Impact-of-an-Offshore-Drilling-Ban>, accessed 8-24-10.

The Department of Energy's Energy Information Administration (EIA) projects that daily petroleum production will rise 18 percent between 2010 and 2035 and that daily production from offshore wells (in the lower 48 states) will rise by over 40 percent. EIA also predicts that offshore drilling will supply significant increases in natural gas production. While total natural gas production will rise 16 percent over the same period, offshore production of natural gas will rise 63 percent, at which time it will be nearly a fifth of total domestic production. The reserves of petroleum are projected to rise by 5 billion barrels -- even after extracting 57 billion barrels over the period 2010 -- 2035. This happens because improvements in technology and price increases make previously uneconomic deposits economically viable. Further, because exploration and development are costly, it makes little sense to incur the costs of finding and extracting reserves that will not be used for decades. In short, petroleum can be a major energy source for many decades. Consequently an offshore drilling ban's impact on the U.S. would be felt for decades. For example, between now and 2035 an offshore drilling ban would: \* Reduce GDP by \$5.5 trillion, \* Reduce the average consumption expenditures for a family of four by \$2,381 per year (and exceeding \$4,000 in 2035), \* Reduce job growth by more than 1 million jobs by 2015 and more than 1.5 million jobs by 2030, and \* Increase the total expenditures for imported oil by nearly \$737 billion.

## DEEPWATER DRILLING DESIRABLE: TOPSHELF cont'd

### 3. OFFSHORE DRILLING DECREASES THE NEGATIVE ENVIRONMENTAL IMPACTS OF SEEPAGE

Bruce Allen, co-founder, SOS California, "How Offshore Oil and Gas Production Benefits the Economy and the Environment," HERITAGE FOUNDATION BACKGROUNDER n. 2431, 11-30-09,  
[http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#\\_ftn12](http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#_ftn12)

One of the side affects of offshore oil production has been the reduction of oil and gas seepage due to decreases in subsea oil-reservoir pressure. Seep oil is chemically the same as commercially extracted oil, although the seep oil and tar have often undergone partial oxidation by the time they move into the water or onshore. The seepage reductions due to offshore oil and gas extraction have, in some cases, resulted in significant reductions in natural oil and gas seep pollution over the last 40 years. There are also anecdotal observations and research indicating that oil production around the world is responsible for ongoing reductions in hydrocarbon seepage pollution. Ironically, the decreased oil and gas reservoir pressure due to ongoing "legacy" offshore oil and gas production (which continued even after the state-wide offshore moratorium was imposed) near the site of the famous 1969 Santa Barbara oil spill is resulting in reductions in California's coastal seepage pollution. California beaches have become significantly cleaner over the last 50 years due to offshore oil and gas production. Modern slant and horizontal drilling is extending these benefits into seep zones located further into the ocean than the areas immediately surrounding existing offshore production platforms. Central and southern California beaches have been polluted by this natural seep oil for well over 100,000 years. A 22-year study of the offshore oil platform "Holly" off the Californian coast concluded that, "Oil production here has resulted in an unexpected benefit to the atmosphere and marine environment." According to peer-reviewed University of California research, if offshore production were expanded in the seep zone areas studied, there would be further reductions in seepage pollution and the associated methane gas and ozone-forming reactive organic compounds (ROCs). Long-time Santa Barbara residents have also observed for the last 50 years that their beaches have seen significant reductions in seepage oil and tar beach pollution. The simple fact is that California offshore oil and gas production has been the reason why California's prolific natural oil and gas seepage pollution has been declining for decades. California beaches are becoming cleaner thanks to existing legacy offshore oil and gas production. Geologists believe these reductions in seepage pollution will last for thousands of years.

### 4. WE CANNOT END DRILLING -- THE ALTERNATIVES ALL HAVE PROBLEMS, SHOULD JUST WORK TO MAKE DRILLING SAFER

Ben Lieberman, senior policy analyst, Heritage Foundation, "Gulf Oil Spill: Washington's Response Should Not Preclude Future Exploration," WEBMEMO, 5-5-10,  
<http://heritage.org/Research/Reports/2010/05/Gulf-Oil-Spill-Washingtons-Response-Should-Not-Preclude-Future-Exploration>, accessed 8-24-10.

Many activists and politicians are using the spill to push a pre-conceived agenda. For example, some are clamoring for increased alternatives like wind and solar or are cranking up the global warming rhetoric. But an offshore spill does not change the fact that alternative energy sources have a host of problems of their own or that cap and trade or similar measures to address global warming are a costly solution to an overstated problem. Nor should the offshore spill affect onshore drilling, where there is no risk of oil being dispersed into the water. And it certainly should not impede promising alternatives like shale oil, which currently being delayed by this Administration. Nor should countervailing risks be ignored, such as the risk of spills from tankers carrying foreign oil to American ports. Every energy source carries some risk; policies should seek to minimize the risks in order to maximize the benefits. Listen to the American People Of course, much depends on how serious and lasting the environmental impacts of this accident prove to be, and it should be noted that the Exxon Valdez and Santa Barbara spills' lasting damage was considerably less than the direst predictions at the time. Before the spill, the American people supported expanded offshore drilling by more than two-to-one margins. That will change but perhaps not by very much -- and, given history, probably not permanently. It may turn out that the public still supports offshore drilling -- albeit with new safeguards based on what is learned from this spill -- but not a moratorium on all offshore oil production. That would be a wise response from Washington.

## DEEPWATER DRILLING DESIRABLE: ALTERNATIVES WORSE -- ETHANOL (CELLULOSIC)

### 1. CELLULOSIC ETHANOL WILL NEVER HAPPEN -- ISN'T COST-COMPETITIVE WITH CORN OR EVEN LIQUID COAL

Jerry Taylor, Senior Fellow, Cato Institute, "13 Lies About Ethanol," Comments before "Biofuels: The Good, the Bad and the Ugly," Heartland Institute's Energy Summit, 3-17-07, [www.heartland.org/pdf/21230.pdf](http://www.heartland.org/pdf/21230.pdf), accessed 8-16-10.

Claim #9 -- Switchgrass (aka, "cellulosic ethanol") will set us free. Guy Caruso, the head of the EIA, noted in a speech last November that the capital costs associated with cellulosic ethanol production were 5 times greater than those associated with conventional corn ethanol production. Since the USDA estimates that the capital costs associated with corn ethanol production work out to about \$1.50 per gallon, that suggests that cellulosic ethanol would cost about \$7.50 per gallon before we even consider the price of the feedstock. Estimates like that are a bit soft, however, because there is no cellulosic ethanol industry in existence at present, so data is hard to come by. While the costs associated with cellulosic ethanol might well come down over time, it is far less economically competitive than any number of gasoline alternatives such as synthetic fuel from coal. Predictions about the "fuels of the future" have been uniformly wrong over time and there's little reason to pick "cellulosic ethanol" rather than any number of gasoline alternatives as our best.

### 2. EVEN IF EVENTUALLY VIABLE, WON'T BE COMMERCIALY AVAILABLE FOR TWO DECADES

Helen Lewis, journalist, "The Food Versus Fuel Debate," JUST-FOOD.COM, 2-1-08, [lexis.just-food.com](http://lexis.just-food.com).

There will be winners and losers resulting from a rise in the production and use of biofuels. Second-generation biofuels, which will convert biomass into liquid fuel, will replace ethanol in time. These future technologies are being used as the 'get out clause' for advocates of the renewable fuels, as they offer fewer disadvantages compared to first-generation biofuels. However, realistically, such technology is a long way from commercial completion with some analysts suggesting that it will be another two decades before they are ready.

### 3. PRODUCTION SIMPLY ISN'T PRACTICAL -- MULTIPLE REASONS

Tim Sklar, biofuels project consultant, "Obstacles Bedevil EISA's RFS Biofuels Mandate," OIL & GAS JOURNAL 3-17-08, [npg.org](http://npg.org).

The latest buzz is about using waste materials instead of food crops, because soaring corn prices have distorted the prices we pay for food as well as for corn ethanol. The public is being told this second generation of biofuels could be produced from agriwaste, such as corn stover and wheat straw; from fast-growing cellulosic crops, such as switch grass; from forest residue and other wood waste; and from municipal solid waste retrieved from landfills. Unfortunately, not being mentioned are the impracticalities of producing large quantities of fuels from these materials. Not being addressed are other impediments, such as bringing together the varied and often competing interests into biofuels projects, the technological hurdles that must be overcome, the vast amount of capital investment that will be needed, and the incentives the public will need to create a new industry. For the last several years our company has been assisting clients in the development of biofuels projects. It is dismaying that the realities encountered in developing renewable biofuels are often not even mentioned, let alone discussed. Assumptions upon which so much hope is being placed are often wrong or shortsighted.

**DEEPWATER DRILLING DESIRABLE:  
ALTERNATIVES WORSE -- ETHANOL (CELLULOSIC) cont'd**

4. CELLULOSE SHIFT WOULD HAPPEN ONLY AFTER WE DEFORESTED THE ENTIRE PLANET

Alice Friedemann, systems architect/engineer, "Peak Soil: Why Cellulosic Ethanol and Other Biofuels are Not Sustainable and a Threat to America's National Security -- Part II," ENERGY PULSE 5-8-07, [www.energypulse.net/centers/article/article\\_display.cfm?a\\_id=1479](http://www.energypulse.net/centers/article/article_display.cfm?a_id=1479), accessed 8-16-10.

Many plants want animals to eat their seed and fruit to disperse them. Some seeds only germinate after going through an animal gut and coming out in ready-made fertilizer. Seeds and fruits are easy to digest compared to the rest of the plant, that's why all of the commercial ethanol and biodiesel are made from the yummy parts of plants, the grain, rather than the stalks, leaves, and roots. But plants don't want to be entirely devoured. They've spent hundreds of millions of years perfecting structures that can't easily be eaten. Be thankful plants figured this out, or everything would be mown down to bedrock. If we ever did figure out how to break down cellulose in our back yard stills, it wouldn't be long before the 6.5 billion people on the planet destroyed the grasslands and forests of the world to power generators and motorbikes (Huber 2006)

## DEEPWATER DRILLING DESIRABLE: ALTERNATIVES WORSE -- ETHANOL (CORN)

### 1. DEEPWATER HORIZON WILL INCREASE SUBSIDIES FOR CORN ETHANOL

Robert Bryce, Manhattan Institute, "The Ethanol Trap," SLATE, 6-10-10, <http://www.slate.com/id/2256461/>, accessed 8-18-10.

The most disgusting aspect of the blowout in the Gulf of Mexico isn't the video images of oil-soaked birds or the incessant blather from pundits about what BP or the Obama administration should be doing to stem the flow of oil. Instead, it's the ugly spectacle of the corn-ethanol scammers doing all they can to capitalize on the disaster so that they can justify an expansion of the longest-running robbery of taxpayers in U.S. history. Listen to Matt Hartwig, communications director for the Renewable Fuels Association, an ethanol industry lobby group: "The Gulf of Mexico disaster serves as a stark and unfortunate reminder of the need for domestically-produced renewable biofuels." Or look at an advertisement that was recently placed in a Washington, D.C., Metro station: "No beaches have been closed due to ETHANOL spills. America's CLEAN fuel." That gem was paid for by Growth Energy, another ethanol industry lobby group. The blowout of BP's Macondo well has given the corn-ethanol industry yet another opportunity to push its fuel adulterant on the American consumer. And unfortunately, the Obama administration appears ready and willing to foist yet more of the corrosive, environmentally destructive, low-heat-energy fuel on motorists.

### 2. HURTING THE OIL INDUSTRY EXPANDS ETHANOL PRODUCTION -- STATUS QUO PROVES

Robert Bryce, senior fellow, Manhattan Institute, "Seven Thoughts on The Deepwater Horizon Disaster," ENERGY TRIBUNE, 5-3-10, [www.manhattan-institute.org/html/miarticle.htm?id=6189](http://www.manhattan-institute.org/html/miarticle.htm?id=6189), accessed 8-25-10.

What's bad for the offshore oil and gas industry is good for corn ethanol and wind. On Wednesday, President Barack Obama was in an ethanol plant in Missouri singing the praises of ethanol. Here's what he said: I may be the President these days, but I want to remind everybody I was the senator from Illinois. I didn't just discover the merits of biofuels like ethanol when I first hopped on the campaign bus. I was telling Steve this was not the first ethanol plant I visited. And I believe in the potential of what you're doing right here to contribute to our clean energy future, but also to our rural economies. The political signal is obvious: the Obama administration will soon approve a bailout for the ethanol industry courtesy of the EPA, which will agree to demolish the "blend wall" which will allow gasoline blenders to increase the amount of ethanol in the US gasoline pool from 10% to 15%. That same day, the Interior Department approved the Cape Wind project.

### 3. ETHANOL PRODUCTION UNDERMINES THE GLOBAL FOOD SUPPLY

Robert Bryce, Manhattan Institute, "The Ethanol Trap," SLATE, 6-10-10, <http://www.slate.com/id/2256461/>, accessed 8-18-10.

Yes, it's madness. And none of this even considers the effect that the ethanol rip-off is having on food supplies. Earlier this year, the Earth Policy Institute estimated that in 2009, the U.S. ethanol industry consumed 107 million tons of grain, or about 25 percent of total domestic grain production. That amount of grain, said the Institute, "was enough to feed 330 million people for one year at average world consumption levels." BP's disaster in the Gulf of Mexico will force the offshore oil and gas industry to dramatically improve its safety procedures. That's a good thing. But if it only serves to strengthen the corn-ethanol industry, it will be a squandered opportunity, and another tragedy for the nation.

## DEEPWATER DRILLING DESIRABLE: ALTERNATIVES WORSE -- ETHANOL (CORN) cont'd

### 4. ETHANOL INCREASES OZONE POLLUTION, SMOG, ASTHMA

Jack Santa Barbara et al., Director, Sustainable Scale Project, International Forum on Globalization, THE FALSE PROMISE OF BIOFUELS, September 2007,

[www.globalpolicy.org/soecon/envronmt/climate/2007/09falsepromise.pdf](http://www.globalpolicy.org/soecon/envronmt/climate/2007/09falsepromise.pdf), accessed 8-16-10.

Another recent study concludes that more ethanol use would result in considerable increases in atmospheric levels of ozone and peroxy-acetyl-nitrate (PAN), leading indicators of photochemical smog in the Los Angeles basin, the most polluted airshed in the U.S. Vehicles operating on 85 percent ethanol (E85) will increase two major carcinogens, acetaldehyde and formaldehyde while slightly reducing another, butadiene, and reducing a fourth, benzene. Such ethanol powered vehicles are at best an equal and at worst a greater risk to public health than equivalent gasoline vehicles. They will contribute to thousands of cases of premature mortality and millions of cases of asthma.

### 5. DOMESTIC ETHANOL PRODUCTION WILL SPUR CHAOS IN GLOBAL FOOD MARKETS -- RISKS WIDESPREAD STARVATION

Jerry Hirsch, journalist, "Corn is King -- and Therefore a Growing Problem," LOS ANGELES TIMES, 3-2-08, [www.latimes.com/business/la-fi-corn2mar02,0,2470929,full.story](http://www.latimes.com/business/la-fi-corn2mar02,0,2470929,full.story), accessed 8-16-10.

Lester R. Brown, an author and president of the Earth Policy Institute, sees a different scenario, one with global implications. He estimates that as long as oil prices continue to hover around \$100 a barrel, ethanol distillers could pay up to \$7 a bushel for corn and still make money. However, Brown said, "if the ethanol producers stay in the market, that will disrupt the food supply." Because of the interrelationships among crops, a major shortfall in the U.S. harvest could tip global grain and soy markets into chaos. It would affect the prices of food made directly from these commodities, such as bread, pasta and tortillas, and food made indirectly, such as pork, poultry, beef, milk and eggs. If it happened this summer, it would be especially bad because of the current pace of global food inflation. "The rest of the world is less able to pay high prices for food. What's annoying for us is life-threatening elsewhere," Brown said. The shortfall would lead to the "politics of scarcity," in which nations would stop exporting their domestic grain and soy crops to keep food prices under control for their own people.

### 6. ETHANOL-DRIVEN CORN PRODUCTION WILL DESTROY OUR SOIL

Denny Haldeman, journalist, "'The Nation that Destroys the Soil, Destroys Itself': Ethanolics Anonymous," COUNTERPUNCH, 6-26-07, <http://www.counterpunch.org/haldeman06262007.html>, accessed 8-16-10.

To grow enough corn for ethanol to replace our oil addiction would require approximately 482 million acres of cropland, exceeding the current total of 434 million acres of cropland used for all food and fiber. This does not even account for projected growth of oil consumption in the U.S. There is already the push to put the marginal Conservation Reserve Program lands, vital for wildlife and water quality and quantity, into intense energy crop production. Old school ethical farmers in the corn belt are already lamenting the destruction of soil saving windbreaks, some planted during the CCC years, the plowing under of hayfields to corn, highly erodable hilly lands being put into corn, and water drainages being reduced, hearkening back to the depression era insanity that squandered so much vital topsoil. Cellulostic ethanol scams will fare even worse for the soils as "residues" are scooped up, leaving virtually nothing to feed back to the soil. "The nation that destroys its soil, destroys itself," said President Franklin D. Roosevelt. In the rush to burn our nation's dwindling soil resources, corn is king. Corn devours soil nutrients at 12-20 times the rate of soil renewal, meaning it is already a highly unsustainable crop. Corn is also highly dependent on fossil fuel based fertilizer and pesticide inputs. With the inevitable hybridization and Genetically Modified Organism corn crops, the soil nutrient depletion will accelerate. The Corn Cartel, led by the likes of Archer Daniels Midland and Monsanto, have been working for decades on their plans for corn dominion over the U.S. and are now reaping record profits and subsidies.

**DEEPWATER DRILLING DESIRABLE:  
ALTERNATIVES WORSE -- ETHANOL (CORN) cont'd**

7. BEST STUDIES THAT SHOW THE MOST RELEVANT INPUTS PROVE THAT CORN IS A NET-NEGATIVE FOR ENERGY PRODUCTION

Jack Santa Barbara et al., Director, Sustainable Scale Project, International Forum on Globalization, THE FALSE PROMISE OF BIOFUELS, September 2007, [www.globalpolicy.org/socecon/envronmt/climate/2007/09falsepromise.pdf](http://www.globalpolicy.org/socecon/envronmt/climate/2007/09falsepromise.pdf), accessed 8-16-10.

Other researchers claim the net energy return from corn to ethanol is negative or very small. The debate centers on what energy inputs should be included in the calculation (See Box 1). The studies that are more inclusive of legitimate energy inputs, such as the energy cost of mitigating the externalized environmental damage from the production process, actually show a negative energy return for ethanol production, indicating it takes more energy to produce the ethanol than is contained in the ethanol produced.

8. CORN PRODUCTION INCREASES GREENHOUSE GAS EMISSIONS: 1) FARMING USES FOSSIL FUELS; 2) SO DOES ETHANOL PRODUCTION

Jack Santa Barbara et al., Director, Sustainable Scale Project, International Forum on Globalization, THE FALSE PROMISE OF BIOFUELS, September 2007, [www.globalpolicy.org/socecon/envronmt/climate/2007/09falsepromise.pdf](http://www.globalpolicy.org/socecon/envronmt/climate/2007/09falsepromise.pdf), accessed 8-16-10.

It is true that growing corn sequesters carbon from the atmosphere. However, it is also true that using corn products as combustible fuel releases this carbon back into the air. So there is no net benefit in terms of greenhouse gas emissions. But more significant is that fossil energy used in planting and harvesting the corn, and the industrial processing of the corn into ethanol, are all additional greenhouse gas emissions. Farming activities account for a significant amount of the greenhouse gases created by corn ethanol. In addition, most ethanol plants are powered by coal, which has the highest amount of greenhouse gas emissions of all the fossil fuels. Industrial operations not powered by coal are powered by natural gas, which also emits significant amounts of greenhouse gases. So the outcome is a significant increase in greenhouse gas emissions from corn ethanol regardless of how it is produced. To satisfy just 10 percent of U.S. fuel consumption using corn ethanol, the equivalent CO<sub>2</sub> emissions would be an additional 127 million metric tons per year. This is roughly equivalent to gasoline emissions from 20 million vehicles.

## DEEPWATER DRILLING DESIRABLE: ALTERNATIVES WORSE -- HYDROGEN

### 1. HYDROGEN IS TOO EXPENSIVE TO STORE/TRANSPORT

Jeff Wise, journalist, "The Truth About Hydrogen," POPULAR MECHANICS v. 183, 11-06, p.82. And while oil and gas are easy to transport in pipelines and fuel tanks-they pack a lot of energy into a dense, stable form-hydrogen presents a host of technical and economic challenges. The lightest gas in the universe isn't easy to corral. Skeptics say that hydrogen promises to be a needlessly expensive solution for applications for which simpler, cheaper and cleaner alternatives already exist. "You have to step back and ask, 'What is the point?'" says Joseph Romm, executive director of the Center for Energy & Climate Solutions. Though advocates promote hydrogen as a panacea for energy needs ranging from consumer electronics to home power, its real impact will likely occur on the nation's highways. After all, transportation represents two-thirds of U.S. oil consumption. "We're working on biofuels, ethanol, biodiesel and other technologies," says David Garmin, assistant secretary of energy, "but it's only hydrogen, ultimately, over the long term, that can delink light-duty transportation from petroleum entirely."

### 2. HYDROGEN WON'T MAKE A DENT UNTIL 2050 -- SLOWED DOWN BY FLEET TURNOVER

Chuck Squatriglia, journalist, "Hydrogen Cars Won't Make a Difference for 40 Years," WIRED, 5-12-08, <http://www.wired.com/cars/energy/news/2008/05/hydrogen?currentPage=1>, accessed 8-16-10. But few people expect to see fuel cell vehicles in showrooms before 2020, and we won't see any large-scale benefit from them until 30 years after that. "2050 is when hydrogen might -- might -- have a significant impact," said John Heywood, director of the Sloan Automotive Laboratory at the Massachusetts Institute of Technology. The timeline has more to do with economics than science. There are roughly 240 million vehicles in America and about 16 million new vehicles sold each year. That means it takes about 15 years to turn over the fleet. But it takes even longer for new technologies to penetrate the market. Heywood cites hybrids as an example. They may seem ubiquitous, but after 10 years, hybrids accounted for just 2.2 percent of domestic auto sales last year. Run the numbers and Heywood estimates fuel cell vehicles will need 25 years to make up 35 percent of new vehicle sales and 20 years beyond that to get to 35 percent of the U.S. fleet. We can't wait that long. Scientists increasingly agree that industrialized nations must cut greenhouse gas emissions as much as 80 percent by 2050 if we are to curb global warming. The Environmental Protection Agency says fuel economy may have to rise to 75 mpg within 30 years to hit that target. California law requires easing emissions even further than that by 2050. Hitting these targets will require putting 379,000 zero-emission vehicles on the road by 2020 and 7.6 million by 2050, according to the Union of Concerned Scientists.

### 3. HYDROGEN TECH WON'T BE READY FOR 40 YEARS -- TOO SLOW TO SOLVE, DIVERTS RESOURCES FROM BETTER AREAS

Chuck Squatriglia, journalist, "Hydrogen Cars Won't Make a Difference for 40 Years," WIRED, 5-12-08, <http://www.wired.com/cars/energy/news/2008/05/hydrogen?currentPage=1>, accessed 8-16-10. President Bush, Gov. Arnold Schwarzenegger and the big automakers agree on this much: They love hydrogen-powered fuel cell technology and its promise of a zero-emission, petroleum-free future. Unfortunately, experts say it will be 40 years or more before hydrogen has any meaningful impact on gasoline consumption or global warming, and we can't afford to wait that long. In the meantime, fuel cells are diverting resources from more immediate solutions. "As a climate strategy, it's not very good," said Dr. Joseph Romm, executive director of the Center for Energy and Climate Solutions and author of *The Hype About Hydrogen: Fact and Fiction in the Race to Save the Climate*. "We don't have the time. Climate experts and alternative-fuel researchers, including some hydrogen proponents, agree that hydrogen is at best a long-term solution. In the short and medium term, however, other technologies offer far greater benefit at far less cost: Cleaner internal combustion engines, hybrids and plug-in hybrids.

**DEEPWATER DRILLING DESIRABLE:  
ALTERNATIVES WORSE -- HYDROGEN** cont'd

4. HYDROGEN FAILS -- IS A NET ENERGY LOSER

Alice Friedemann, systems architect/engineer, "The Hydrogen economy -- Energy and Economic Black Hole," ENERGY PULSE, 2-25-05, [www.energypulse.net/centers/article/article\\_display.cfm?a\\_id=940](http://www.energypulse.net/centers/article/article_display.cfm?a_id=940), accessed 8-16-10

Before we invest trillions of dollars, let's take a hydrogen car out for a spin. You will discover that hydrogen is the least likely of all the alternative energies to solve our transportation problems. Hydrogen uses more energy than you get out of it. The only winners in the hydrogen scam are large auto companies receiving billions of dollars via the FreedomCAR Initiative to build hydrogen vehicles. And most importantly, the real problem that needs to be solved is how to build hydrogen trucks, so we can plant, harvest, and deliver food and other goods.

## DEEPWATER DRILLING DESIRABLE: ALTERNATIVES WORSE -- NUCLEAR POWER

### 1. NUCLEAR POWER WON'T BE ABLE TO COMPETE WITH EITHER FOSSIL FUELS OR SOLAR POWER

Thomas B. Cochran, PhD & Senior Scientist, Nuclear Program, Natural Resources Defense Council, Testimony before House Committee on Science and Technology, CQ CONGRESSIONAL TESTIMONY, 4-23-08, lexis. Electricity from new nuclear power plants in this cost range is not competitive with fossil-fueled baseload generation in today's marketplace, nor even with electricity supplied by waste heat co-generation, wind turbines, or freed-up by continuing pursuit of end-use efficiency programs. By the time the earliest of these new nuclear plants begin delivering power to the grid, several forms of solar power are also likely to be cheaper on a retail delivered-cost basis, and concentrating solar thermal plants will likely be competitive in the wholesale power market as well.

### 2. NUCLEAR POWER IS JUST AS BAD FOR THE ENVIRONMENT AS ARE FOSSIL FUELS

Karl S. Coplan, Associate Professor, Law, Pace University, "The Intercivilizational Inequities of Nuclear Power Weighed Against the Intergenerational Inequities of Carbon Based Energy," FORDHAM ENVIRONMENTAL LAW REVIEW v. 17, 2006, p.228.

This essay explains that such encouragement of nuclear energy production as a "solution" to fossil fuel-induced climate change will create environmental problems equally as grave as those posed by a carbon-based energy economy. Both nuclear energy and fossil energy impose enormous environmental externalities that are not captured by the economics of energy production and distribution. While emissions trading schemes seek to harness market-based efficiencies to accomplish pre-determined reductions, they neither seek to nor succeed in capturing the environmental externalities of energy generation. By creating a set of incentives without capturing all of the externalities, these trading schemes will simply distort the market, possibly leading to a worse overall damage to the environment than global warming by itself.

### 3. EVEN 1000 NEW REACTORS WOULDN'T PUT A DENT IN OUR ENERGY NEEDS

Rosalie Bertell, former winner of Alternative Nobel Peace Prize and Alexey Yablakov, Russian environmentalist, "Nuclear Salvation," CATHOLIC NEW TIMES, v. 30 n. 1, 1-15-06, p.8.

Even worse, the number of nuclear plants required to meet the world's needs would be colossal. At present, about 440 nuclear reactors supply about two per cent of demand. The Massachusetts Institute of Technology calculates that 1,000 more would be needed to raise this even to 10 per cent of need. At this point, the search for new sources of ore would become critical. Where would they come from? Not friendly Canada, which produces most of it at present, but places like Kazakhstan, hardly the most stable of democracies. So much for secure sources of energy! We would find ourselves out of the oil-producing fryingpan, right in the middle of the ore-manufacturing fire.

### 4. NUCLEAR EXPANSION INCREASES TERROR ATTACK, DIVERSION, AND PROLIFERATION RISKS

Jason Mark, editor, "The Fission Division," EARTH ISLAND JOURNAL v. 22 n. 3, 2007, pp.37-43.

The industry could reduce the need for waste storage by "reprocessing" the fuel, but that would lead to another problem -- the creation of weapons-grade radioactive material. While the industry has made real improvements in plant management and design since the Three Mile Island near-meltdown, post-911 fears have created a new set of safety worries. There is, first, the possibility of a terrorist attack on a plant. Then there's the worry about nuclear materials falling into the wrong hands. Spent nuclear fuel can be used to make so-called "dirty bombs." Reprocessed fuel in the form of enriched uranium or plutonium can make atomic weapons. More plants means more opportunities for atomic materials to slip out of a reactor unnoticed.

## DEEPWATER DRILLING DESIRABLE: ALTERNATIVES WORSE -- RENEWABLES

### 1. RENEWABLES SIMPLY AREN'T A VIABLE REPLACEMENT -- PROVEN BY PREVALENCE OF FOSSIL FUELS

Paul Lorenzini, former general manager of contract operations, DOE Hansford facility, "A Second Look at Nuclear Power," ISSUES IN SCIENCE AND TECHNOLOGY v. 21 n. 3, 2005, pp.31-38.

Although the vision of a renewable energy future has obvious appeal, it simply hasn't worked. Yes, energy efficiency has improved. We can now produce incremental gains in gross national product with much less energy than in the past, and electricity growth rates have been cut by more than two-thirds. But renewable energy sources have not come close to displacing fossil fuels as our primary source of energy. The failure is significant, eroding a fundamental premise on which modern energy planning is based. The long-term goal has been consistent: a supply adequate to meet global human needs while moving away from fossil fuels, ensuring environmental sustainability (especially reducing greenhouse gas emissions), and achieving energy security. Instead, we are moving unwittingly toward a fossil fuel future, exactly what we've been trying to avoid. Renewable energy has been sold on the premise that it has significant energy potential that could be tapped inexpensively. Yet after 30 years of effort, even with significant social, political, and financial incentives, the energy contribution from renewable sources has not budged. In 2002, renewable sources supplied about 6 percent of U.S. total energy consumption, unchanged from the 6 percent they provided in 1970. And the bulk of that 6 percent is supplied by sources that are far from new: hydropower and wood waste. From 1988 to 1998, U.S. wind, solar, geothermal, and hydropower grew at 27 percent per year, and the contribution to U.S. energy supply from nonhydro, nonbiomass renewable sources grew nearly 100-fold from 1980 to 1995. Even so, wind, solar, and geothermal energy accounted for only about 0.5 percent of the energy consumed in 2002. The contribution from fossil fuels did drop from 93 percent in 1970 to 85 percent in 2002, but it did so only because nuclear power made a substantial new contribution, supplying 8 percent of the 2002 energy consumption. Globally, the situation is similar. In 2000, nearly 90 percent of global energy came from fossil fuels.

### 2. RENEWABLES CANNOT BE DEVELOPED FAST ENOUGH TO ADDRESS WARMING

David G. Hawkins, Natural Resources Defense Council, Testimony Before House Energy and Commerce Committee, Subcommittee on Energy and Air Quality, FEDERAL DOCUMENT CLEARING HOUSE CONGRESSIONAL TESTIMONY, 6-24-03, lexis.

Secretary of Energy Abraham has said the following about our options to address this problem: "Until a few years ago, there were basically only two ways to address the challenge of global climate change. One was to produce and use energy more efficiently. The second was to rely increasingly on low-carbon and carbon-free fuels. We have made great strides in energy efficiency. We have made substantial progress in bringing down the costs of renewable energy, and we are working to reestablish the nuclear power option. But when you look at most credible projections for escalating energy use around the globe in the next century -- and you predict the rising levels of carbon emissions likely to result -- you come to an inevitable conclusion: energy efficiency and alternative energy, alone, may not be enough to stabilize global concentrations of carbon dioxide. Not unless you assume that all nations of the world -- developed and developing -- undertake a massive overhaul of their energy infrastructures in a relatively near -- and relatively quick -- time frame. I'm not here to offer a detailed assessment of the practicability of those assumptions, but I'm inclined to think the odds are strongly against them." There is much in Secretary Abraham's statement I would agree with: energy efficiency and renewable energy resources are the core components of a successful strategy to keep global warming emissions from spiraling out of control. We need to do much more to meet our growing energy requirements by increasing our use of these resources. But a clear-eyed look at the deployment rates for renewable and efficiency resources to date raises a serious question whether we will in fact use them at the scale and in the time frame required to keep global warming emissions from becoming a runaway problem.

**DEEPWATER DRILLING DESIRABLE:  
ALTERNATIVES WORSE -- RENEWABLES cont'd**

3. WIND/SOLAR/HYDRO ARE UNLIKELY TO BE WIDELY DEPLOYED BECAUSE OF HIGH, UP-FRONT CAPITAL COSTS

Fred Bosselman, Professor Emeritus, Law, Chicago-Kent College of Law, "The Ecological Advantages of Nuclear Power," NEW YORK UNIVERSITY ENVIRONMENTAL LAW JOURNAL v. 15, 2007, p.21. Hydro, wind, and solar energy all require high initial capital investment but have very low operating costs. Anyone making the investments needed to build these facilities has a strong incentive to use the power they generate whenever it is available. But because storage of electricity is possible only at very small scales and at high costs, when there is a demand for electricity, the electric utility must be able to supply it instantaneously, and if the wind isn't blowing or the sun isn't shining or it hasn't rained much, other reliable sources must be there to replace the unreliable sources. This means that any estimate of the true cost of wind, solar, and hydro should factor in a share of the capital cost of the needed backup facilities.

## DEEPWATER DRILLING DESIRABLE: ALTERNATIVES WORSE -- SHALLOW WATER DRILLING

### 1. SHALLOW WATER DRILLING IS JUST AS DANGEROUS

Regan Nelson, Natural Resources Defense Council, "Shallow-Water Drilling is Dangerous, Too," Switchboard Blog, 6-2-10, [http://switchboard.nrdc.org/blogs/rnelson/shallow-water\\_drilling\\_is\\_dang.html](http://switchboard.nrdc.org/blogs/rnelson/shallow-water_drilling_is_dang.html), accessed 8-17-10. But this is flawed logic. The President has acknowledged that the system regulating offshore drilling operations is broken. A broken system could lead to additional failures, regardless of the depth of water in which drilling occurs. Second, shallow-water drilling is not low-risk, and Australia's offshore oil disaster last summer is proof of that. Finally, the oil industry has proven it cannot contain a spill, which could prove even more problematic to our coasts in shallow water. The Administration just today approved a new oil well in shallow-water in the Gulf of Mexico, even as BP continues to fumble their attempts to control the gusher that is poisoning Gulf waters, destroying marine life and livelihoods. This move only adds insult to injury.

### 2. DRILLING IS DANGEROUS REGARDLESS OF THE DEPTH -- WE DON'T KNOW HOW TO PREVENT ACCIDENTS

Regan Nelson, Natural Resources Defense Council, "Shallow-Water Drilling is Dangerous, Too," Switchboard Blog, 6-2-10, [http://switchboard.nrdc.org/blogs/rnelson/shallow-water\\_drilling\\_is\\_dang.html](http://switchboard.nrdc.org/blogs/rnelson/shallow-water_drilling_is_dang.html), accessed 8-17-10. The President must expand his moratorium on all new offshore drilling activities for these reasons: #1) We do not know what it takes to drill safely First, the industry and the government do not know what led to the explosion of the Deepwater Horizon rig. The President has appointed a Commission to investigate and make recommendations that address the technical, regulatory and ethical failures that led to this tragic accident. The President and members of his Administration continually point to the Commission as the key to providing the answers of what it takes to drill safely. While failure of the blow-out preventer and "cozy relationships" between the industry and its federal regulators are undoubtedly a part of the problem, the Commission is likely to unearth further deficiencies. Until we know what all of these deficiencies are, it is dangerous to assume they only apply to deepwater drilling.

### 3. SHALLOW WATER DRILLING IS DANGEROUS TOO -- MULTIPLE EXAMPLES PROVE

Regan Nelson, Natural Resources Defense Council, "Shallow-Water Drilling is Dangerous, Too," Switchboard Blog, 6-2-10, [http://switchboard.nrdc.org/blogs/rnelson/shallow-water\\_drilling\\_is\\_dang.html](http://switchboard.nrdc.org/blogs/rnelson/shallow-water_drilling_is_dang.html), accessed 8-17-10. #2) Shallow-water drilling is not low-risk Shallow-water drilling is characterized as drilling in 500 feet of water or less. While it is true that it is much easier to operate at 500 feet as compared to, say, 5,000 feet, this difference doesn't necessarily make responding to a blow-out event any easier. Just last summer, a blow-out occurred on the Montara rig, which was situated in 240 feet of water, off Australia's coast. The well gushed oil for over 10 weeks, depositing millions of gallons of oil that eventually covered nearly 25,000 square miles of seas. The Thai-based company tried four different attempts to cap the well. In the end, the only thing that stopped the leak was drilling a relief well.

**DEEPWATER DRILLING DESIRABLE:  
ALTERNATIVES WORSE -- SHALLOW WATER DRILLING** cont'd

4. DEEPWATER DRILLING POSES FEWER ENVIRONMENTAL RISKS THAN NEAR-SHORE DRILLING

USA TODAY, "After the Spill: What's Been Learned?" 8-5-10,

[www.usatoday.com/news/opinion/editorials/2010-08-06-spilllessons\\_ST\\_N.htm](http://www.usatoday.com/news/opinion/editorials/2010-08-06-spilllessons_ST_N.htm), accessed 8-18-10.

Is there seabed damage we don't yet know about? Are there still plumes of oil lurking underwater? Will the dispersants used to break up the oil cause long-term damage to marine life? Unclear. But so far, it seems the wildest predictions were just that -- wild. What to make of all this? Perhaps that it's human nature to assume the worst, which isn't all bad. It focuses attention on fixing the problem. Perhaps that the news media did not do a very good job in the early days of putting the scale of the spill in the context of the Gulf's size and biology. BP tried to, but it had blown its credibility so no one listened. More provocatively, it might suggest that deep-water drilling, while being riskier and harder to control, is less threatening than drilling near shore. A much smaller spill just off the coast of Santa Barbara in 1969 did enough damage to affect policy for decades -- including drilling bans that endure today.

5. DEEPWATER SPILLS ARE SAFER THAN THOSE CLOSE TO SHORE

Selena Ross, "BP Experts: Everything You Know About the Oil Spill is Wrong," AOL NEWS, 8-1-10,

[www.aolnews.com/gulf-oil-spill/article/gulf-oil-spill-cleanup-bp-consultants-discuss-what-they-see-as-misconceptions/19572133?icid=main|main|dl1|link5|http%3A%2F%2Fwww.aolnews.com%2Fgulf-oil-spill%2Farticle%2Fgulf-oil-spill-cleanup-bp-consultants-d](http://www.aolnews.com/gulf-oil-spill/article/gulf-oil-spill-cleanup-bp-consultants-discuss-what-they-see-as-misconceptions/19572133?icid=main|main|dl1|link5|http%3A%2F%2Fwww.aolnews.com%2Fgulf-oil-spill%2Farticle%2Fgulf-oil-spill-cleanup-bp-consultants-d), accessed 8-22-10.

In fact, the deep sea is much better at dealing with oil than the shoreline, the experts say. Miles away from shore, the wind and waves create a "high-energy environment" that helps break up the oil, and the right bacteria are there to consume the resulting droplets, Allen says. At the shoreline, it will just sit there, harming a huge array of flora and fauna that can't break it down as quickly.

## DEEPWATER DRILLING DESIRABLE: ALTERNATIVES WORSE -- UNCONVENTIONAL OIL

### 1. ALTERNATE OIL SOURCES ARE JUST AS BAD FOR THE ENVIRONMENT -- SHALE OIL, TAR SANDS

Shashank Bengali, "Gulf Spill Reminds America: The Era of 'Easy Oil' Is Over," MCCLATCHEY, 5-7-10, [www.mcclatchydc.com/2010/05/07/93754/gulf-spill-reminds-america-the.html](http://www.mcclatchydc.com/2010/05/07/93754/gulf-spill-reminds-america-the.html), accessed 8-18-10.

Other major new horizons include the claylike tar sands of northern Alberta, in Canada, and in dense shale rock formations scattered across the U.S. Tapping each of these sources is freighted with costs and complications that would have been unthinkable in the oil industry a decade ago. Large shale formations such as Bakken in North Dakota and Barnett in Texas are thought to contain the light sweet crude that's highly prized by oil companies. However, environmental groups have questioned whether the technique used to release the oil from the rock -- deploying a mix of water, sand and chemicals to create cracks in the shale -- could contaminate groundwater sources. Extracting oil from the Canadian sands, meanwhile, requires chopping down vast swaths of forest, steam-heating the earth to release the crude, and then refining it -- a process that scientists say produces three to five times the greenhouse-gas emissions of conventional oil refining. Canadian environmental groups also say the process has contaminated the nearby Athabasca River and destroyed wildlife habitats. "For the people living in Alberta, it's a catastrophe," said Kjell Aleklett, the president of the Association for the Study of Peak Oil and Gas, a group of scientists who believe that the world's oil stores are running out. "The only thing the politicians can do is to deal with an issue when a catastrophe happens. Now is the moment for politicians to sit down and look into" weaning the world off of oil, Aleklett said.

### 2. UNCONVENTIONAL OIL IS TOO ENVIRONMENTALLY DAMAGING TO BE AN EFFECTIVE SUBSTITUTE

Michael T. Klare, Professor, Peace and World Security Studies, Hampshire College, "The Energy Crunch to Come," TOMDISPATCH.COM, 3-22-05,

[www.commondreams.org/cgi-bin/print.cgi?file=/views05/0322-31.htm](http://www.commondreams.org/cgi-bin/print.cgi?file=/views05/0322-31.htm), accessed 8-16-10.

Whether peak oil arrives in 2005, 2010, or 2015, and whether the maximum level of daily oil output turns out to be 90 or 100 million barrels will not matter much in the long run. In any of these scenarios, global oil production will level off and begin to decline at a level far below the anticipated world demand of 120 million barrels per day in 2025. True, some of this shortfall may be absorbed by the accelerated development of "unconventional" petroleum fuels -- liquid condensate from the production of natural gas, fuels derived from tar sands and oil shale, liquids extracted from coal, and the like -- but these materials are exceedingly costly to produce and their manufacture entails too many environmental risks to make them practical substitutes for conventional oil.

### 3. NONCONVENTIONAL SOURCES FAIL -- NET ENERGY TOO LOW

Francis de Winter, energy analyst and Robert B. Swenson, energy journalist, "Dawn of the Solar Era," SOLAR TODAY, March/April 2006, [www.solartoday.org/2006/mar\\_apr06/wake\\_up.htm](http://www.solartoday.org/2006/mar_apr06/wake_up.htm), accessed 8-16-10.

One place where the peak oil message is being heard is at the margins of the oil, gas and coal industries. As energy prices rise exponentially, researchers are attempting to exploit carbon-intensive, non-conventional fossil fuels to replace transportation fuels. Massive investments have been made to extract tar sands in Alberta; research is ramping up to find a way to convert oil shale in Wyoming and Colorado; and improved technologies are being developed to convert coal to liquids, using the same process that fueled Hitler's desperate army. But such attempts have produced inadequate amounts of net energy. For heat to extract oil from tar sands, natural gas equivalent to one-third of a barrel is used per barrel. This natural gas is in addition to the liquid fuels and electricity needed for mining, refining and environmental remediation. Recognizing rising natural gas prices, advocates are even suggesting nuclear power to replace natural gas for heat in the extraction process.

**DEEPWATER DRILLING DESIRABLE:  
ALTERNATIVES WORSE -- UNCONVENTIONAL OIL** cont'd

4. UNCONVENTIONAL OIL CLAIMS ARE FALSE -- NEVER PRODUCED ANY SHALE OIL, TAR SANDS ARE AN ENERGY NEGATIVE

Michael Savage, journalist, "Fade to Black: Is This the End of Oil?" INDEPENDENT, 6-12-08, <http://mindfully.org/Energy/2008/Oil-End-Of12jun08.htm>, accessed 8-16-10.

To the peakists, these standard oil industry ripostes are starting to wear a little thin, and have been damaged by the crashing and burning of some great white hopes. Not a single barrel of commercially viable shale oil, made from oil-rich sedimentary rock, has yet been produced. Oil made from tar sands found in northern Canada is near the top of the list of innovative sources of oil, but even the oil companies themselves admit that the amount of energy currently needed to produce a single barrel of it makes it very inefficient. And while drilling into ever-deeper waters might keep world production on its current plateau, the peakists say the days of "easy oil" are over.

## DEEPWATER DRILLING DESIRABLE: BACTERIA SOLVE SPILLS

### 1. NATURAL BACTERIA SOLVES SPILLS -- HORIZON AFTERMATH PROVES

HINDUSTAN TIMES, "BP May Have to Thank Bacteria for Oil Spill Clean Up," 8-27-10, [www.hindustantimes.com/BP-may-have-to-thank-bacteria-for-oil-spill-clean-up/Article1-592592.aspx](http://www.hindustantimes.com/BP-may-have-to-thank-bacteria-for-oil-spill-clean-up/Article1-592592.aspx), accessed 8-28-10.

Scientists claim to have solved the mystery of the disappearing oil from the BP spill in the Gulf of Mexico. They believe that billions of oil-eating bugs have already done the most challenging part of BP's clean-up job. The bacteria, called oceanospirillales, munched through massive oil plumes in the Gulf of Mexico following the world's worst-ever spill, reports the Daily Mail. It was caused by nearly five million barrels of oil gushing into the ocean over 87 days before it was capped. The experts examined a 35-km, 3,600-foot-deep plume in May and June and found a growing population of carbon-eating bacteria about 10 km from the leak. The bacteria worked so fast that each time the scientists could get back to the lab to test seawater samples, the bugs had already eaten all the oil in them. Earlier this month, when the team returned to where the plumes had been, the bugs were still there but the oil was gone. Terry Hazen, head of Lawrence Berkeley National Lab's ecology department in the US, said DNA tests showed that the bugs had genes for processing oil.

### 2. NATURALLY-OCCURRING BACTERIA WILL BREAK DOWN THE OIL

Mac Johnson,, "The Resilience of the Gulf," ENERGY TRIBUNE, 8-10-10, [www.energytribune.com/articles.cfm/4917/The-Resilience-of-The-Gulf-Oil-Seeps-and-Oil-Spills-Havent-and-Wont-Kill-the-Gulf-Of-Mexico](http://www.energytribune.com/articles.cfm/4917/The-Resilience-of-The-Gulf-Oil-Seeps-and-Oil-Spills-Havent-and-Wont-Kill-the-Gulf-Of-Mexico), accessed 8-25-10.

The remainder of the natural oil not evaporated each year is broken down by oil-eating bacteria (which did not instantly evolve in the hours following the Deepwater Horizon explosion -- more proof that oil is constantly entering the seas) or it is buried in sediments along with other hydrocarbon-rich detritus -- both equally scalable processes. This is not to say that the oil spill didn't happen or has had no effects -- clearly it has. The amount of oil released was large and it was released in just three months at one location. But the petroleum Tsunami gleefully anticipated by the cable crisis channels did not occur. Neither did biblical-scale die-offs of wildlife. Damage has been very localized and recovery has already been faster than anticipated. Keep in mind that the best estimates are that an oil slick has a half-life of around 12 hours before dispersal and evaporation destroy it as a coherent entity. Within days of the plugging of the BP well, oil was so difficult for news crews to find that they moved on to stories about Lindsay Lohan's courtroom nail polish.

## DEEPWATER DRILLING DESIRABLE: BAN FAILS -- SHIFT/INEVITABLE

### 1. U.S. BAN INCREASES DEEPWATER DRILLING IN BRAZIL -- RIG TRADEOFF, MORATORIUM PROVES

Robert Bryce, senior fellow, Manhattan Institute, "Drilling Moratorium Hurts U.S., Helps Brazil," WASHINGTON EXAMINER, 8-25-10, [www.washingtonexaminer.com/opinion/columns/101465244.html](http://www.washingtonexaminer.com/opinion/columns/101465244.html), accessed 8-27-10.

That's why Petrobras -- arguably the world's best deepwater oil driller and the world's most important non-OPEC producer -- is sitting pretty. Add in the fact that the company will invest \$224 billion on new projects over the next five years, and it becomes clear why the Brazilians are the rulers of the offshore oil business. Here's the punch line: thanks to the moratorium in the Gulf, Petrobras will likely be able to get its hands on yet more deepwater offshore drilling rigs, at cheaper rates, than it could have prior to the Macondo blowout. The Brazilians are eager for rigs because their drilling programs have uncovered enormous reserves. In 2007, the company announced that its new offshore Tupi field may hold up to 8 billion barrels of oil equivalent. The field is the world's second-largest oil discovery in the last 20 years.

### 2. DRILLING WILL HAPPEN ELSEWHERE REGARDLESS OF WHAT THE U.S. DOES

Robert Bryce, senior fellow, Manhattan Institute, "Seven Thoughts on The Deepwater Horizon Disaster," ENERGY TRIBUNE, 5-3-10, [www.manhattan-institute.org/html/miarticle.htm?id=6189](http://www.manhattan-institute.org/html/miarticle.htm?id=6189), accessed 8-25-10. Offshore drilling may slow in the US, but it won't stop the global push for more offshore drilling. The reasons are obvious: global oil demand continues to grow, the deepwater offshore is where the available oil is, and tens of billions, perhaps even hundreds of billions of dollars in capital, has already been spent in the search for offshore hydrocarbons. Sure, there's a disastrous spill in the Gulf of Mexico, but that won't stop drilling offshore Brazil, Venezuela, Angola, Nigeria, or elsewhere.

### 3. ELIMINATING DRILLING IN THE U.S. WON'T WORK -- WILL ONLY SHIFT TO OTHER COUNTRIES

Sandy LeonVest, publisher, SolarTimes, "Drill or Die," COMMON DREAMS, 7-8-10, [www.commondreams.org/view/2010/07/09-0](http://www.commondreams.org/view/2010/07/09-0), accessed 8-20-10.

Until Americans are more willing to accept that we will not "save ourselves" by killing the planet on which we depend for survival, there will be no solution to the crisis in which we now find ourselves. Yet, as author Lisa Margoneli argued recently in an interview with PBS, it is "a morally false choice" to halt drilling in the US, only to send Big Polluters offshore, where environmental regulations are lax or, in some cases, non-existent. It is a very "inconvenient truth" that to ban oil drilling in the US, while looking the other way as the likes of Shell in Nigeria, Texaco in Ecuador or Occidental in Colombia continue to plunder the poorest countries on the planet, epitomizes the myopic attitude and "NIMBYism" held by most US consumers.

### 4. DEEPWATER DRILLING IS INEVITABLE -- BRAZIL

Robert Bryce, senior fellow, Manhattan Institute, "Drilling Moratorium Hurts U.S., Helps Brazil," WASHINGTON EXAMINER, 8-25-10, [www.washingtonexaminer.com/opinion/columns/101465244.html](http://www.washingtonexaminer.com/opinion/columns/101465244.html), accessed 8-27-10.

As long as the Obama administration continues its moratorium on drilling in the deepwater in the Gulf of Mexico, Petrobras, the Brazilian national oil company, will continue to thrive. Not that Petrobras needs any help. Over the past decade, the Brazilian energy giant has nearly doubled its oil production and now produces about 2.4 million barrels per day, nearly as much as Venezuela. And the company's explosive growth will continue in the years ahead thanks to its aggressive drilling campaign in extreme ocean depths.

## DEEPWATER DRILLING DESIRABLE: BAN FAILS -- SHIFT/INEVITABLE cont'd

### 5. PETROBRAS WILL JUST DRILL IN THE GULF OF MEXICO

Robert Bryce, senior fellow, Manhattan Institute, "Drilling Moratorium Hurts U.S., Helps Brazil," WASHINGTON EXAMINER, 8-25-10, [www.washingtonexaminer.com/opinion/columns/101465244.html](http://www.washingtonexaminer.com/opinion/columns/101465244.html), accessed 8-27-10.

Art Smith, president of Triple Double Advisors, a Houston-based energy investment firm, says that Petrobras "will be the single fastest-growing source of incremental oil production in the world over the next few years." Petrobras' drilling programs aren't limited to Brazilian waters. The company also has major drilling projects in the Gulf of Mexico, where the Obama administration will likely continue its drilling moratorium for months to come. As it does so, the more US jobs will be lost. But in addition to losing jobs, the US is only strengthening the hands of companies like Petrobras, companies that fully understand the essentiality of offshore drilling.

### 6. DEEPWATER DRILLING IS INEVITABLE -- BEING PURSUED AROUND THE WORLD

Robert Bryce, senior fellow, Manhattan Institute, "Risky Business," ENERGY TRIBUNE, 4-23-10, [www.manhattan-institute.org/html/miarticle.htm?id=6439](http://www.manhattan-institute.org/html/miarticle.htm?id=6439), accessed 8-25-10.

But the trend toward ever-deeper, ever-more-complex offshore oil and gas exploration will not stop. About a third of all global oil production now comes from offshore wells. And given that big multinational companies like BP, Exxon Mobil, Chevron, and others are largely prevented from accessing the onshore reserves controlled by members of OPEC, the offshore is their only real growth opportunity. The reality is that big energy companies can't afford to quit moving into ever-deeper water. Drilling offshore may be risky business, but for most of the big international oil companies, there are no other options.

## DEEPWATER DRILLING DESIRABLE: ECONOMY/EMPLOYMENT

### 1. ENDING DRILLING COSTS JOBS -- CURRENT MORATORIUM PROVES

Associated Press, "Deepwater Drilling Ban Costs 23,000 Oil Jobs," HUFFINGTON POST, 8-21-10, [www.huffingtonpost.com/2010/08/21/deepwater-drilling-ban-co\\_n\\_689957.html](http://www.huffingtonpost.com/2010/08/21/deepwater-drilling-ban-co_n_689957.html), accessed 8-23-10.

The deepwater drilling moratorium in the Gulf of Mexico costs at least 23,000 jobs, according to a federal document that weighed the economic impact and alternatives to the drilling ban. A six-month suspension would directly put 9,450 people out of work and indirectly affect nearly 14,000 other jobs, according to a memo from Michael Bromwich, the nation's top drilling regulator. The July 10 memo to Interior Secretary Ken Salazar outlined several options regarding the suspension of offshore drilling. Salazar issued a moratorium in June, but it was struck down by a federal judge in New Orleans after oil and gas drilling interests said it wasn't justified following the Gulf oil spill. The Obama administration issued a new moratorium July 13 -- three days after the memo -- that stressed new evidence of safety concerns. The White House hopes the revised ban will pass muster with the courts.

### 2. DRILLING SHUTDOWN WOULD DEVASTATE THE ECONOMY, ENERGY PRODUCTION ALTERNATIVES ARE WORSE

Ben Lieberman, senior policy analyst, Heritage Foundation, "A Rational Post-Spill Policy that Allows Offshore Drilling," WEBEMO, 7-14-10, <http://heritage.org/Research/Reports/2010/07/A-Rational-Post-Spill-Policy-That-Allows-Offshore-Drilling>, accessed 8-24-10.

A complete shutdown of offshore oil and gas production would have a devastating economic impact. According to a Heritage analysis, such a shutdown would reduce gross domestic product by \$5.5 trillion by 2035, cost each family of four an average of \$2,381 annually, and reduce job growth by more than a million jobs by 2015 and 1.5 million by 2030. Nor would such a policy necessarily reduce environmental risks. Every barrel of petroleum not produced nearby must be transported great distances via tanker, where the risk of oil spills is greater than that from offshore wells.

### 3. ENDING DRILL HURTS JOBS AND GOVERNMENT REVENUE -- MORATORIUM PROVES

Robert Bryce, senior fellow, Manhattan Institute, "Drilling Moratorium Hurts U.S., Helps Brazil," WASHINGTON EXAMINER, 8-25-10, [www.washingtonexaminer.com/opinion/columns/101465244.html](http://www.washingtonexaminer.com/opinion/columns/101465244.html), accessed 8-27-10.

Petrobras' ascendance becomes yet more apparent given a July 10 memo from Michael Bromwich, the director of the Bureau of Ocean Energy Management, to Interior Secretary Kenneth Salazar which said that a six-month freeze on deepwater drilling would cost the US more than 23,000 jobs. Bromwich also predicted that the drilling moratorium would cut offshore oil and gas spending by \$10.2 billion in 2011 and cut royalty and tax payments to state and federal governments by a total of nearly \$700 million. And that lost revenue is occurring at the very time that governments at the local, state, and federal levels are in fiscal chaos.

## DEEPWATER DRILLING DESIRABLE: ECONOMY/EMPLOYMENT cont'd

### 4. EVEN THE PEOPLE OF LOUISIANA WANT US TO CONTINUE DRILLING -- SIMPLY WANT IMPROVED RESPONSE CAPABILITIES

Ben Lieberman, senior policy analyst, Heritage Foundation, "A Rational Post-Spill Policy that Allows Offshore Drilling," WEBEMO, 7-14-10,

<http://heritage.org/Research/Reports/2010/07/A-Rational-Post-Spill-Policy-That-Allows-Offshore-Drilling>, accessed 8-24-10.

The people of Louisiana are speaking loudly and clearly as to what they want in response to the oil spill. Louisianans are the ones bearing the brunt of the environmental and economic damage from Deepwater Horizon, yet they overwhelmingly support continued offshore oil and gas production in the Gulf of Mexico. Even Louisiana fishermen and shrimpers harmed by the spill see the merits of continued offshore energy production. The federal government should follow Louisiana's example and focus on adding reasonable safety measures for offshore drilling within the context of a robust pro-domestic production policy. Most importantly, the Obama Administration and Congress should abandon ongoing efforts to parlay the spill into a moratorium on offshore energy.

### 5. DEEPWATER DRILLING IS KEY TO THE BUDGET -- HUGE TAX REVENUES

Robert Bryce, senior fellow, Manhattan Institute, "The Deepwater Horizon Blowout: Losers and Winners," ENERGY TRIBUNE, 6-10-10, [www.manhattan-institute.org/html/miarticle.htm?id=6288](http://www.manhattan-institute.org/html/miarticle.htm?id=6288), accessed 8-25-10.

Every year, energy companies pay the federal government several billion dollars in royalties on the oil and gas they produce from federal offshore leases. Any slowdown or reduction in offshore drilling will necessarily mean a decrease in the amount of royalty payments going to the federal treasury. Furthermore, a prolonged slowdown or moratorium on offshore drilling will necessarily mean more imported oil, which will mean an increase in the US trade deficit.

### 6. EVEN A MORATORIUM ON DRILLING WOULD HURT THE LOCAL ECONOMY -- A FEDERAL JUDGE AGREES

Ben Lieberman, senior policy analyst, Heritage Foundation, "A Rational Post-Spill Policy that Allows Offshore Drilling," WEBEMO, 7-14-10,

<http://heritage.org/Research/Reports/2010/07/A-Rational-Post-Spill-Policy-That-Allows-Offshore-Drilling>, accessed 8-24-10.

Fortunately, a federal district court issued a preliminary injunction blocking the moratorium. In doing so, Judge Martin Feldman pointed out the lack of expert agreement or any other support within the report. He concluded that "the Court is unable to divine or fathom a relationship between the findings and the immense scope of the moratorium" and added that "the report patently lacks any analysis of the asserted fear or threat of irreparable injury or safety hazards posed by the thirty-three permitted rigs also reached by the moratorium." The court took into consideration the significant harm to the smaller oil companies who filed the lawsuit and their employees. Judge Feldman concluded that "the effect on employment, jobs, loss of domestic energy supplies caused by the moratorium as the plaintiffs (and other suppliers, and the rigs themselves) lose business, and the movement of the rigs to other sites around the world will clearly ripple throughout the economy in this region."

## DEEPWATER DRILLING DESIRABLE: ECONOMY/EMPLOYMENT cont'd

### 7. DRILLING INCREASES EMPLOYMENT BY 200,000 IN THE GULF REGION

James Jay Carafano, PhD and analyst, Heritage Foundation, "Need for Drilling Moratorium Mitigated by State of Oil Spill Response," WEBMEMO, 8-5-10, <http://heritage.org/Research/Reports/2010/08/Need-for-Moratorium-Mitigated-by-New-Oil-Spill-Response-Capacities>, accessed 8-24-10.

The National Ocean Industries Association reports that more than 200,000 jobs across the Gulf Coast are tied to the offshore drilling industry. Specifically, 35,000 workers are directly involved in daily operations on the rigs. The American Petroleum Institute has concluded that more than 120,000 Gulf Coast jobs could be lost if the drilling ban continues. At the same time, many operators may move their drilling assets to other operations around the world, meaning that it would be years before these assets would be available for drilling in the Gulf. The costs of the Administration's ban are real and mounting. Any possible benefits gained from the ongoing moratorium should be measured against these losses. The Administration proposed the moratorium in order to assess the safety of deepwater drilling practices. The fact that significant spills have become increasingly rare suggests that this caution was imprudent. The courts agreed: Federal judge Martin Feldman found the moratorium "arbitrary and capricious," a ruling that was quickly upheld by a federal appeals court. Nevertheless, Interior Secretary Ken Salazar announced a new moratorium on deepwater drilling. As result, the damage to the Gulf energy industry and the local economies continues to grow.

### 8. LIMITS ON DEEPWATER DRILLING WILL COST A TON OF JOBS

Robert Bryce, senior fellow, Manhattan Institute, "The Deepwater Horizon Blowout: Losers and Winners," ENERGY TRIBUNE, 6-10-10, [www.manhattan-institute.org/html/miarticle.htm?id=6288](http://www.manhattan-institute.org/html/miarticle.htm?id=6288), accessed 8-25-10. In the wake of the blowout, public opposition to offshore drilling may have increased, but its easy to overlook the numbers: 36 percent of all domestic crude oil production -- about 1.8 million barrels per day -- comes from offshore wells. And of that offshore production, about 66 percent comes from federal leases. Any slowdown or halt to offshore exploration and production may be politically expedient, but it will leave a lot of workers and companies adrift. Indeed, the Obama administration's six-month moratorium on new offshore drilling in water deeper than 500 feet could result in the idling of up to 40,000 workers. And many of those are highly skilled, blue-collar workers like welders, electricians and roughnecks who may be earning \$100,000 or more per year by working offshore. Those idled workers will come from a variety of businesses, ranging from the relatively small companies that provide helicopter transportation to major outfits like Transocean and Diamond Offshore that rent deepwater drilling rigs for rates of up to \$500,000 per day. And worse yet, many of those offshore jobs won't be coming back. Earlier this week, Anadarko Petroleum, which had a non-operating interest in the well that blew out, announced that it will move three of its exploratory drilling rigs out of the Gulf of Mexico.

### 9. EVEN A TEMPORARY DRILLING BAN WILL CAUSE LARGE JOB LOSSES

Stephen Power & Leslie Eaton, "US Saw Ban Killing Many Jobs," DOW JONES NEWSWIRE, 8-23-10, [www.rigzone.com/news/article.asp?a\\_id=97749&hmpn=1](http://www.rigzone.com/news/article.asp?a_id=97749&hmpn=1), accessed 8-25-10.

Senior Obama administration officials concluded the federal moratorium on deepwater oil and gas drilling would cost roughly 23,000 jobs and freeze up to \$10.2 billion in oil-industry investment, according to previously undisclosed documents detailing their internal debates. Critics of the moratorium, including Gulf Coast political figures and oil-industry leaders, have said it is crippling the region's economy, and some have called on the administration to make public its economic analysis. A federal judge who in June threw out an earlier six-month moratorium faulted the administration for playing down the economic effects. After his action, the documents show, administration officials considered alternatives but chose to impose a new drilling moratorium after concluding the industry lacked viable strategies for containing another major spill. Officials also expressed doubts internally about the reliability of the equipment the industry uses to prevent blowouts.

## DEEPWATER DRILLING DESIRABLE: OIL DEPENDENCE -- DRILLING SOLVES

### 1. LIMITING DEEPWATER DRILLING RISKS AN OIL PRICE SPIKE

Shashank Bengali, "Gulf Spill Reminds America: The Era of 'Easy Oil' Is Over," MCCLATCHEY, 5-7-10, [www.mcclatchydc.com/2010/05/07/93754/gulf-spill-reminds-america-the.html](http://www.mcclatchydc.com/2010/05/07/93754/gulf-spill-reminds-america-the.html), accessed 8-18-10.

Weaning the U.S. off oil has never been politically convenient, and it's even less so with the nation slowly climbing out of a deep recession. The most promising approaches include sharply higher gasoline taxes and mileage standards and increased use of nuclear power, wind, solar energy or geothermal power -- all of which have their own drawbacks. Pushing ahead with unconventional drilling in the wake of a major spill could seem risky, but putting the brakes on exploration would worsen what analysts warn is an impending oil price crunch as world demand increases and production slows. "An oil spill here or there hasn't gotten in the way of oil extraction anywhere," said Peter Maass, the author of the 2009 book, "Crude World: The Violent Twilight of Oil." "We want our oil, and we're pretty much willing to pay any price for it."

### 2. DEEPWATER SITES ARE THE ONLY PLACES WHERE THE U.S. CAN EXPAND DOMESTIC PRODUCTION

Toni Johnson, "U.S. Deepwater Drilling's Future," Backgrounder, Council on Foreign Relations, 5-27-10, [www.cfr.org/publication/22204/us\\_deepwater\\_drillings\\_future.html](http://www.cfr.org/publication/22204/us_deepwater_drillings_future.html), accessed 8-17-10.

The EIA estimates "a vast majority" of projected increases in U.S. production in the near term will come from Gulf deepwater fields similar to the site of the Deepwater Horizon spill, which currently represent about 70 percent of all Gulf oil production. This share is expected to grow in the next few years. A 2009 U.S. Minerals Management Service (MMS) report forecasting production (PDF) in the Gulf of Mexico shows that as shallow-water production levels have fallen, deepwater production has taken up the slack.

### 3. DECREASED DEEPWATER PRODUCTION INCREASES OIL IMPORTS

Robert Bryce, senior fellow, Manhattan Institute, "Seven Thoughts on The Deepwater Horizon Disaster," ENERGY TRIBUNE, 5-3-10, [www.manhattan-institute.org/html/miarticle.htm?id=6189](http://www.manhattan-institute.org/html/miarticle.htm?id=6189), accessed 8-25-10.

This a "reputational disaster" for the entire US offshore business. That's the assessment of David Pursell, a managing director at Tudor Pickering Holt and Company, a Houston-based energy investment banking firm. The results of that will likely be: \* Drastically higher insurance rates for all operators working in the Gulf of Mexico. Rates had gone up dramatically after Hurricanes Rita and Katrina. Now they'll go yet higher which will mean higher costs for the whole industry. \* The spill also means less offshore drilling in US waters. The chances of the Obama administration approving more offshore leases in the wake of this disaster are slim and none. And as my father used to say, "Slim left town." \* Those factors will mean increased oil imports in the future. Any decline in US offshore oil production (30% of US oil production comes from the Gulf of Mexico) will necessarily mean more imports.

### 4. DEEPWATER BAN WOULD INCREASE U.S. OIL IMPORTS

Stephen P. Brown, nonresident fellow, Resources for the Future, "Some Implications of Tightening Regulation of U.S. Deepwater Drilling," BACKGROUND, Resources for the Future, July 2010, p.6-7.

A permanent ban on U.S. deepwater and ultra-deepwater drilling would have a greater effect on world oil prices than would a 20 percent increase in costs because a moratorium would cause a more significant reduction in U.S. offshore oil production. Nonetheless, the large international oil market would blunt the effect on prices. The United States would import more oil to offset some of its reduced oil production -- with imports running about 0.2 million barrels A permanent ban on U.S. deepwater and ultra-deepwater drilling would have a greater effect on world oil prices than would a 20 percent increase in costs because a moratorium would cause a more significant reduction in U.S. offshore oil production. Nonetheless, the large international oil market would blunt the effect on prices. The United States would import more oil to offset some of its reduced oil production -- with imports running about 0.2 million barrels

## DEEPWATER DRILLING DESIRABLE: OIL DEPENDENCE -- DRILLING SOLVES cont'd

### 5. BANNING NEW OFFSHORE DRILLING WILL ONLY INCREASE OIL IMPORTS

USA TODAY, "After the Spill: What's Been Learned?" 8-5-10, [www.usatoday.com/news/opinion/editorials/2010-08-06-spilllessons\\_ST\\_N.htm](http://www.usatoday.com/news/opinion/editorials/2010-08-06-spilllessons_ST_N.htm), accessed 8-18-10. Also lost in the squabbling was a chance to raise awareness of the costs to national energy security as exploration stopped in an area that produces 30% of the nation's domestic oil. Plans for expanded offshore drilling elsewhere were shelved. The cost of banning drilling in some of the last places that could provide significant domestic oil supplies is that imports rise. The USA already imports about 68% of its oil and is dangerously vulnerable to the vagaries of the world petroleum market. It would be nice to think the nation will simply use more solar energy, more wind power or some other alternative source of energy. But there's no national plan to make that happen, and Congress is currently paralyzed over legislation that would barely begin the effort.

### 6. DEEPWATER DRILLING IS NECESSARY TO DECREASE MIDEAST OIL DEPENDENCE

Sarah Arnott, "Shell Defends Deep-Water Oil Drilling, as Profits Soar," THE INDEPENDENT, 7-30-10, [www.independent.co.uk/news/business/news/shell-defends-deepwater-oil-drilling-as-profits-soar-2039028.html](http://www.independent.co.uk/news/business/news/shell-defends-deepwater-oil-drilling-as-profits-soar-2039028.html), accessed 8-22-10.

Despite expectations of heavier regulations after the Gulf disaster, oil companies are continuing to pursue deep-water oil. Shell joined forces with three other oil majors -- ExxonMobil, Chevron and ConocoPhillips -- last week to form a \$1bn Gulf of Mexico spill response and containment unit. And BP itself will start drilling in the 1,700m Gulf of Sirte off Libya within weeks. Industry commentators agree that there is little option but to press ahead with deepwater drilling to meet global demand for hydrocarbons and shake off a reliance on the Middle East. Thanks to booming oil prices and technical advances, deep-water oil and gas production has rocketed in recent years, up nearly two-thirds since 2000. And as once-unconventional technologies become familiar, new areas for exploration are being opened up all over the world. So far the majority of finds are in the so-called "golden triangle" comprising the coastal waters of Western Africa, South America and the Gulf of Mexico, believed to be parts of a similar formations separated by the continental drift that formed the Atlantic Ocean.

### 7. DEEPWATER WELLS WILL STABILIZE U.S. DOMESTIC OIL PRODUCTION

Steven Mufson, "U.S. Oil Reserves Get a Big Boost," WASHINGTON POST, 9-6-06, [www.washingtonpost.com/wp-dyn/content/article/2006/09/05/AR2006090500275.html](http://www.washingtonpost.com/wp-dyn/content/article/2006/09/05/AR2006090500275.html), accessed 8-17-10. Cambridge Energy forecasts that the deep-water area of the Gulf of Mexico will produce 800,000 barrels of oil a day within seven years and account for 11 percent of U.S. oil production. That would not solve the world's energy problem or eliminate U.S. reliance on oil imports, but it would help stabilize U.S. oil production, which has been declining, and cover some of the world's rising demand for petroleum. Prudhoe Bay, in northern Alaska, produced about 1.5 million barrels a day at its peak.

### 8. CURRENT MORATORIUM WILL ONLY INCREASE OIL IMPORTS

Chris Kahn et al., "U.S. Looking at Ending Deepwater Drilling Moratorium," HUFFINGTON POST, 8-15-10, [www.huffingtonpost.com/2010/08/15/deepwater-drilling-moratorium\\_n\\_682489.html](http://www.huffingtonpost.com/2010/08/15/deepwater-drilling-moratorium_n_682489.html), accessed 8-20-10. The moratorium bans exploratory drilling but not production. At an estimated 1.66 million barrels of per day, Gulf oil production accounts for about 30 percent of domestic output. However, the government estimates 2011 production at just 1.54 million barrels per day -- equal to 2009 levels -- in part because no new wells are currently being drilled. By contract, the U.S. is expected to import 9.11 million barrels per day this year. Opponents say the moratorium will only boost the need for foreign oil, but the government currently forecasts a drop in imports next year because of increased production onshore in the U.S.

**DEEPWATER DRILLING DESIRABLE:  
OIL DEPENDENCE -- DRILLING SOLVES** cont'd

9. THE U.S. ALREADY IMPORTS OVER ONE HALF OF ITS OIL

Toni Johnson, "U.S. Deepwater Drilling's Future," Backgrounder, Council on Foreign Relations, 5-27-10, [www.cfr.org/publication/22204/us\\_deepwater\\_drillings\\_future.html](http://www.cfr.org/publication/22204/us_deepwater_drillings_future.html), accessed 8-17-10.

Fifty-one percent of U.S. oil consumption came from foreign sources in 2009, primarily Canada, Saudi Arabia, Venezuela, Nigeria, and Mexico, according to the EIA. The agency expects the percentage of imports to drop by a third -- from more than 12 billion barrels a day in 2007 to about 8 billion by 2030 -- and assumes that oil consumption will remain relatively flat, with new demand largely met by alternative fuels and new domestic production. A little less than half of U.S. oil consumption currently comes from domestic production, now at more than 5 million barrels a day. Oil production in the United States is largely concentrated in Texas, Alaska, California, Louisiana, and North Dakota. Offshore production from the Gulf of Mexico represents 30 percent of all U.S. crude production and more than 90 percent of all U.S. offshore production.

## DEEPWATER DRILLING DESIRABLE: OIL DEPENDENCE -- DEPENDENCE BAD

### 1. INCREASING DEPENDENCY ON IMPORTS INCREASES OUR VULNERABILITY TO OIL PRICE SHOCKS

Stephen P. Brown, nonresident fellow, Resources for the Future, "Some Implications of Tightening Regulation of U.S. Deepwater Drilling," BACKGROUND, Resources for the Future, July 2010, p.10.

According to Brown and Huntington, consumption of imported oil carries greater externalities than consumption of domestically produced oil because imports affect the expected size of future supply shocks by changing how much potentially unstable producers contribute to the world oil supply. Because historically unstable producers adjust their production to world oil market conditions, they are among the marginal sources of world oil -- even though more stable producers have higher costs. For the market conditions the EIA projects for 2011, Brown and Huntington estimate externalities of \$2.59 per barrel of domestic oil consumed and \$4.36 per barrel of imported oil consumed. For the market conditions the EIA projects for 2035, the comparable figures are \$4.45 and \$6.82. Consequently, reductions in U.S. oil consumption would slightly enhance the nation's energy security, while increases in U.S. oil imports would reduce energy security slightly. Using the Brown -- Huntington estimates of U.S. oil security externalities, a 20 percent increase in drilling costs in U.S. deepwater and ultra-deepwater areas would increase estimated U.S. oil security externalities by a total of about \$2.1 million in 2011 and by about \$29.5 million in 2035. Similarly, a permanent ban on drilling in U.S. deepwater and ultra-deepwater areas would increase estimated U.S. oil security externalities by a total of about \$31 million in 2011 and by about \$405 million in 2035.

### 2. OIL SUPPLY SHOCKS THREATEN THE ECONOMY -- HISTORY PROVES

Stephen P. Brown, nonresident fellow, Resources for the Future, "Some Implications of Tightening Regulation of U.S. Deepwater Drilling," BACKGROUND, Resources for the Future, July 2010, p.9.

Changes in U.S. oil consumption and oil imports raise issues about energy security. Practical experience and a long-established economics literature -- assessed by Brown and Yecel (2002), Jones et al. (2004), Kilian (2008), and Hamilton (2009) -- have found that oil supply shocks can lead to sharply rising oil prices and weakened U.S. economic activity. Because the U.S. economy is vulnerable to oil supply shocks, reducing the potential size or economic consequences of such shocks is at the heart of energy security.

### 3. OIL DEPENDENCE UNDERMINES U.S. POWER -- CAUSES POWER ALIGNMENTS HOSTILE TO AMERICAN INTERESTS

John Deutch and James R. Schlesinger, Chairs, NATIONAL SECURITY CONSEQUENCES OF U.S. OIL DEPENDENCY, Independent Task Force Report n. 58, Council on Foreign Relations, 2006, p.26-27.

Second, oil dependence causes political realignments that constrain the ability of the United States to form partnerships to achieve common objectives. Perhaps the most pervasive effect arises as countries dependent on imports subtly modify their policies to be more congenial to suppliers. For example, China is aligning its relationships in the Middle East (e.g., Iran and Saudi Arabia) and Africa (e.g., Nigeria and Sudan) because of its desire to secure oil supplies. France and Germany, and with them much of the European Union, are more reluctant to confront difficult issues with Russia and Iran because of their dependence on imported oil and gas as well as the desire to pursue business opportunities in those countries. These new realignments have further diminished U.S. leverage, particularly in the Middle East and Central Asia. For example, Chinese interest in securing oil and gas supplies challenges U.S. influence in central Asia, notably in Kazakhstan. And Russia's influence is likely to grow as it exports oil and (within perhaps a decade) large amounts of natural gas to Japan and China. All consuming countries, including the United States, are more constrained in dealing with producing states when oil markets are tight. To cite one current example, concern about losing Iran's 2.5 million barrels per day of world oil exports will cause importing states to be reluctant to take action against Iran's nuclear program.

**DEEPWATER DRILLING DESIRABLE:  
OIL DEPENDENCE -- DEPENDENCE BAD** cont'd

4. OIL DEPENDENCE THREATENS THE ECONOMY -- LEAVES US VULNERABLE TO PRICE SPIKES, DRIVES UP THE TRADE DEFICIT

David Sandalow, Energy & Environment Scholar, "Ending Oil Dependence: Protecting National Security, the Environment and the Economy," Opportunity 08: Independent Ideas for Our New President, Brookings Institution, 2007, [www.brookings.edu/~media/Files/Projects/Opportunity08/PB\\_Energy\\_Sandalow.pdf](http://www.brookings.edu/~media/Files/Projects/Opportunity08/PB_Energy_Sandalow.pdf), accessed 8-16-10.

Economic Threats Oil dependence exposes the U.S. economy to the volatility of world oil markets. Price increases can occur suddenly and, because there are no widely available substitutes for oil, consumers and businesses may be unable to respond by changing consumption patterns. At the national level, the climb in oil prices during the past few years has imposed considerable costs. Between summer 2003 and summer 2006, world oil prices rose from roughly \$25 per barrel to more than \$78 per barrel. Each \$10 increase requires roughly \$50 billion of additional foreign payments (approximately 0.4 percent of GDP) per year. In 2006, U.S. foreign payments for oil were more than \$250 billion.

5. OIL DEPENDENCE IS BAD -- UNDERMINES U.S. FOREIGN POLICY, STRAINS RELATIONS WITH OTHER STATES

John Deutch and James R. Schlesinger, Chairs, NATIONAL SECURITY CONSEQUENCES OF U.S. OIL DEPENDENCY, Independent Task Force Report n. 58, Council on Foreign Relations, 2006, p.3.

The lack of sustained attention to energy issues is undercutting U.S. foreign policy and U.S. national security. Major energy suppliers -- from Russia to Iran to Venezuela -- have been increasingly able and willing to use their energy resources to pursue their strategic and political objectives. Major energy consumers -- notably the United States, but other countries as well -- are finding that their growing dependence on imported energy increases their strategic vulnerability and constrains their ability to pursue a broad range of foreign policy and national security objectives. Dependence also puts the United States into increasing competition with other importing countries, notably with today's rapidly growing emerging economies of China and India. At best, these trends will challenge U.S. foreign policy; at worst, they will seriously strain relations between the United States and these countries. This report focuses on the foreign policy issues that arise from dependence on energy traded in world markets and outlines a strategy for response. And because U.S. reliance on the global market for oil, much of which comes from politically unstable parts of the world, is greater than for any other primary energy source, this report is mainly about oil. To a lesser degree it also addresses natural gas.

6. WE ALREADY IMPORT SIXTY PERCENT OF OUR OIL, THAT NUMBER WILL RISE

John Deutch and James R. Schlesinger, Chairs, NATIONAL SECURITY CONSEQUENCES OF U.S. OIL DEPENDENCY, Independent Task Force Report n. 58, Council on Foreign Relations, 2006, p.6.

Over the last fifty years, U.S. consumption of oil has grown continually, except for a time during the late 1970s and early 1980s. Whereas consumption has generally risen, ever since the early 1970s, U.S. oil production in the lower forty-eight states has been in decline (figure 2). As a result, net imports of oil -- which is imported mainly as crude but also refined products such as gasoline -- increased steadily through 1977, declined from then until 1982, and have been growing ever since. U.S. policymakers became alarmed in the 1970s as U.S. imports rose to 50 percent and sought successfully to reduce demand and thus imports to about one-third of its consumption. Today, despite these efforts, import dependence is roughly 60 percent and expected to rise during the coming decades.

**DEEPWATER DRILLING DESIRABLE:  
OIL DEPENDENCE -- DEPENDENCE BAD cont'd**

7. HIGH OIL REVENUES ALLOW HOSTILE STATES TO TAKE ACTIONS THAT UNDERMINE U.S. INTERESTS

John Deutch and James R. Schlesinger, Chairs, NATIONAL SECURITY CONSEQUENCES OF U.S. OIL DEPENDENCY, Independent Task Force Report n. 58, Council on Foreign Relations, 2006, p.26.

First, the control over enormous oil revenues gives exporting countries the flexibility to adopt policies that oppose U.S. interests and values. Iran proceeds with a program that appears to be headed toward acquiring a nuclear weapons capability. Russia is able to ignore Western attitudes as it has moved to authoritarian policies in part because huge revenues from oil and gas exports are available to finance that style of government. Venezuela has the resources from its oil exports to invite realignment in Latin American political relationships and to fund changes such as Argentina's exit from its International Monetary Fund (IMF) standby agreement and Bolivia's recent decision to nationalize its oil and gas resources. Because of their oilwealth, these and other producer countries are free to ignore U.S. policies and to pursue interests inimical to our national security.

8. U.S. OIL DEPENDENCE FUNDS TERRORIST GROUPS

Carl Pope, Executive Director, Sierra Club, Testimony before the House Select Committee on Energy Independence and Global Warming, CQ CONGRESSIONAL TESTIMONY, 4-18-07, lexis.

Growing Oil Dependence Hurts Our National Security. Increasing our oil imports puts the United States at the mercy of foreign governments -- many of which are undemocratic and oppose U.S. foreign policy. Persian Gulf countries hold over 65 percent of the world's oil reserves. There is a growing sense within the national security community that America's oil dependence puts our national security at risk. This sentiment is expressed in stark terms in a study by the Strategic Studies Institute of the U.S. Army War College, "America is buying billions of dollars of oil from nations that are sponsors of, or allied with, radical Islamists who foment hatred against the United States. The dollars we provide such nations contribute materially to the terrorist threats facing America."

## DEEPWATER DRILLING DESIRABLE: OIL PRICES -- DRILLING DECREASES

### 1. ENDING OFFSHORE DRILLING COULD CONSTRAIN SUPPLY, INCREASE OIL PRICES

David W. Kreutzer, PhD and senior fellow, Heritage Foundation, and John L. Ligon, policy analyst, Heritage Foundation, "The Economic Impact of an Offshore Drilling Ban," WEBMEMO, 7-1-10, <http://heritage.org/Research/Reports/2010/06/The-Economic-Impact-of-an-Offshore-Drilling-Ban>, accessed 8-24-10.

A permanent drilling ban would create a wedge between projected domestic oil production without the ban and the lower production levels with the ban in place. The lost petroleum output would have several impacts on the price of imported oil and thus consumer prices. For example, such a ban would necessitate the purchase of more imports to compensate for the lost domestic production. Because oil trades on world markets, this lost domestic production would cause world oil prices to rise -- compounding the cost of the increased imports. The losses mount slowly, which means that the impact on oil prices and import costs will also mount slowly. The additional imported-oil cost exceeds \$25 billion per year by 2018 and rises to over \$45 billion per year by 2035.

### 2. DEEPWATER BAN WOULD INCREASE GLOBAL OIL PRICES

Stephen P. Brown, nonresident fellow, Resources for the Future, "Some Implications of Tightening Regulation of U.S. Deepwater Drilling," BACKGROUND, Resources for the Future, July 2010, p.6.

A total ban on further drilling in U.S. deepwater and ultra-deepwater areas would have a stronger effect on world oil prices than additional regulation. Projected oil prices would rise by about \$2.58 per barrel (3.54 percent) above baseline in 2011 and by about \$4.03 (3.03 percent) above baseline in 2035. Projected gasoline prices would be about 7.2 cents per gallon higher in 2011 and 11.3 cents per gallon higher in 2035.

## DEEPWATER DRILLING DESIRABLE: OIL PRICES -- PRICE SPIKES BAD

### 1. A PRICE SPIKE WILL DEVASTATE THE ECONOMY AND RISK WAR

Julian Gresser and James A. Cusumano, "Hydrogen and the New Energy Economy: Why We Need an Apollo Mission for Clean Energy," THE FUTURIST, March-April 2005, ASP.

If the world were constant and only the demand for oil increased -- without the concomitant decrease in production that we project -- a significant rise in the price of oil could be managed solely as an energy supply problem as it was in the 1980s. But the world has become far riskier and uncertain, and the coming sharp spikes in the price of oil could have severe impacts. For one thing, the world's financial, economic, energy, environmental, and other systems have become increasingly integrated. If the integrity or robustness of any of these systems is significantly compromised, the stresses may well be rapidly transferred to other systems, leading to global chaos. A sharp rise in the price of oil will also fall most heavily on the most impoverished countries and the poorest people in industrialized societies, substantially increasing their suffering. Systems based on suffering of this magnitude eventually become unstable. The systemic chaos ensuing from this predicted oil crisis could pose psychological trauma because throughout most of human history the rate of change has proceeded in a linear, if not entirely orderly, way. Today in virtually every sector of the industrialized world, the rate of change is becoming exponential. We are poorly adapted psychologically and emotionally for this shift and will be prone to panic in times of crisis. Such panic could quickly escalate to catastrophe, with weapons of mass destruction now widely available, inexpensively produced, and easily deployed. That possibility is all the more threatening as the number of terrorist groups actively seeking to acquire these weapons and to cause havoc, murder, and mayhem multiplies. When tightly coupled systems become as stressed as they currently are, and when these stresses do not abate, but rather compound as now seems likely, there is a tendency for these systems to reach a tipping point -- when a single event, though not catastrophic in itself, has the potential to unleash a cascade of disorder and turbulence.

### 2. HIGH OIL PRICES THREATEN MULTIPLE SECTORS OF THE U.S. ECONOMY

The Southern States Energy Board, AMERICAN ENERGY SECURITY: BUILDING A BRIDGE TO ENERGY INDEPENDENCE AND TO A SUSTAINABLE FUTURE, July 2006, p.2-3.

Americans are nearly unanimous in the belief that dependence on imported oil is a very serious problem. Fully 92% The latest oil price surge is unique. Unlike the high prices that resulted from the 1973 oil embargo and the Iranian revolution of 1979, there have been no recent major oil supply disruptions. Either oil producers around the world simply cannot meet rapidly increasing global demand, or OPEC members (and possibly others) are manipulating oil supplies and prices for maximum profit (and perhaps to retaliate economically against U.S. policies on terrorism and democracy). In either case, rapidly rising oil prices have disturbing implications for the U.S. economy and for U.S. energy security. Oil and natural gas price increases in recent years have had a profound impact on U.S. businesses. Increased energy prices have required companies to pass along price increases to consumers, change capital investment, alter the way businesses are run, or, in the extreme, go out of business. The sectors most at risk include: \* The aviation industry, both commercial airlines and cargo airlines, including air transportation industry manufacturers and suppliers \* The agriculture industry, including pesticide and fertilizer manufacturers \* The automobile industry, including the supporting parts manufacturers and the sales infrastructure \* Trucking companies, landscapers, laundry and dry-cleaning firms, restaurants, delivery businesses, taxi and limousine services, florists, and numerous other energy-dependent businesses.

## DEEPWATER DRILLING DESIRABLE: OIL PRICES -- PRICE SPIKES BAD cont'd

### 3. SURGING OIL PRICES/DEPENDENCE ARE DESTROYING THE U.S.'s SUPERPOWER STATUS

Michael T. Klare, Professor, Peace and World Security Studies, Hampshire College, "Portrait of an Oil-Addicted Former Superpower," TOMDISPATCH.COM, 5-9-08, [www.commondreams.org/archive/2008/05/09/8832/](http://www.commondreams.org/archive/2008/05/09/8832/), accessed 8-16-10.

Nineteen years ago, the fall of the Berlin Wall effectively eliminated the Soviet Union as the world's other superpower. Yes, the USSR as a political entity stumbled on for another two years, but it was clearly an ex-superpower from the moment it lost control over its satellites in Eastern Europe. Less than a month ago, the United States similarly lost its claim to superpower status when a barrel crude oil roared past \$110 on the international market, gasoline prices crossed the \$3.50 threshold at American pumps, and diesel fuel topped \$4.00. As was true of the USSR following the dismantling of the Berlin Wall, the USA will no doubt continue to stumble on like the superpower it once was; but as the nation's economy continues to be eviscerated to pay for its daily oil fix, it, too, will be seen by increasing numbers of savvy observers as an ex-superpower-in-the-making. That the fall of the Berlin Wall spelled the erasure of the Soviet Union's superpower status was obvious to international observers at the time. After all, the USSR visibly ceased to exercise dominion over an empire (and an associated military-industrial complex) encompassing nearly half of Europe and much of Central Asia. The relationship between rising oil prices and the obliteration of America's superpower status is, however, hardly as self-evident. So let's consider the connection. Dry Hole Superpower The fact is, America's wealth and power has long rested on the abundance of cheap petroleum. The United States was, for a long time, the world's leading producer of oil, supplying its own needs while generating a healthy surplus for export.

## DEEPWATER DRILLING DESIRABLE: OIL SCARCITY/PEAK -- DRILLING SOLVES

### 1. DEEPWATER DRILLING WILL AVERT PEAK OIL

Mark Morrison, "Plenty of Oil -- Just Drill Deeper," BUSINESS WEEK, 9-7-06, [www.businessweek.com/investor/content/sep2006/pi20060907\\_515138.htm?chan=top+news\\_top+news+index\\_investing](http://www.businessweek.com/investor/content/sep2006/pi20060907_515138.htm?chan=top+news_top+news+index_investing), accessed 8-20-10.

You can tune out all the scare talk about Peak Oil for a while -- probably a long while. Peak Oil is the theory, on the verge of becoming conventional wisdom, that the world's petroleum supply is topping out and will not be able to meet global demand soaring along with the economies of China and India. But a successful test in a mammoth field deep beneath the Gulf of Mexico, announced on Sept. 5 by Chevron (CVX), Devon Energy (DVN), and Norway's Statoil (STO), should help put that scary scenario on hold for decades. One huge oil reserve, even if it could rival the 1968 discovery of Prudhoe Bay and increase U.S. reserves by up to 50%, will not turn around the world's tight energy markets, of course. It won't even bring the U.S. close to energy independence when oil and gas get into full-fledged production four or five years from now. But the capability to find and recover petroleum at extreme depths, temperatures, and pressures, as demonstrated by the Chevron team, may indeed tip the balance of supply and demand in the long term. There will be a new frenzy of drilling at these depths in the Gulf of Mexico, where about a dozen promising exploration wells have already been drilled.

### 2. CANNOT MEET OIL DEMAND WITHOUT DEEPWATER DRILLING

Graeme Wearden, "Shell: Deep-Water Oil Drilling Will Go On," THE GUARDIAN, 6-27-10, [www.guardian.co.uk/business/2010/jun/27/shell-deepwater-drilling-will-go-on](http://www.guardian.co.uk/business/2010/jun/27/shell-deepwater-drilling-will-go-on), accessed 8-17-10.

Royal Dutch Shell's boss, Peter Voser, insisted that today it was not possible to satisfy the world's growing energy demands without drilling for oil in deep-water reserves, despite the ongoing environmental disaster in the Gulf of Mexico. At a conference in South Africa, Voser defended the oil industry's push into deeper oil reserves and said Shell would continue to play its part, even as a tropical storm threatened to disrupt BP's efforts to clean up oil off the coast of Louisiana. "Given the rise in the population and the rise in the developing world of energy needs, we will have to develop those resources in deep waters, so my expectation is that we will go forward with it, but it will need some changes," Voser told the Fortune Global Forum in Cape Town.

### 3. DEEPWATER DRILLING IS NECESSARY TO ENSURE THE WORLD'S OIL SUPPLY

Sarah Arnott, "Shell Defends Deep-Water Oil Drilling, as Profits Soar," THE INDEPENDENT, 7-30-10, [www.independent.co.uk/news/business/news/shell-defends-deepwater-oil-drilling-as-profits-soar-2039028.html](http://www.independent.co.uk/news/business/news/shell-defends-deepwater-oil-drilling-as-profits-soar-2039028.html), accessed 8-22-10.

Royal Dutch Shell mounted a spirited defence of deep-water drilling yesterday as it unveiled a 94 per cent surge in profits in its second quarter. The oil giant's chief executive Peter Voser stressed the oil industry's "shock" at the explosion at BP's Macondo well in the Gulf of Mexico that killed 11 people, unleashed the worst oil spill in US history and claimed the scalp of BP chief executive Tony Hayward this week. "The Macondo blow-out and the related oil spill is a tragedy for everyone affected," Mr Voser said yesterday. "We were all shocked by the loss of life there, and the on-going and widespread impacts from the spill." But he also emphasised the need for continued deep-water oil production. "World-wide deep-water production has an important role to play in the global energy supply equation, with potential for production growth with supply diversity, and sustained investment in technology, jobs and services," he said.

## DEEPWATER DRILLING DESIRABLE: OIL SCARCITY/PEAK -- DRILLING SOLVES cont'd

### 4. DEEPWATER DRILLING IS KEY TO EXPANDING OIL PRODUCTION

Steven Mufson, "U.S. Oil Reserves Get a Big Boost," WASHINGTON POST, 9-6-06, [www.washingtonpost.com/wp-dyn/content/article/2006/09/05/AR2006090500275.html](http://www.washingtonpost.com/wp-dyn/content/article/2006/09/05/AR2006090500275.html), accessed 8-17-10. Exploration and production in deep-water areas have become more important to world oil production as production from older fields on or close to shore begins to decline. And technological advances have made it easier to work in the difficult deep-water conditions. Companies are also searching in deeper waters off places such as the west coast of Africa. But the costs of exploring for oil in deep water far from shore run high, which makes it important to find bigger fields. Chevron's Siegel said the test well, called the Jack No. 2, cost more than \$100 million. Devon Energy's Hadden said a production facility in the area could cost between \$250 million and \$500 million, plus a series of production wells at a cost of \$80 million to \$120 million each. It isn't clear whether the companies would build a floating platform and put the oil directly into tankers or a platform would connect to pipelines that would run to shore. "What's really happening is the opening up of a whole new horizon in the ultra-deep waters of the Gulf of Mexico, and it looks like the upside is very significant," Yergin said. "But it will take time and billions of dollars to get there."

### 5. DEEPWATER DRILLING IS KEY TO EXPANDING U.S. OIL PRODUCTION

Shashank Bengali, "Gulf Spill Reminds America: The Era of 'Easy Oil' Is Over," MCCLATCHEY, 5-7-10, [www.mcclatchydc.com/2010/05/07/93754/gulf-spill-reminds-america-the.html](http://www.mcclatchydc.com/2010/05/07/93754/gulf-spill-reminds-america-the.html), accessed 8-18-10. The U.S. still imports more than half the oil it consumes, and energy companies are racing to shore up the dwindling supply from conventional sources. Before the Deepwater Horizon offshore rig exploded and sank late last month in the waters off Louisiana, drilling in ultra-deep water, usually described as water depths greater than 5,000 feet, was widely regarded as a vital part of future U.S. oil production. President Barack Obama has said he'll wait for a 30-day review of the oil spill to decide whether to proceed with new offshore drilling. "It was certainly seen as one of the most promising of the new unconventional sources," said Elliott Gue, the editor of the Energy Strategist, an investor newsletter. "It's also very expensive."

### 6. OIL IS BECOMING INCREASINGLY SCARCE -- WILL HAVE TO GO AFTER "TOUGH OIL" IN POOR DRILLING ENVIRONMENTS, INCLUDING DEEPWATER

Shashank Bengali, "Gulf Spill Reminds America: The Era of 'Easy Oil' Is Over," MCCLATCHEY, 5-7-10, [www.mcclatchydc.com/2010/05/07/93754/gulf-spill-reminds-america-the.html](http://www.mcclatchydc.com/2010/05/07/93754/gulf-spill-reminds-america-the.html), accessed 8-18-10. To meet the world's boundless thirst for oil, drillers are searching in the sand and mud of remote western Canada, the tough shale rock of North Dakota and more than a mile under the seas off the southern U.S. coast, where a drilling accident has sent hundreds of thousands of gallons of crude spewing into the Gulf of Mexico. Why are we going nearly to the ends of the earth and the bottom of the seas for oil? The answer, say many experts, is that we're consuming as much oil as we ever have but the era of "easy oil" is in our rearview mirror and receding fast. Production from onshore oilfields in the U.S. has been declining since the 1970s, and near-shore production along the Gulf of Mexico peaked more than a decade ago. Many of the richest remaining conventional deposits are in places that are politically unstable, such as Iraq and Nigeria, or hostile to Western oil companies, such as Sudan, Venezuela and the Middle East. While Americans remain tethered to a petro-driven economy and surging demand from China and other emerging markets is driving up global demand, the quest for new sources requires more money and technological wizardry than ever before. As anyone tracking the massive gulf spill can attest, it brings greater risks as well. "No one goes and tries to drill in a mile of water if they can think of somewhere easier to do it," said Chris Skrebowski, a former strategist for British Petroleum who now runs a London consultancy that studies oil depletion. "The easy stuff that you have access to is already spoken for. All that's left is the frontiers, which are necessarily more technically challenging."

## DEEPWATER DRILLING DESIRABLE: OIL SCARCITY/PEAK -- PEAK REAL/COMING

### 1. WE HAVE ALREADY HIT PEAK OIL -- 2008 AT THE LATEST

Adam Grubb, former editor, "Peak Oil Primer," ENERGY BULLETIN, Post Carbon Institute, 2-23-10, [www.energybulletin.net/primer.php](http://www.energybulletin.net/primer.php), accessed 8-18-10.

Already peaked? ASPO's latest model suggests that regular conventional oil reached an all time peak in 2005. If heavy oil, deep-water, polar and natural gas liquids are considered (the 'all-liquids' category), the model suggests that this peak too is behind us, in 2008. Combined oil and gas is expected to have peaked globally simultaneously in 2008. Other notable researchers such as Princeton University Professor Emeritus Kenneth Deffeyes, senior advisor to the Iranian National Oil Company A. M. Samsam Bakhtiari, UK Petroleum Review editor Chris Skrebowski, energy banker and former advisor to US President G.W. Bush Matthew Simmons and various researchers published The Oil Drum, have all projected similar peaks within the 2005-2011 range using much varied methodology. A 2007 survey suggests that their perspective has become the consensus among informed observers and industry insiders [PDF]. Other sources supporting the view that global crude oil has already peaked globally include a study by the German Government sponsored Energy Watch Group, oil billionaire T. Boone Pickens, and the former head of exploration and production at Saudi Aramco, Sadad al-Huseini, and the Wikipedia hosted Oil Megaprojects database. As of January 2010, the peak of all-liquids production was July 2008.

### 2. PEAK OIL IS INEVITABLE -- RISKS MASSIVE ECONOMIC AND SOCIAL PROBLEMS

Adam Grubb, former editor, "Peak Oil Primer," ENERGY BULLETIN, Post Carbon Institute, 2-23-10, [www.energybulletin.net/primer.php](http://www.energybulletin.net/primer.php), accessed 8-18-10.

Peak oil is the simplest label for the problem of energy resource depletion, or more specifically, the peak in global oil production. Oil is a finite, non-renewable resource, one that has powered phenomenal economic and population growth over the last century and a half. The rate of oil 'production', meaning extraction and refining (currently about 85 million barrels/day), has grown almost every year of the last century. Once we have used up about half of the original reserves, oil production becomes ever more likely stop growing and begin a terminal decline, hence 'peak'. The peak in oil production does not signify 'running out of oil', but it does mean the end of cheap oil, as we switch from a buyers' to a sellers' market. For economies leveraged on ever increasing quantities of cheap oil, the consequences may be dire. Without significant successful cultural reform, severe economic and social consequences seem inevitable.

### 3. THE PEAK IS NEAR -- DECLINING PRODUCTION, DISCOVERY RATES PROVE

Richard Heinberg, Senior Fellow, Post-Carbon Institute, "What Will We Eat as the Oil Runs Out?" MUSELETTER n. 188, December 2007, [www.richardheinberg.com/museletter/188](http://www.richardheinberg.com/museletter/188), accessed 8-16-10.

How near is the global peak? Today the majority of oil-producing nations are seeing reduced output: in 2006, BP's Statistical Review of World Energy reported declines in 27 of the 51 producing nations listed. In some instances, these declines will be temporary and are occurring because of lack of investment in production technology or domestic political problems. But in most instances the decline results from factors of geology: while older oil fields continue to yield crude, beyond a certain point it becomes impossible to maintain existing flow rates by any available means. As a result, over time there are fewer nations in the category of oil exporters and more nations in the category of oil importers. Meanwhile global rates of discovery of new oilfields have been declining since 1964. These two trends (a growing preponderance of past-peak producing nations, and a declining success rate for exploration) by themselves suggest that the world peak may be near.

## DEEPWATER DRILLING DESIRABLE: OIL SCARCITY/PEAK -- PEAK BAD

### 1. FAILURE TO ADDRESS PEAK OIL RISKS LONG-TERM ECONOMIC PROBLEMS

Adam Grubb, former editor, "Peak Oil Primer," ENERGY BULLETIN, Post Carbon Institute, 2-23-10, [www.energybulletin.net/primer.php](http://www.energybulletin.net/primer.php), accessed 8-18-10.

After several years of rapid growth, the global crude price began falling in lockstep with financial markets in 2008, a fact which may have both contributed to -- and masked -- a concurrent global oil production peak. The oil industry has been running on a treadmill since 2005 with production staying essentially flat. Capital for oil infrastructure investments, which might have seen new production continue to offset declines for a few more years yet, has withered. Conversely, the financial collapse itself was triggered in part by the approach of peak oil: higher commuting costs due to soaring oil prices set off the 'exurb' house price collapse in the US and put stress on mortgage repayments, leading to the subsequent collapse of the mortgage backed securities bubble and further financial unraveling. But this was merely a trigger event. In the long run, peak oil poses far more fundamental challenges to our dominant economic systems which are predicated on perpetual growth.

### 2. A NEED TO START SHIFTING AWAY FROM OIL, ELSE WE RISK WAR OVER OIL RESOURCES

Michael Savage, journalist, "Fade to Black: Is This the End of Oil?" INDEPENDENT, 6-12-08, <http://mindfully.org/Energy/2008/Oil-End-Of12jun08.htm>, accessed 8-16-10.

That's just for starters. According to Campbell, a wholesale change in the western lifestyle will be needed a little further down the road. "Cities will face massive challenges," he says. "By the end of the century, when there really isn't very much oil left, the world will be a very different one -- much more rural, probably with fewer people. It's a sort of doomsday message, but in some ways, it's just a change from the modern mindset. There are people in the world who live a simple life like that and are very happy." But that's nothing compared with what could happen if we attempt to carry on regardless with ever-growing oil consumption. "If we don't make changes, we're going to have a resource war and blow ourselves up," says Simmons. "I think that would be a really inconvenient way to end the world." So will the end of the oil age herald in a new dark age? Are we doomed to go back to sheltering in mud huts and living off a diet of turnips and water? Not necessarily. Thankfully, other peakists are optimistic that we can cope with a world without such vast quantities of cheap oil -- if we act now. "Humanity is very ingenious," says Skrebowski. "But at the moment, it doesn't yet see a crisis. We're just acting like a spoilt child who has had its lollipop taken away. At some point, some politician has got to come out and state clearly that the world is going to be different. It's not the end of the world, but we're all going to have to change the way we do things. And the sooner we get on with it, the better. The anticipation is probably worse than the reality."

## DEEPWATER DRILLING DESIRABLE: OIL SCARCITY/PEAK -- PEAK BAD cont'd

### 3. FAILURE TO ADAPT TO A WORLD OF PEAK OIL RISKS A MASSIVE NUMBER OF PROBLEMS

Richard Heinberg, Senior Fellow, Post-Carbon Institute, "Peak Everything," MUSELETTER n. 185, September 2007, [www.richardheinberg.com/museletter/185](http://www.richardheinberg.com/museletter/185), accessed 8-16-10.

The post-peak decline in availability of oil, natural gas, and coal -- if our dependence on these fuels continues unabated -- could trigger economic collapse, famine, and a general war over remaining resources. While it is certainly possible to imagine survivable transition strategies away from fossil fuels involving proactive efforts to develop alternative energy sources on a massive scale and to create policies mandating energy conservation, also on a massive scale, the world is currently as reliant on hydrocarbons as it is on water, sunlight, and soil. Without oil for transportation and agriculture; without gas for heating, chemicals, and fertilizers; and without coal for power generation, the global economy would sputter to a halt. While no one envisions these fuels disappearing instantly, we can avert the worst-case scenario of global economic meltdown -- with all of the human tragedy that implies -- only by proactively reducing our reliance on oil, gas, and coal ahead of depletion and scarcity. In other words, all that would be required in order for the worst-case scenario to materialize would be for world leaders to continue with existing policies. These two problems are potentially lethal; they are first-priority ailments. If we solve them, we will then be able to devote our attention to other human dilemmas, many of which have been with us for millennia -- war, disease, inequality, and so on. If we do not solve these two problems, then in a few decades our species may be in no position to make any progress whatever on other fronts; indeed, it will likely be engaged in a struggle for its very survival. We'll be literally and metaphorically burning the furniture for fuel and fighting over scraps.

## DEEPWATER DRILLING DESIRABLE: REGULATION/TECH SOLVES ANY PROBLEMS

### 1. WE HAVE LEARNED -- CAN RESPOND QUICKLY TO SPILLS IN THE FUTURE

USA TODAY, "After the Spill: What's Been Learned?" 8-5-10,

[www.usatoday.com/news/opinion/editorials/2010-08-06-spilllessons\\_ST\\_N.htm](http://www.usatoday.com/news/opinion/editorials/2010-08-06-spilllessons_ST_N.htm), accessed 8-18-10.

The good news is that BP's fumbling attempts were a painstaking, real-world test of how to fix an out-of-control well in mile-deep water. Now the industry knows how to do it. Better yet, there's a promising plan for doing so quickly in the future. Exxon and three other major oil companies have pledged to spend at least \$1 billion designing, building and deploying a system in the Gulf region to contain a deep-sea blowout that would be ready to "begin mobilization" within 24 hours of an accident. The industry has also promised to ready a more robust system for cleaning up any oil that does escape. The companies have major incentives for doing this. The Interior Department is signaling that it might lift or modify its drilling ban -- scheduled to last at least until Nov. 30 while equipment and safety practices are reviewed -- if companies can show that they can operate more safely. Further, no company wants to repeat BP's experience.

### 2. WE SHOULD ADDRESS THE PROBLEMS THROUGH INCREASED SAFETY REQUIREMENTS AND RESPONSE CAPABILITIES

Bipartisan Policy Center, "BPC Response to the Oil Spill Commission," 8-25-10,

[www.bipartisanpolicy.org/sites/default/files/BPC Response to Oil Spill Commission\\_0.pdf](http://www.bipartisanpolicy.org/sites/default/files/BPC%20Response%20to%20Oil%20Spill%20Commission_0.pdf), accessed 8-26-10.

technology has made tremendous advances over last 30 years as oil and gas companies pursue significant resources in deep-water, high-pressure zones, particularly in the Gulf of Mexico. The industry has drilled over 14,000 deepwater wells globally. Despite these advances, the Deepwater Horizon incident clearly illustrates that industry and government's oversight, containment, and response capacities have not kept pace. In this dynamic environment, risk management and oversight must be improved with the development of performance-based safety requirements and implementation of practices and policies that encourage continual improvement. DOI has been working to establish new requirements to improve and ensure the safety of existing and future wells. New requirements include the Department of Interior's 30-Day Safety Report, NTLs 5 and 6, the soon-to-be-released SEMS Rule, and the broader Interim Final Rule that is anticipated by the end of September. Over the longer term, we support the implementation of a "safety case" regulatory approach as a complement to these new, more rigorous requirements.

### 3. NO NEED TO END DRILLING -- FEDERAL AND INDUSTRY RESPONSE HAS IMPROVED

James Jay Carafano, PhD and analyst, Heritage Foundation, "Need for Drilling Moratorium Mitigated by State of Oil Spill Response," WEBMEMO, 8-5-10,

<http://heritage.org/Research/Reports/2010/08/Need-for-Moratorium-Mitigated-by-New-Oil-Spill-Response-Capabilities>, accessed 8-24-10.

From a preparedness and response perspective, the continuation of the moratorium is unjustified. While the federal response to Deepwater Horizon was slow in organizing, Washington now has a Ph.D. in response with new procedures, assets, and technologies for dealing with spills. Additionally, the federal government's knowledge of the dynamics of deepwater spills is vastly improved. Given that these incidents are already extremely rare, the benefits of banning drilling and the risks of future spills are far outweighed by the economic costs of hamstringing Gulf water drilling operations.

## DEEPWATER DRILLING DESIRABLE: REGULATION/TECH SOLVES ANY PROBLEMS cont'd

### 4. NEW TECH AND REGULATIONS SOLVE SPILL CONCERNS

Jennifer A. Dlouhy, "Think Tank Sees Reason to Lift Ban," HOUSTON CHRONICLE, 8-26-10, [www.chron.com/disp/story.mpl/business/7173610.html](http://www.chron.com/disp/story.mpl/business/7173610.html), accessed 8-28-10.

New equipment testing and environmental regulations imposed since the Deepwater Horizon disaster "provide an adequate margin of safety" to allow the Obama administration to lift its ban on deep-water drilling, a think tank told investigators Thursday. The report by the Bipartisan Policy Center, a nonpartisan group established by four former Senate majority leaders, came in response to a request by the presidential commission investigating the disaster to analyze the moratorium. The center concluded that the deep-water drilling ban -- set to expire Nov. 30 -- provided an important timeout for the oil and gas industry as well as federal regulators to step up preparation and planning for another spill. Although drilling risks "cannot be reduced to zero, we are satisfied that compliance" with the Interior Department's new rules and other actions by the department "will achieve a significant and beneficial reduction of risk," the Bipartisan Policy Center said. "If industry is diligent in incorporating these requirements and the Department of Interior is vigilant in oversight and enforcement, we believe this new regime will provide an adequate margin of safety to responsibly allow the resumption of deep-water drilling in the Gulf of Mexico." The presidential commission's co-chairmen -- former Democratic Sen. Bob Graham and Republican William Reilly, a onetime Environmental Protection Agency administrator -- have been critical of the Obama administration's decision to impose a ban on drilling from all floating rigs as well as any facilities that rely on subsea blowout preventers. Administration officials have said they may relax the ban and lift it for some kinds of rigs and operations before it expires.

### 5. EXPERTS AGREE THAT WE SHOULD IMPROVE SAFETY, NOT END DRILLING

Ben Lieberman, senior policy analyst, Heritage Foundation, "A Rational Post-Spill Policy that Allows Offshore Drilling," WEBEMO, 7-14-10, <http://heritage.org/Research/Reports/2010/07/A-Rational-Post-Spill-Policy-That-Allows-Offshore-Drilling>, accessed 8-24-10.

The right and the wrong approach to formulating a post-spill drilling policy can be seen in the Department of the Interior's May 27 report, "Increased Safety Measures for Energy Development on the Outer Continental Shelf." This report was conducted pursuant to President Obama's request for a 30-day review to determine "what, if any, additional precautions and technologies should be required to improve safety of oil and gas exploration and production operations on the outer continental shelf." Among the sensible recommendations in the report are improved requirements for blowout preventers, the devices designed to stop the flow of oil from an offshore well that failed in the case of Deepwater Horizon. These include both improvements in the blowout preventers themselves as well as more robust testing and inspection procedures. The report also suggests tougher requirements for offshore well designs. It is still too soon to enact a detailed bill, as there are many questions about the spill that are not yet answered. But such specific reforms, based on what is learned, make sense in order to reduce the likelihood of a repeat spill. No doubt, the substantive and process reforms will add at least somewhat to the cost of future offshore drilling, but if done with an eye toward keeping those costs as low as possible consistent with improved safety, there should be no objection. However, the report did not stop with these sensible recommendations. It also included a blanket six-month moratorium on all ongoing deepwater drilling activity, with deepwater broadly defined as anything over 500 feet. The report conceded that such a moratorium would halt ongoing activity on 33 permitted wells but did not explain why this activity posed a similar risk to Deepwater Horizon. The report claims that "the recommendations contained in this report have been peer-reviewed by seven experts identified by the National Academy of Engineering." This was false. A majority of those seven experts immediately informed Louisiana Governor Bobby Jindal and its two U.S. Senators that the blanket moratorium was added later and went far beyond anything they had agreed to. "We believe the report does not justify the moratorium as written and that the moratorium as changed will not contribute measurably to increased safety and will have immediate and long term economic effects," they said.

## DEEPWATER DRILLING DESIRABLE: REGULATION/TECH SOLVES ANY PROBLEMS cont'd

### 6. DEEPWATER HORIZON ACCIDENT WILL SPUR NEW REGULATIONS THAT WILL HELP ADDRESS ANY PROBLEMS

Toni Johnson, "U.S. Deepwater Drilling's Future," Backgrounder, Council on Foreign Relations, 5-27-10, [www.cfr.org/publication/22204/us\\_deepwater\\_drillings\\_future.html](http://www.cfr.org/publication/22204/us_deepwater_drillings_future.html), accessed 8-17-10.

MMS is being restructured and U.S. lawmakers are weighing changes to liability rules for oil spills -- currently capped at \$75 million under the 1990 Oil Pollution Act, a response to Alaska's 1989 Exxon Valdez tanker spill -- increasing the cap to \$10 billion. The American Petroleum Institute, the oil industry's trade association, opposes the proposed cap, saying it would make it extremely difficult to insure wells and would force small and medium-size operators out of the market. According to an industry memo (PDF), "self-insurance" would become the norm, in which case only those companies that could show \$100 billion in shareholder equity -- basically industry's the largest operators -- would be able to participate. And some environmental and energy experts say the focus needs to shift from expanding drilling to development of alternative transportation fuels and vehicles. "Ultimately, U.S. vulnerability because of oil consumption is only going to be addressed through large efforts on the consumption side," argues CFR Senior Fellow Michael Levi.

### 7. DEEPWATER REGULATIONS WILL HAVE LITTLE EFFECT ON GLOBAL OIL PRICES

Stephen P. Brown, nonresident fellow, Resources for the Future, "Some Implications of Tightening Regulation of U.S. Deepwater Drilling," BACKGROUNDER, Resources for the Future, July 2010, p.5.

As shown in Figure 3, a 20 percent increase in the cost of drilling in U.S. deepwater and ultra-deepwater areas would likely have relatively little effect on world oil prices. Projected oil prices rise by about 18 cents per barrel (0.25 percent) above the baseline case in 2011 and 28 cents per barrel (0.21 percent) above baseline in 2035. These changes would translate to gains in the price of gasoline of about one-half cent per gallon in 2011 and eight-tenths of a cent per gallon in 2035.

### 8. REGULATION WILL HAVE LITTLE EFFECT ON NATURAL GAS PRICES

Stephen P. Brown, nonresident fellow, Resources for the Future, "Some Implications of Tightening Regulation of U.S. Deepwater Drilling," BACKGROUNDER, Resources for the Future, July 2010, p.7.

As shown in Figure 4, a 20 percent increase in the cost of drilling in U.S. deepwater and ultra-deepwater areas is also likely to have relatively little effect on U.S. natural gas prices. The projected Henry Hub price of natural gas would rise by about 1.3 cents per million Btu (0.23 percent) above baseline in 2011 and 2.8 cents per million Btu (0.32 percent) above baseline in 2035. With a total ban on further drilling in U.S. deepwater and ultra-deepwater areas, projected natural gas prices would rise by about 12.1 cents per million Btu (2.13 percent) above baseline in 2011 and by about 33.4 cents (3.76 percent) above baseline in 2035.

## **DEEPWATER DRILLING DESIRABLE: REGULATION/TECH SOLVES ANY PROBLEMS** cont'd

### 9. DRILLING WILL BE SAFER -- BIPARTISAN, EXPERT PANEL AGREES, THE MORATORIUM HAS SOLVED

Matthew Daly, "Experts: Drilling Ban May Not Be Needed Any More," ASSOCIATED PRESS, 8-27-10, [www.google.com/hostednews/ap/article/ALeqM5iM1T8GtiBLmkcVfhDRmNAtfeJmJwD9HRFCKG0](http://www.google.com/hostednews/ap/article/ALeqM5iM1T8GtiBLmkcVfhDRmNAtfeJmJwD9HRFCKG0), accessed 8-28-10.

A ban on deepwater drilling may no longer be needed now that the oil industry and the government appear to have developed safer drilling regimes, an expert panel said Thursday in a report to the presidential commission investigating the Gulf oil spill. The report by the Bipartisan Policy Center is likely to boost oil industry groups and Gulf Coast lawmakers who are pushing to end the six-month drilling moratorium before its scheduled Nov. 30 expiration. The report said the April explosion and fire on the Deepwater Horizon rig showed how unprepared government and industry were for a major spill. The moratorium allowed time for both industry and government to make offshore drilling safer, the report said. The report praised steps taken by the Interior Department to increase safety of so-called blowout preventers and improve the integrity and control of deepwater wells. "If industry is diligent in incorporating these requirements and DOI is vigilant in oversight and enforcement, we believe this new regime will provide an adequate margin of safety to responsibly allow the resumption of deepwater drilling in the Gulf of Mexico," the report said. The oil spill commission asked the Washington-based policy center to look into the wisdom of using a moratorium to prevent spills in the aftermath of the BP disaster.

### 10. MORATORIUM-TRIGGERED REFORMS HAVE SOLVED ANY DRILLING PROBLEMS

Andrew Restuccia, "Report: Deepwater Drilling, Now Less Risky, Can Resume," WASHINGTON INDEPENDENT, 8-26-10, <http://washingtonindependent.com/95914/report-deepwater-drilling-now-less-risky-can-resume>, accessed 8-28-10.

A report commissioned by the national oil spill commission found that new safety standards put forward by the Interior Department and the oil and gas industry are adequate enough to overturn the deepwater drilling moratorium and resume the practice. The report is already fueling an ongoing debate about the validity of the moratorium, which President Obama originally said would last for six months, but administration officials have acknowledged might be overturned sooner. Many in the Gulf have argued that the moratorium will cost jobs in an already struggling economy. But Democrats counter that the ban is necessary to ensure the safety of continued offshore drilling. The report, by the Bipartisan Policy Center -- which was established in 2007 by former Senate Majority Leaders Howard Baker, Tom Daschle, Bob Dole and George Mitchell -- finds that the six-month moratorium on deepwater drilling imposed by President Obama has given the Interior Department and industry time to develop new safety standards. "We believe DOI and the industry have used this time effectively to develop a new regime for drilling in the Gulf of Mexico," a summary of the report says.

## DEEPWATER DRILLING DESIRABLE: SEEPAGE

### 1. DRILLING DECREASES NATURAL SEEPAGE

Bruce Allen, co-founder, SOS California, "How Offshore Oil and Gas Production Benefits the Economy and the Environment," HERITAGE FOUNDATION BACKGROUNDER n. 2431, 11-30-09, [http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#\\_ftn12](http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#_ftn12)

Drilling restrictions in general are imposed due to environmental concerns, despite the fact that offshore environmental damage has been greatly reduced by technologies that minimize the risk of oil spills and other hazards to the environment. In fact, offshore oil production has lowered the amount of oil released into the ocean by reducing natural seepage of oil, especially in areas with active offshore oil seeps, such as California's Santa Barbara coast. Natural hydrocarbon seeps have historically been used to locate the world's usable sources of oil and tar. Papers published by British Petroleum in the early 1990s show that over 75 percent of the world's oil basins contain surface oil seeps. Most seeps emit small volumes of oil and gas that do not significantly deplete hydrocarbon reservoirs over the short term, but can add up to significant depletion of oil and gas over the longer term. The knowledge that surface seepage has a direct link to subsurface oil and gas accumulations is not new and has been the impetus for many of the world's early major oil and gas discoveries by pioneers of oil production -- as far back as ancient China, and more recently the 1860s in Pennsylvania and the 1890s in Azerbaijan. Natural seeps were the impetus for early exploration of oil in Iran and Iraq in the early 1900s. Natural hydrocarbon seeps continue to be an important indicator of economic oil and gas resources. The high cost of deep-water offshore oil and gas exploration has made the identification of hydrocarbon seeps an important consideration in oil-exploration risk-reduction methods.

### 2. OFFSHORE DRILLING DECREASES THE AMOUNT OF OIL IN THE OCEAN -- DECREASES NATURAL SEEPAGE

Bruce Allen, co-founder, SOS California, "How Offshore Oil and Gas Production Benefits the Economy and the Environment," HERITAGE FOUNDATION BACKGROUNDER n. 2431, 11-30-09, [http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#\\_ftn12](http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#_ftn12)

Conventional wisdom holds that offshore oil and gas production harms the surrounding environment. This blanket "wisdom" ignores the fact that the largest source of marine hydrocarbon pollution is offshore natural oil seepage. It also ignores the fact that offshore oil production has lowered the amount of oil released into the ocean by reducing natural oil seepage, especially in areas with active offshore oil seeps, such as California's Santa Barbara coast. This Heritage Foundation analysis cites studies, developments, and biological facts that demonstrate often-overlooked benefits of offshore oil and gas production.

## DEEPWATER DRILLING DESIRABLE: SEEPAGE cont'd

### 3. NATURAL SEEPAGE HAS A FAR GREATER ENVIRONMENTAL IMPACT THAN DOES HUMAN DRILLING

Bruce Allen, co-founder, SOS California, "How Offshore Oil and Gas Production Benefits the Economy and the Environment," HERITAGE FOUNDATION BACKGROUNDER n. 2431, 11-30-09, [http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#\\_ftn12](http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#_ftn12)

Natural hydrocarbon seeps generally result from pressurized hydrocarbon reservoirs that force oil and gas up through fissures to the earth's surface either on land or the seabed floor where the hydrocarbons escape in the form of oil, tar, and methane-rich gases. It is a widely overlooked fact that natural hydrocarbon seeps generally have a larger impact on the marine environment than do oil and gas exploration and production. According to the National Academy of Sciences, 63 percent of hydrocarbon pollution in U.S. waters stems from natural seeps, while only 1 percent is due to offshore drilling and extraction. Geologists believe that over the course of millions of years, more oil has seeped naturally into the earth's environment than currently exists in all conventional oil reservoirs combined. The Gulf of Mexico, for instance, is a major U.S. offshore oil and gas producing region where the environmental impact of natural hydrocarbon seepage appears to far exceed the environmental impact of accidental oil releases due to commercial extraction and transportation. Onshore hydrocarbon seeps are also pervasive in many areas of the world, and are a source of contamination for many streambeds and rivers. The Santa Susanna Mountains in California are estimated to contain 22,000 active oil seeps that are associated with significant streambed contamination.

### 4. CALIFORNIA PROVES THAT SEEPAGE IS WORSE THAN HUMAN DRILLING

Bruce Allen, co-founder, SOS California, "How Offshore Oil and Gas Production Benefits the Economy and the Environment," HERITAGE FOUNDATION BACKGROUNDER n. 2431, 11-30-09, [http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#\\_ftn12](http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#_ftn12)

One of the most studied offshore oil and gas seep regions over the last 40 years is the Santa Barbara coast of California, which has the world's second most prolific oil seepage areas, extending for about 80 miles along the coastline. The offshore Santa Barbara oil seepage zones result in about 70,000 barrels per year of oil and tar seepage into the Pacific, much of which washes up on California beaches. Every four years, the amount of offshore Santa Barbara oil seepage exceeds the 240,000 barrels that spilled from the Exxon Valdez in 1989. By comparison, according to the U.S. Minerals and Management Service, the total amount of oil spilled in California coastal waters due to offshore oil production since 1970 has been less than 870 barrels. Far more birds and wildlife have been killed in the last 40 years by California's offshore oil seepage than by all previous California offshore oil production spills combined, including the 1969 spill. Seeps are also one of the world's largest methane gas emission sources, and are a major source of air pollution in Santa Barbara County. These coastal California seeps release oil and tar that washes ashore along nearly half the coastline of California, with the highest concentrations in Santa Barbara County. In the winter, the Davidson current washes seep oil and tar ashore as far north as the beaches of Santa Cruz and San Francisco.

## DEEPWATER DRILLING DESIRABLE: SEEPAGE cont'd

### 5. OFFSHORE DRILLING WOULD BENEFIT CALIFORNIA'S ENVIRONMENT -- ADDRESSES SEEPAGE PROBLEMS

Bruce Allen, co-founder, SOS California, "How Offshore Oil and Gas Production Benefits the Economy and the Environment," HERITAGE FOUNDATION BACKGROUNDER n. 2431, 11-30-09, [http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#\\_ftn12](http://heritage.org/Research/Reports/2009/11/How-Offshore-Oil-and-Gas-Production-Benefits-the-Economy-and-the-Environment#_ftn12)

Natural oil and gas seeps are by far the largest sources of hydrocarbon pollution released into U.S. coastal waters and are a major source of offshore oil pollution and atmospheric methane emissions worldwide. Oil and gas seeps are also one of the most important indicators for locating recoverable hydrocarbon resources. California's central and south coast has seen significant environmental benefits from the reductions in coastal seepage pollution due to offshore oil and gas production. California's coastal environment would benefit from offshore oil and gas expansion in active seep areas that are currently off-limits in California waters, as well as in federal seep zone waters in the Santa Maria basin in the Outer Continental Shelf. Thus offshore oil and gas production represents both an effective means of addressing the problems of seepage pollution as well as an economic opportunity. Continued research may also show that the long-term environmental benefits that coastal California has experienced due to offshore oil and gas extraction may be occurring in other regions as well -- albeit probably to a lesser degree. The economic benefits from increased domestic hydrocarbon production are well known, but many erroneously assume they come at an environmental cost. In truth, there are opportunities, off Santa Barbara and elsewhere, to achieve substantial environmental benefits from drilling as a consequence of reduced seepage of oil and natural gas into the air and water. Expanded offshore oil and gas production can genuinely be a win-win proposition.

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "ARCTIC SPILLS"

### 1. ARCTIC DRILLING COMPANIES ARE TAKING SERIOUS MEASURES TO AVOID AND CONTAIN POTENTIAL SPILLS

LOS ANGELES TIMES, "Shell Outlines Precautions for Offshore Arctic Drilling," Greenspace Blog, 5-17-10, <http://latimesblogs.latimes.com/greenspace/2010/05/arctic-oil-drilling-shell-response.html>, accessed 8-18-10. Read further for other measures Shell said it has put into place after examining the Gulf of Mexico incident: Those measures include: -- Reservoirs will be carefully evaluated for pressure, fluid content and temperature before full-scale coring gets underway in a bypass hole, reducing the risk of a "kick" or unwanted flow in the original wellbore. -- Testing of the blowout preventers will be conducted every seven days, instead of every 14 days. -- A subsea remote operating panel will be installed on top of the blow out preventers that can be operated manually by divers or a remote-controlled submarine in case it doesn't work automatically. -- The company will be prepared to apply dispersant underwater, at the source of any oil spill, but only if it obtains the necessary emergency permits. Shell emphasized there are important differences between exploration in Alaska and in the deep waters of the Gulf of Mexico: -- Instead of drilling in 5,000 feet of water to a depth of 18,000 feet, as with BP's Deepwater Horizon well, Shell will be drilling in 150 feet of water, at a depth of up to 8,000 feet in the Chukchi and up to 10,200 feet in the Beaufort. -- The pressure encountered is expected to be much less than that found in the Gulf well, probably no more than 6,000 psi, compared to about 15,000 psi in the Gulf. "Our biggest safety advantage is the water depth that will allow us to detect and respond to an event quickly and appropriately," Shell said, and even in the case of the failure of a drilling riser, the remaining fluid below the seafloor "would effectively stop any well flow in such a low-pressure system." Recent industry studies have shown that in some cases, cold water temperatures and ice such as exists in the Arctic for long parts of the year could actually help contain spilled oil and make it easier to clean up.

### 2. ARCTIC ALREADY HAS A TRAINED DRILLING TEAM IN PLACE

LOS ANGELES TIMES, "Shell Outlines Precautions for Offshore Arctic Drilling," Greenspace Blog, 5-17-10, <http://latimesblogs.latimes.com/greenspace/2010/05/arctic-oil-drilling-shell-response.html>, accessed 8-18-10. Ron Morris, general manager of Clean Seas Alaska, an oil industry co-op that manages oil spill response across the North Slope, said in an interview that the organization has \$50 million worth of oil response equipment and at least 36 trained professionals on duty at all times who already have responded to a large number of oil spills, mostly small ones, across the region. The teams train regularly to respond to offshore spills, but with only a limited number of offshore wells operating so far, their work has been mainly theoretical. They are, however, accustomed to working in the deep cold, sometimes minus 80 degrees, of the Arctic winter. "They might have to go out and work 10 to 15 minutes, and then come in for half an hour to warm up," he said.

### 3. DEEPWATER ARCTIC DRILLING KEY TO ADDRESSING OIL DEPENDENCE

Kim Murphy and Jim Tankersley, "What if an Oil Spill Happened at an Arctic Well?" LOS ANGELES TIMES, 5-6-10, <http://articles.latimes.com/2010/may/06/nation/la-na-oil-arctic-20100506>, accessed 8-18-10. Moving into the offshore Arctic, believed to hold the world's largest untapped gas reserves, is a critical component of several successive administrations' determination to lower America's dependence on foreign energy supplies. Though Shell drilled a limited number of exploration wells in the region in the 1980s and 1990s, the new leasing program is expected to launch the first wide-ranging move into Arctic waters, which U.S. officials believe could hold 27 billion barrels of oil and 132 trillion cubic feet of natural gas.

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "ARCTIC SPILLS" cont'd

### 4. ARCTIC DRILLING IS SAFE -- DEEPWATER HORIZON-TYPE SPILL WONT' HAPPEN, WILL BE A RAPID RESPONSE

Kim Murphy and Jim Tankersley, "What if an Oil Spill Happened at an Arctic Well?" LOS ANGELES TIMES, 5-6-10, <http://articles.latimes.com/2010/may/06/nation/la-na-oil-arctic-20100506>, accessed 8-18-10.

Shell says a blowout of the kind that occurred at the Deepwater Horizon rig would be highly unlikely in Alaska, in part because the Arctic operations would be occurring in shallower water -- 150 feet instead of 5,000 feet -- and at far lower well pressure. "The barriers and contingencies we have in place and the significantly different characteristics of the wells we plan to drill here gives us tremendous confidence that the chances of a similar event taking place in the Alaska offshore is extremely remote," said Curtis, the Shell spokesman. In the "extremely unlikely" event of a blowout or spill, Shell would be ready to respond in one hour with an "unprecedented" three-tier system consisting of an on-site oil spill response fleet, near-shore barges and additional vessels and response teams staged across the North Slope, company officials said. The company is required to be able to handle a blowout of 5,500 barrels per day, about the size of the Gulf of Mexico release.

### 5. ARCTIC CLEANUP IS EASIER -- COLD OIL DOES NOT DISPERSE

Kim Murphy and Jim Tankersley, "What if an Oil Spill Happened at an Arctic Well?" LOS ANGELES TIMES, 5-6-10, <http://articles.latimes.com/2010/may/06/nation/la-na-oil-arctic-20100506>, accessed 8-18-10.

Recent industry-backed studies in Norway have suggested that low Arctic temperatures could actually help in spill cleanups. "Ice is a blessing and a curse," said Ron Morris, general manager of Clean Alaska Seas, an industry co-op that handles spill cleanup on the North Slope. "It's hard to get around in it, but it also doesn't allow the oil to expand; it keeps it kind of like a boom, captured, and it keeps the oil layer thicker."

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "DEEPWATER HORIZON"

### 1. DEEPWATER HORIZON ACTUALLY FIXED THE PROBLEM -- DROVE THE DEVELOPMENT OF MASSIVE RESPONSE CAPABILITIES

James Jay Carafano, PhD and analyst, Heritage Foundation, "Need for Drilling Moratorium Mitigated by State of Oil Spill Response," WEBMEMO, 8-5-10, <http://heritage.org/Research/Reports/2010/08/Need-for-Moratorium-Mitigated-by-New-Oil-Spill-Response-Capabilities>, accessed 8-24-10.

In the weeks following the spill, the Coast Guard, serving in the role as the federal on-scene coordinator, worked diligently to address the shortfalls of the response by establishing liaisons at the state and county/parish level and creating forward operating branches to ensure quicker reactions. In the end over 45,000 personnel, a fleet of about 6,000 craft, and over 11 million feet of boom (used to block, channel, or absorb oil) were deployed. New technologies and assets were introduced to deal with everything from cleaning beaches to decontamination and disposal of hazardous waste. As a result of the combined efforts of federal, state, and local governments as well as the private sector and international assistance, the United States now has unprecedented capacity and experience in responding to spills of national significance. Given that these spills are already rare, the risk of damage from major spills is now greatly reduced. National responders now understand a good deal more about the consequences of a major deepwater spill in the Gulf. The warm waters of the Gulf, the lightness of the crude, and wave and storm action speed the decomposition of the oil. Likewise, the distance that the oil must travel to the surface, as well as the distance from land, allow for more time to respond and for the oil to weather. If the federal response to Deepwater Horizon had been more prompt and well-organized at the onset, more of the initial damage done by the oil that did make landfall might have been averted. Nevertheless, the fact is that now these capabilities are in place. The U.S. now has the capacity and the resources to effectively respond to a major spill in the Gulf.

### 2. DEEPWATER HORIZON PROVES THAT SPILLED OIL WILL DISSIPATE RAPIDLY -- EVAPORATION

Mac Johnson,, "The Resilience of the Gulf," ENERGY TRIBUNE, 8-10-10, [www.energytribune.com/articles.cfm/4917/The-Resilience-of-The-Gulf-Oil-Seeps-and-Oil-Spills-Havent-and-Wont-Kill-the-Gulf-Of-Mexico](http://www.energytribune.com/articles.cfm/4917/The-Resilience-of-The-Gulf-Oil-Seeps-and-Oil-Spills-Havent-and-Wont-Kill-the-Gulf-Of-Mexico), accessed 8-25-10.

The Deepwater Horizon blowout has been estimated (at the high end) at 2,000,000 to 3,000,000 barrels of unrecovered oil, total. This is clearly a legally and technically unacceptable amount, but it is of a similar order of magnitude to the amount of oil the Gulf digests in its "pure" state in a year with no (man-made) oil spills at all. The BP debacle triples the natural background oil in the Gulf. It seems probable (to me, at least) that the Gulf can deal with this, given a relatively short amount of time to do so. This is especially true when one considers that the main mechanism for the removal of oil, whether it leaks from natural holes or the holes at BP, is simple evaporation. This is why the light, sweet crude of the Gulf can be spilled in million-barrel quantities every year and result in only a relatively small quantity of thick tar balls washing ashore. Evaporation is, for the scale being discussed here, a "non-saturable" mechanism. So a tripling of oil on the surface should result in a tripling of the rate of oil removal by evaporation. This is one advantage of oil floating and spreading out in a sheen less than a micron thick at the surface of the water: this creates a lot of surface area for the wind and sun to work on. (The other advantage is that, at less than a micron thick, even a small spill can cover huge swaths of water and be described by the media in excited terms such as an oil spill "bigger than Tennessee.")

**DEEPWATER DRILLING DESIRABLE:  
ANSWERS TO: "DEEPWATER HORIZON" cont'd**

3. THE GULF IS LARGE AND RESILIENT -- CAN HANDLE BIG SPILLS

USA TODAY, "After the Spill: What's Been Learned?" 8-5-10,

[www.usatoday.com/news/opinion/editorials/2010-08-06-spilllessons\\_ST\\_N.htm](http://www.usatoday.com/news/opinion/editorials/2010-08-06-spilllessons_ST_N.htm), accessed 8-18-10.

But the Gulf is an enormous and surprisingly resilient place. The spilled oil from the Macondo well would fill the Louisiana Superdome in New Orleans about one-sixth full. If that sounds like a lot -- and perhaps to some it doesn't -- consider that it would take about 554 million Superdomes to fill the Gulf of Mexico. That's not exactly a drop in the proverbial bucket -- particularly considering massive economic damage along the Gulf Coast -- but it's a strikingly different image from one emblazoned in people's mind by the early reaction. It's too early to be completely sure, but federal scientists said quite confidently Wednesday that the vast bulk of the oil is already gone (captured, evaporated, skimmed, dissipated, eaten by microbes), and survey teams have been surprised by how little of the coastline has been damaged. Even in oil-smearred areas in Louisiana's vulnerable coastal marshes, researchers have been gratified to see green shoots in oily grasses. Some areas are reopening to fishing, and so far, seafood from the Gulf shows no contamination.

4. EVEN THE DEEPWATER HORIZON OIL IS BREAKING DOWN RAPIDLY

Justin Gillis, "U.S. Finds Most Oil from Spill Poses Little Additional Risk," NEW YORK TIMES, 8-4-10,

[www.nytimes.com/2010/08/04/science/earth/04oil.html](http://www.nytimes.com/2010/08/04/science/earth/04oil.html), accessed 8-20-10.

The government is expected to announce on Wednesday that three-quarters of the oil from the Deepwater Horizon leak has already evaporated, dispersed, been captured or otherwise eliminated -- and that much of the rest is so diluted that it does not seem to pose much additional risk of harm. Multimedia A government report finds that about 26 percent of the oil released from BP's runaway well is still in the water or onshore in a form that could, in principle, cause new problems. But most is light sheen at the ocean surface or in a dispersed form below the surface, and federal scientists believe that it is breaking down rapidly in both places.

5. EFFECTS OF A DRILLING MORATORIUM ARE JUST AS BAD AS THAT OF THE DEEPWATER HORIZON SPILL

James Jay Carafano, PhD and analyst, Heritage Foundation, "Need for Drilling Moratorium Mitigated by State of Oil Spill Response," WEBMEMO, 8-5-10,

<http://heritage.org/Research/Reports/2010/08/Need-for-Moratorium-Mitigated-by-New-Oil-Spill-Response-Capacities>, accessed 8-24-10.

In the wake of the Deepwater Horizon disaster, the Obama Administration initiated a moratorium on deepwater oil exploration that impacted approximately 33 ongoing operations. Furthermore, because of concerns over the unpredictability of moratoria politics, the Obama Administration's opposition to deepwater drilling has led to a de facto ban on all drilling, whether in deep or shallow water. Indeed, permit requests have already been ignored for some shallow-water drillers without explanation from federal regulators. This moratorium has already had a detrimental impact on the economy Gulf region and may potentially be as harmful as any of the consequences of the spill.

**DEEPWATER DRILLING DESIRABLE:  
ANSWERS TO: "DEEPWATER HORIZON" cont'd**

6. THE RESPONSE IS THE PROBLEM, NOT DRILLING -- NO REASON TO END IT, SHOULD IMPROVE OUR RESPONSE CAPABILITIES INSTEAD

James Jay Carafano, PhD and analyst, Heritage Foundation, "Need for Drilling Moratorium Mitigated by State of Oil Spill Response," WEBMEMO, 8-5-10, <http://heritage.org/Research/Reports/2010/08/Need-for-Moratorium-Mitigated-by-New-Oil-Spill-Response-Capabilities>, accessed 8-24-10.

While Deepwater Horizon incident revealed flaws in the federal oversight process, suspending drilling operations is not the best strategy for mitigating risks while Washington gets its own house in order. As a result of this incident, the U.S. capacity to respond to even the most catastrophic failures has been greatly expanded and enhanced. Given that major spills are already rare, resuming drilling would be the more prudent course. The federal response to the Deepwater Horizon spill was conducted under the authorities of the Oil Spill Act of 1990, using existing plans and procedures for responding to "spills of national significance." Initially, the federal response was inadequate. The federal government was unable to organize effective recovery and response operations before major oil flows made landfall, damaging sensitive marshlands, forcing the closing of fishing grounds, and making tourist beaches off-limits. The federal government was also slow to evaluate, accept, and integrate international assistance. Likewise, the government was challenged in coordinating the federal response, such as permitting requests managed by the Army Corps of Engineers or reacting rapidly to oil spills. (Within 24 hours, spills could shift directions dramatically and rise or sink before responders could reach the scene.) Operations had to be coordinated through five layers of approval and command before responders could be dispatched to the scene.

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "DISPERSANTS"

### - DISPERSANTS ARE NOT DANGEROUS

Selena Ross, "BP Experts: Everything You Know About the Oil Spill is Wrong," AOL NEWS, 8-1-10, [www.aolnews.com/gulf-oil-spill/article/gulf-oil-spill-cleanup-bp-consultants-discuss-what-they-see-as-misconceptions/19572133?icid=main|main|dl1|link5|http%3A%2F%2Fwww.aolnews.com%2Fgulf-oil-spill%2Farticle%2Fgulf-oil-spill-cleanup-bp-consultants-d](http://www.aolnews.com/gulf-oil-spill/article/gulf-oil-spill-cleanup-bp-consultants-discuss-what-they-see-as-misconceptions/19572133?icid=main|main|dl1|link5|http%3A%2F%2Fwww.aolnews.com%2Fgulf-oil-spill%2Farticle%2Fgulf-oil-spill-cleanup-bp-consultants-d), accessed 8-22-10.

Dispersant is like a "super-duper shampoo," Lewis says. It is essentially a detergent made with off-the-shelf ingredients, and has been proven to have very low toxicity, he says. Experts agree that the oil is much more toxic. In fact, the only reason dispersants are not normally described as detergents, a word most people find less scary, is because of the bad memory of an early oil-spill cleanup decades ago. An industrial-grade detergent was used that proved to be very toxic to wildlife, Lewis says. That experience prompted the invention of new dispersants that are thought to be safer, such as Corexit, which is being used in the gulf. "There's something not very comforting about seeing an aircraft flying low, spraying something out the back where you don't know what it is. It evokes memories of Agent Orange," Lewis says. "It doesn't help calling them chemicals. Everything is a chemical, even table salt." "I've been covered by it, coated in it many times," Allen says. "I've never had any problems, skin rashes, anything like that."

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "DRILLING IS INFEASIBLE"

### - NEW GULF WELLS WILL PROVE DEEPWATER DRILLING TECHNOLOGY

Clifford Krauss, "Big Oil Find Is Reported Deep in Gulf," NEW YORK TIMES, 9-6-06, [www.nytimes.com/2006/09/06/business/worldbusiness/06oil.html?ex=1315195200&en=aadad2b19fb28e40&ei=5090&partner=rssuserland&emc=rss](http://www.nytimes.com/2006/09/06/business/worldbusiness/06oil.html?ex=1315195200&en=aadad2b19fb28e40&ei=5090&partner=rssuserland&emc=rss), accessed 8-20-10.

An announcement yesterday by three oil companies of a successful production test in the Gulf of Mexico -- potentially the largest American oil find in a generation -- was seen by experts as ushering in a new era in ultra-deepwater offshore drilling. Chevron, Devon Energy and Statoil ASA, the Norwegian oil giant, reported that they had found 3 billion to 15 billion barrels in several fields 175 miles offshore, 30,000 feet below the gulf's surface, among formations of rock and salt hundreds of feet thick. While it is too early to know exactly how big the fields are, the oil companies expressed hope that they had the potential of being even larger than those at Prudhoe Bay, off the northern coast of Alaska. The United States has reserves of 29 billion barrels, meaning that at the high end of the estimates, the discovery could increase reserves by 50 percent. It comes as the output of oil and gas in shallower wells in the Gulf of Mexico, with about one-quarter of American oil reserves, is ebbing and environmental resistance to offshore drilling in areas closer to coastlines remains strong. "This is frontier stuff," said Daniel Yergin, president of Cambridge Energy Research Associates, noting that the discovery is at levels deeper than deep-sea fields in the North Sea and off North Africa. "Success at these depths in the Gulf of Mexico would facilitate ultra-deepwater exploration elsewhere in the world because it will have proven the technology and capabilities."

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "ENVIRONMENT"

### 1. SPILLS WON'T CAUSE AN ENVIRONMENTAL CATASTROPHE -- MULTIPLE SPILLS PROVE

Mac Johnson,, "The Resilience of the Gulf," ENERGY TRIBUNE, 8-10-10, [www.energytribune.com/articles.cfm/4917/The-Resilience-of-The-Gulf-Oil-Seeps-and-Oil-Spills-Havent-and-Wont-Kill-the-Gulf-Of-Mexico](http://www.energytribune.com/articles.cfm/4917/The-Resilience-of-The-Gulf-Oil-Seeps-and-Oil-Spills-Havent-and-Wont-Kill-the-Gulf-Of-Mexico), accessed 8-25-10.

In short, was the spill really Armageddon for all life in, above, below and near the Gulf of Mexico -- an alien shock far beyond the coping capacity of the fragile web of life, as advertised? As it turns out, there is a relevant precedent that can shed light on these questions about the massive oil spill of 2010: the massive oil spill of 2009, and 2008, and 2007, and having spent a big part of my life in Houston, and therefore having spent a few weekends in Galveston, I can attest that the Gulf of Mexico has seen a few tar balls. In fact, the Indians collected them from the beaches of the Gulf as a raw material long before BP followed Columbus across the Atlantic and began drilling holes in the ground without much of a back-up plan. The Indians were able to do so because oil is a natural substance that constantly seeps up through fissures from subterranean reservoirs, both on dry land and under the sea. This is why we have accounts of oil and asphalt being used as far back as the Babylonians, why Noah was able to coat his ark in pitch and also why sabre-toothed tigers were able to get stuck in the La Brea Tar Pits without any help from BP or even the Exxon Valdez.

### 2. THERE IS ALREADY A LARGE AMOUNT OF OIL FROM NATURAL SEEPS

Mac Johnson,, "The Resilience of the Gulf," ENERGY TRIBUNE, 8-10-10, [www.energytribune.com/articles.cfm/4917/The-Resilience-of-The-Gulf-Oil-Seeps-and-Oil-Spills-Havent-and-Wont-Kill-the-Gulf-Of-Mexico](http://www.energytribune.com/articles.cfm/4917/The-Resilience-of-The-Gulf-Oil-Seeps-and-Oil-Spills-Havent-and-Wont-Kill-the-Gulf-Of-Mexico), accessed 8-25-10.

When oil seeps through fissures in the seabed, the result is a natural oil slick on the surface of the water -- an event that is remarkably common in oil bearing regions such as the northern Gulf of Mexico, as evidenced by satellite imagery and local observation. A survey in 1996 documented 63 natural oil seep sites occurring in an offshore band running from a point well south of Galveston to a point similarly south of the Alabama coast. The extent of these seeps would likely surprise most people, since, for some reason, they garner no media attention. A 2003 research paper by Kvenvolden and Cooper in Geo-Marine Letters estimated that natural seeps dump 140,000 metric tons of crude oil into the Gulf of Mexico each year -- over one million barrels of crude per year. In fact, the authors estimate that 47% of all the petroleum found in the sea is from natural seeps -- the largest single source, ahead of airborne pollution, ground runoff and drilling/shipping accidents.

### 3. SPILLED OIL DISPERSES, HAS LITTLE EFFECT

Selena Ross, "BP Experts: Everything You Know About the Oil Spill is Wrong," AOL NEWS, 8-1-10, [www.aolnews.com/gulf-oil-spill/article/gulf-oil-spill-cleanup-bp-consultants-discuss-what-they-see-as-misconceptions/19572133?icid=main|main|dl1|link5|http%3A%2F%2Fwww.aolnews.com%2Fgulf-oil-spill%2Farticle%2Fgulf-oil-spill-cleanup-bp-consultants-d](http://www.aolnews.com/gulf-oil-spill/article/gulf-oil-spill-cleanup-bp-consultants-discuss-what-they-see-as-misconceptions/19572133?icid=main|main|dl1|link5|http%3A%2F%2Fwww.aolnews.com%2Fgulf-oil-spill%2Farticle%2Fgulf-oil-spill-cleanup-bp-consultants-d), accessed 8-22-10.

There is no mass of Deepwater oil where we can't see it, and there are no traveling plumes of heavy oil miles away from the well head, the three experts say. "That would never happen, and all the monitoring that's been going on has been showing very low -- and decreasing -- concentrations of oil," Lewis says. When oil is dispersed into tiny droplets, the droplets separate from each other and are diluted in the open ocean, he explains. They do not get weighed down and cannot rejoin each other under water. Bacteria break them down into carbon dioxide and water in a predictable way, and when they can't be found, it's because they are no longer there. Lewis points to a huge eco-monitoring project started by the British government after the big Sea Empress spill was dispersed in 1996, Lewis says. "There were no effects the next year," he says. "If the oil is dispersed at sea, you can go back a year later and you can't find it."

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "ENVIRONMENT" cont'd

### 4. THE OIL DISPERSED RAPIDLY, WILDLIFE RECOVERED RAPIDLY

Simon Jenkins, "Oil Spilled. But Hysteria Did the Real Damage in the Gulf," THE GUARDIAN, 8-17-10, [www.guardian.co.uk/commentisfree/cifamerica/2010/aug/17/deepwater-horizon-spill-barack-obama](http://www.guardian.co.uk/commentisfree/cifamerica/2010/aug/17/deepwater-horizon-spill-barack-obama), accessed 8-22-10.

Most of the oil has mysteriously evaporated, like that from the biggest similar disaster, the dumping of oil into the Persian Gulf in 1991 by Iraqi forces. America did not turn a hair, any more than it did about the Union Carbide explosion that killed 15,000 Indians in Bhopal in 1984, with only trivial compensation paid. The issue is apparently no longer the number of "barrels" spilled but the sort of oil, the location of the spill and the temperature of the ambient water and air. Contamination of most wildlife appears to have been minimal. Even crustaceans recover fast, while the ban on fishing has boosted fish stocks.

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "NOT MUCH OIL"

### 1. MULTIPLE LOCATIONS ARE LIKELY TO HAVE DEEPWATER OIL DEPOSITS

Mark Morrison, "Plenty of Oil -- Just Drill Deeper," BUSINESS WEEK, 9-7-06, [www.businessweek.com/investor/content/sep2006/pi20060907\\_515138.htm?chan=top+news\\_top+news+index\\_investing](http://www.businessweek.com/investor/content/sep2006/pi20060907_515138.htm?chan=top+news_top+news+index_investing), accessed 8-20-10.

WORLDWIDE DEPOSITS. Other parts of the world that once appeared beyond the pale may also come into play. Areas believed to have oil deposits extremely deep beneath the ocean floor, which could now become commercially recoverable, include the North Sea off the coast of Britain, the Nile River Delta off the coast of Egypt, and possibly coastal Brazil, says Andrew Latham, a vice-president at energy consultancy Wood Mackenzie in Edinburgh, Scotland. Other analysts say West Africa could harbor lots of ultra-deep deposits. The areas have produced oil before but never from these depths. The record-setting Chevron well, called Jack 2, which is 175 miles off the Louisiana coast, is more than five miles deep, including more than a mile of ocean depth. Modern 3-D seismic gear enabled the team to know where to drill to have a chance to make their \$100 million-plus bet that oil would flow from such a deep formation. The drilling was the work of an advanced deep-sea rig -- Transocean Inc.'s Cajun Express -- one of 13 the company has launched since 1998 capable of drilling to depths of 35,000 feet, about double what the previous generation could do. Earlier drilling had established promising reserves in an area of the Gulf 300 miles long and 80 miles wide, but the Chevron project found a flow rate of more than 6,000 bbl. a day of light, sweet crude. The discovery confirmed the area's commercial viability, strengthening hopes that as much as 15 billion barrels of oil could be recovered in the vicinity. Pioneering isn't cheap. Steel and skilled labor rates are going through the roof, as are rental rates for state-of-the-art offshore rigs. BP (BP), for example, will be paying \$520,000 per day starting late next year for the same rig it is now getting for \$190,000 per day. That's because these fancy rigs, which house 200 people and rise 415 feet into the air, are in short supply with drilling picking up. Still, energy experts believe that producing oil from ultra-deep wells can be profitable as long as oil, selling for \$67 per barrel today, stays at or above \$40 to \$45.

### 2. OVER 6.6 BILLION BARRELS OF OIL HAVE BEEN FOUND IN THE GULF SINCE 2002

Lesley D. Nixon et al, "Deepwater Gulf of Mexico 2009: Interim Report of 2008 Highlights," OCS REPORT, Mineral Management Service, May 2009, p.3.

Exploratory drilling in the deepwater GOM has found more than 6.6 billion barrels of oil equivalent (BBOE) since 2002, more than double the amount reported in the 2005 Deepwater Interim Report (French et al., 2005). Exploration efforts in 2008 have resulted in 15 new deepwater discoveries (Table 1). Industry comments on many of these discoveries are shown in Table 2. Five of these discoveries were drilled in water depths greater than 5,000 feet (ft) [1,524 meters (m)] (Figure 1).

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "NOT MUCH OIL" cont'd

### 3. DEEPWATER WELLS PRODUCE A LOT OF OIL -- BIG FIELDS, HIGH FLOW RATES

Lesley D. Nixon et al, "Deepwater Gulf of Mexico 2009: Interim Report of 2008 Highlights," OCS REPORT, Mineral Management Service, May 2009, p.13.

Significant challenges exist in deep water in addition to environmental considerations. Deepwater operations are very expensive and often require significant amounts of time between initial exploration and first production. Despite these challenges, operators often reap great rewards. Figure 3 shows the history of discoveries in the deepwater GOM. There was a shift toward deeper water over time, and the number of deepwater discoveries continues at a steady pace. In addition to the significant number of deepwater discoveries, the flow rates of deepwater wells and the field sizes of deepwater discoveries are often quite large. These factors are critical to the economic success of deepwater development. Figure 4 illustrates the estimated sizes and locations of 127 proved deepwater fields. In addition to their large sizes, the fields have a wide geographic distribution and range in geologic age from Pleistocene through Paleocene. Figure 5 illustrates existing and potential hubs for deepwater production. For purposes of this report, deepwater hubs are defined as surface structures that host production from one or more subsea projects. These hubs represent the first location where subsea production comes to the surface, and the hubs are the connection point to the existing pipeline infrastructure. Note that potential hubs are moving into deeper waters, expanding the infrastructure and facilitating additional development in the ultra-deepwater frontier.

### 4. DEEPWATER GULF FIELDS HAVE HUGE RESERVES

Christopher Helman, "BP's Gulf Well: One of America's Biggest Oil Fields?" FORBES, 8-16-10, [/www.forbes.com/2010/08/16/americas-biggest-oil-fields-business-energy-oil-fields.html](http://www.forbes.com/2010/08/16/americas-biggest-oil-fields-business-energy-oil-fields.html), accessed 8-18-10. Over the past three decades more than 30 big oil and gas fields have been discovered and developed near Macondo's neighborhood, an area known as the Mississippi Canyon, an underwater gorge carved in part by millions of years and trillions of gallons of water gushing out of the Mississippi River, then filled up again by sediment flowing out of the river. Macondo is located in Mississippi Canyon block 252. Blocks 778 and 807, better known as Thunder Horse and Mars-Ursa, constitute the third and fourth biggest oil fields in the U.S. by reserves. Thunder Horse, in 6,000 feet of water, was discovered by BP in 1999. Combined with other discoveries at nearby Thunder Horse North, the proved reserves are thought to be as much as 2 billion barrels. It took a decade of development (and years of engineering delays) to finally get Thunderhorse flowing. The tension-leg platform built there started up last year producing 300,000 barrels per day of oil through seven wells. These wells, producing at roughly 25,000 bpd each in recent months, according to government data, are far and away the most productive in the Gulf. For comparison, BP and government scientists figure that the Macondo well was gushing an average 53,000 bpd. Granted, the Thunderhorse wells are throttled back in order to protect the reservoir's pressure and structure. Still, the fact that the wild Macondo well was running at twice their rate indicates that this could be a giant discovery.

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "NOT MUCH OIL" cont'd

5. THERE'S A LOT OF OIL IN THE DEEPWATER GULF -- LAST MAJOR AREA FOR NEW DISCOVERIES IN THE U.S.

Clifford Krauss, "Big Oil Find Is Reported Deep in Gulf," NEW YORK TIMES, 9-6-06, [www.nytimes.com/2006/09/06/business/worldbusiness/06oil.html?ex=1315195200&en=aadad2b19fb28e40&ei=5090&partner=rssuserland&emc=rss](http://www.nytimes.com/2006/09/06/business/worldbusiness/06oil.html?ex=1315195200&en=aadad2b19fb28e40&ei=5090&partner=rssuserland&emc=rss), accessed 8-20-10.

The deep waters of the Gulf of Mexico may represent the last area in the United States where large oil and gas reserves remain to be discovered, although some experts see the potential for big discoveries deep off the Atlantic and Pacific coasts, which would require Congressional action to exploit. "This is a breakthrough that confirms very large reserves of recoverable oil in the gulf," Mr. Yergin of Cambridge Energy Research Associates said. "This announcement also reflects how the oil industry is marching offshore into deeper and deeper waters around the world." Successful exploitation of the reserves requires new drill technology and computerized seismic technology to work in water more than a mile deep. "This would have been unthinkable 10 years ago," Mr. Yergin said, "but the technology keeps advancing." The oil in the area is considered top quality, light and sweet, unlike the oil in many new fields around the world that is heavier and more difficult to process. Because the new reserves are so far off the gulf coast, they seem unlikely to attract the intense opposition from environmentalists who oppose drilling close to beaches.

6. PEAK OIL IS WRONG -- WE WILL FIND MORE OIL

Mark Morrison, "Plenty of Oil -- Just Drill Deeper," BUSINESS WEEK, 9-7-06, [www.businessweek.com/investor/content/sep2006/pi20060907\\_515138.htm?chan=top+news\\_top+news+index\\_investing](http://www.businessweek.com/investor/content/sep2006/pi20060907_515138.htm?chan=top+news_top+news+index_investing), accessed 8-20-10.

SOME ARE SKEPTICAL. Matthew R. Simmons, chairman of an energy investment bank bearing his name and one of the leading proponents of Peak Oil, is sticking to his guns. "One well tells you almost nothing," he says. Simmons says the deep wells are "unbelievably expensive" and often fall short of expectations. "The history of the industry is full of disappointment." But given the powerful combination of high oil prices and new technology, the industry is gaining confidence that supplies will grow. It's pushing hard to produce oil and gas from difficult tar sand and shale fields as well as rejuvenating older fields with enhanced recovery methods. Cambridge Energy Research Associates predicts world oil and natural gas liquids capacity could increase as much as 25% by 2015. Says Robert W. Esser, a director of CERA: "Peak Oil theory is garbage as far as we're concerned."

7. NEW DEEPWATER FIELD WILL EXPAND U.S. RESERVES BY FIFTY PERCENT

Steven Mufson, "U.S. Oil Reserves Get a Big Boost," WASHINGTON POST, 9-6-06, [www.washingtonpost.com/wp-dyn/content/article/2006/09/05/AR2006090500275.html](http://www.washingtonpost.com/wp-dyn/content/article/2006/09/05/AR2006090500275.html), accessed 8-17-10.

An oil discovery by Chevron Corp. has bolstered prospects that petroleum companies will be able to tap giant reserves that lie far beneath the deep waters of the Gulf of Mexico. Oil analysts and company executives said newly released test results from a well 175 miles off the coast of Louisiana indicate that the oil industry will be able to recover well more than 3 billion barrels, and perhaps as much as 15 billion barrels, of oil from a geological area known as the lower tertiary trend, making it the biggest addition to U.S. petroleum reserves in decades. The upper end of the estimate could boost U.S. reserves by 50 percent. "This looks to be the biggest discovery in the United States in a generation, really since the discovery of Prudhoe Bay 38 years ago," said Daniel Yergin, chairman of the consulting firm Cambridge Energy Research Associates Inc. "There's been a lot of anticipation about what's called the Wilcox formation, and this is the validation of the theory and of the technology," he said, using another name for the area of the Gulf.

**DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "NOT MUCH OIL" cont'd**

8. ARE AT LEAST 15 BILLION DEEPWATER BARRELS IN THE GULF

Steven Mufson, "U.S. Oil Reserves Get a Big Boost," WASHINGTON POST, 9-6-06, [www.washingtonpost.com/wp-dyn/content/article/2006/09/05/AR2006090500275.html](http://www.washingtonpost.com/wp-dyn/content/article/2006/09/05/AR2006090500275.html), accessed 8-17-10. Still, John P. Herrlin, an oil analyst with Merrill Lynch & Co., said the production test announcement was "meaningful because it opens a new fairway" in the deep-water Gulf of Mexico oil area, which also includes other geological prospects. Herrlin said the lower tertiary trend alone could hold 3 billion barrels to 15 billion barrels of recoverable oil reserves. That's a figure Chevron used earlier this year to describe the size of the tertiary trend prospect. In an interview yesterday, Siegele said the new test results reinforced that estimate. But separately, Stephen J. Hadden, senior vice president for exploration and production at Devon Energy Corp., a partner in the Chevron exploration well, said the 3 billion barrel figure was too low. Cambridge Energy's Robert W. Esser said the Eocene or Wilcox sediments could hold 10 billion barrels.

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "PUBLIC OPPOSES"

### 1. SUPPORT FOR DEEPWATER DRILLING IS RETURNING -- SUPPORTS AN ENORMOUS NUMBER OF JOBS

Chris Kahn et al., "U.S. Looking at Ending Deepwater Drilling Moratorium," HUFFINGTON POST, 8-15-10, [www.huffingtonpost.com/2010/08/15/deepwater-drilling-moratorium\\_n\\_682489.html](http://www.huffingtonpost.com/2010/08/15/deepwater-drilling-moratorium_n_682489.html), accessed 8-20-10. Before drillers can return to the deep water, however, Salazar said the industry should be able to show that it's capable of responding to and containing future blowouts. Some energy experts, engineering consultants and Gulf Coast leaders joined Big Oil to ask Salazar to change his mind. Drilling was safe before the BP spill, they said, and Gulf communities that depend on the industry were suffering unfairly. That argument appears to have gained traction, even among people most affected by the spill, now that BP is close to plugging the well for good. Billy Nungesser, president of hard-hit Plaquemines Parish, La., said he's seen attitudes change in his community now that the deepsea disaster is easing. Even though oil has been washing ashore for months and he's fought constantly with BP and the government over their response, Nungesser thinks the ban should be lifted. Offshore drilling means jobs. According to the most recent state data, the oil and gas industry supports more than 320,000 jobs in Louisiana and generates more than \$12.7 billion in household earnings.

### 2. PUBLIC STRONGLY OPPOSES A BAN ON DRILLING -- RECENT POLL PROVES

BUSINESSWEEK, "Americans in 73% Majority Oppose Ban on Deepwater Oil Drilling," 7-14-10, <http://www.businessweek.com/news/2010-07-14/americans-in-73-majority-oppose-ban-on-deepwater-oil-drilling.html>, accessed 8-22-10.

Most Americans oppose President Barack Obama's ban on deepwater oil drilling in response to BP Plc's Gulf of Mexico spill, even as they hold the company primarily responsible for the incident. Almost three-fourths, or 73 percent, say a ban is unnecessary, calling the worst oil spill in U.S. history a "freak accident," according to a Bloomberg National Poll. Barely more than a third say they support drilling less than they did a few months ago. The BP rig sank in April. The administration issued a new six-month moratorium this week after a court rejected one imposed in May. "A ban will destroy the economy in that area over nothing," said poll respondent Ron Smallcomb, 64, a used-car dealer in Mountaintop, Pennsylvania. "This is crazy. If there's a plane crash you don't ground all the airlines and stop flying completely."

### 3. PEOPLE FROM ACROSS THE POLITICAL SPECTRUM OPPOSE A DRILLING BAN

BUSINESSWEEK, "Americans in 73% Majority Oppose Ban on Deepwater Oil Drilling," 7-14-10, <http://www.businessweek.com/news/2010-07-14/americans-in-73-majority-oppose-ban-on-deepwater-oil-drilling.html>, accessed 8-22-10.

While public objections to a drilling ban echo the views of Republican leaders such as Louisiana Governor Bobby Jindal, the sentiment is strong regardless of political leaning: 85 percent of Republicans, 73 percent of independents and 65 percent of Democrats oppose a ban, according to the poll. Jindal, whose state has been hardest hit by the spill, says a prohibition on drilling is an overreaction that will turn an "environmental disaster into an economic catastrophe," costing as many as 20,000 jobs in Louisiana alone. "We need the federal government to do their jobs to ensure drilling is done safely without killing thousands of jobs for our people," Jindal said in a statement July 13. Interior Secretary Ken Salazar says a ban is a reasonable response to the crisis. "Industry must raise the bar on its practices and answer fundamental questions about deepwater safety," he said in a statement on July 12.

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "WARMING"

1. CO2 CONCENTRATIONS DO NOT CORRELATE WITH WARMING -- 1940-1975 COOLING, LACK OF GLOBAL TEMPERATURE INCREASES SINCE 2001 DESPITE CO2 INCREASES

S. Fred Singer et al., Distinguished Research Professor, George Mason University, NATURE, NOT HUMAN ACTIVITY RULES THE CLIMATE, Heartland Institute, Science and Environmental Policy Project, 2008, <http://www.heartland.org/pdf/22835.pdf>, accessed 8-16-10.

Greenland Ice-Core Bore Hole Record ! The correlation between temperature and carbon dioxide levels is weak and inconclusive. The IPCC cites correlation of global mean temperature with increases in atmospheric concentrations of carbon dioxide (CO<sub>2</sub>) in the twentieth century to support its conclusion. The argument sounds plausible; after all, CO<sub>2</sub> is a GH gas and its levels are increasing. However, the correlation is poor and, in any case, would not prove causation. Prehistoric Temperatures from Proxy Data The climate cooled from 1940-1975 while CO<sub>2</sub> was rising rapidly (Figures 4a,b). Moreover, there has been no warming trend apparent, especially in global data from satellites, since about 2001, despite a continuing rapid rise in CO<sub>2</sub> emissions. The UK Met Office issued a 10-year forecast in August 2007 in which they predict further warming is unlikely before 2009. However, they suggest at least half the years between 2009 and 2014 will be warmer than the present record set in 1998 [Met Office 2007]. ! Computer models don't provide evidence of anthropogenic global warming.

2. CLIMATE IS DRIVEN BY A NUMBER OF OTHER FACTORS, INCLUDING SOLAR INTENSITY AND CLOUD REFLECTIVITY

The Marshall Institute, staff, CLIMATE ISSUES & QUESTIONS, February 2008, [www.marshall.org/pdf/materials/577.pdf](http://www.marshall.org/pdf/materials/577.pdf), accessed 8-16-10.

If temperature changes cannot be correlated with the increase in atmospheric concentrations of CO<sub>2</sub> and other greenhouse gases, what is causing them? The climate system is a complex set of interactions between solar energy, clouds, particulates, water vapor and other greenhouse gases, and the absorption and reflection of solar radiation at the Earth's surface. The general nature of these interactions is understood by climate scientists, but their details are highly uncertain. Climate is the result of a complex set of interactions between natural, and more recently, human drivers. The most important natural driver is the intensity of solar radiation reaching the Earth, which is determined by changes in the Sun itself and by shifts in the Earth's orbit and tilt. Satellite measurements indicate that the intensity of solar radiation reaching the Earth changes over the 11-year sunspot cycle. Astronomers have also determined that the Earth's orbit and tilt change in cycles that last up to 100,000 years. These cycles appear to be the cause of ice ages and interglacial periods, but are not of concern when discussing climate on short time-scales. Solar energy reaches the Earth as short-wave energy. Not all of it penetrates the atmosphere to the surface. Atmospheric gases are essentially transparent to short-wave energy, but about one-third of solar energy is reflected by clouds and particulate material in the atmosphere. However, not all clouds and particulates reflect solar radiation; some absorb it. The two-thirds of solar energy that reaches the surface can either be absorbed by the surface or reflected. Bright surfaces, such as ice or snow, reflect a large portion of the energy that hits them; dark surfaces, such as bare soil, absorb most of the energy that hits them.

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "WARMING" cont'd

3. IPCC CONCLUSIONS ARE UNRELIABLE: (1) PRE-PROGRAMMED; (2) BEHOLDEN TO POLITICAL AGENTS; (3) REWARDS FOR 'PROVING' WARMING TOO HIGH; (4) POOR PEER REVIEW STANDARDS

S. Fred Singer et al., Distinguished Research Professor, George Mason University, NATURE, NOT HUMAN ACTIVITY RULES THE CLIMATE, Heartland Institute, Science and Environmental Policy Project, 2008, <http://www.heartland.org/pdf/22835.pdf>, accessed 8-16-10.

Why have the IPCC reports been marred by controversy and so frequently contradicted by subsequent research? Certainly its agenda to find evidence of a human role in climate change is a major reason; its organization as a government entity beholden to political agendas is another major reason; and the large professional and financial rewards that go to scientists and bureaucrats who are willing to bend scientific facts to match those agendas is yet a third major reason. Another reason for the IPCC's unreliability is the naive acceptance by policymakers of 'peerreviewed' literature as necessarily authoritative. It has become the case that refereeing standards for many climate-change papers are inadequate, often because of the use of an 'invisible college' of reviewers of like inclination to a paper's authors. [Wegman et al. 2006] Policy should be set upon a background of demonstrable science, not upon simple (and often mistaken) assertions that, because a paper was refereed, its conclusions must be accepted.

4. NATURAL FORCES ARE MORE LIKELY TO DRIVE TEMPERATURE CHANGES

John McLean, "Fallacies About Global Warming," Science & Public Policy Institute, September 2007, [http://mclean.ch/climate/SPPI\\_AGW\\_fallacies.pdf](http://mclean.ch/climate/SPPI_AGW_fallacies.pdf), accessed 8-16-10.

Scientists are continuing to investigate the possible impacts of solar forces on climate and in some cases have shown strong correlations. Other scientists are questioning whether cosmic rays may influence the formation of clouds that then control the amount of sunlight reaching the Earth's surface. Changes in ozone have also been proposed as drivers of climate. That all three of these issues are actively being explored gives the lie to claims that climate science is settled and that carbon dioxide is known to be the sole major cause of recent climatic warming. Very recently several scientists have said words to the effect "Yes, the natural forces do drive the climate but we believe that carbon dioxide adds to the warming", though they notably refrain from defining how much warming the carbon dioxide may have caused. The reality is that there is no clear evidence that human emissions of carbon dioxide have any measurable effect on temperatures. Such a claim rests on climate models of unproven accuracy and on lines of physical argument that expressly exclude consideration of other known important drivers of climate change.

5. HUMANS AND ECOSYSTEMS ARE HIGHLY RESILIENT IN FACE OF TEMPERATURE CHANGES -- LITTLE RISK OF WARMING-INDUCED CATASTROPHE

Ben Lieberman, Senior Policy Analyst, Thomas A. Roe Institute for Economic Policy Studies, Heritage Foundation, "Frequently Asked Questions About Global Warming," WEBMEMO n. 1403, 3-21-07, [www.heritage.org/Research/EnergyandEnvironment/wm1403.cfm](http://www.heritage.org/Research/EnergyandEnvironment/wm1403.cfm), accessed 8-16-10.

Q: Is global warming catastrophic? Far from it. Given that the current upward trend in temperatures is not unprecedented, it stands to reason that minor warming will not lead to unprecedented catastrophes, and scientific evidence confirms this. According to recent research, the planet and its inhabitants are much more resilient to temperature variability than had been previously assumed, and the warming over the last few decades has not been particularly harmful to humans or the environment. Virtually all of the alarming rhetoric surrounding global warming is speculative and lies outside the scientific consensus. In fact, several respected economists believe that any likely future warming would have benefits (such as increased crop yields) that outweigh the modest adverse impacts in the U.S.

## DEEPWATER DRILLING DESIRABLE: ANSWERS TO: "WARMING" cont'd

### 6. DIRE PREDICTIONS ARE BASED ON MODELS, WHICH ARE THEMSELVES UNRELIABLE

John R. Christy, Professor of Atmospheric Science & Nobel Prize Winner, University of Alabama in Huntsville, Testimony before Senate Commerce, Science and Transportation Committee, 11-14-07, [http://commerce.senate.gov/public/\\_files/ChristyJR\\_CST\\_071114\\_written.pdf](http://commerce.senate.gov/public/_files/ChristyJR_CST_071114_written.pdf), accessed 8-16-10.

The foundation of a climate science program must be a commitment to continuous and accurate observations. We must know WHAT the climate is doing before we can understand WHY it does what it does. However, we now face the loss of satellite and other observations critical to understanding the climate. The NRC Decadal Survey goals for satellite systems should be pursued vigorously as well as support for other systems. The climate science program now has a large climate-modeling component. However, based on limited studies, too much confidence in my view is placed in model projections. These projections cannot reliably predict the climate on regional scales where we live and grow our food. The potential of billion-dollar economic impacts of proposals designed to mitigate "global warming" are based on these models and some common misunderstandings. Thus it is imperative that a "Red Team" approach be taken with climate model evaluation. Such teams, independent from those with vested interests in the modeling industry, would evaluate models with a hard-nosed methodology to inform Policymakers about model confidence from a different and scientifically defensible point of view.

### 7. HUMANS WILL INEVITABLY ADAPT TO ANY CLIMATE CHANGE

John R. Christy, Professor of Atmospheric Science & Nobel Prize Winner, University of Alabama in Huntsville, Testimony before Senate Commerce, Science and Transportation Committee, 11-14-07, [http://commerce.senate.gov/public/\\_files/ChristyJR\\_CST\\_071114\\_written.pdf](http://commerce.senate.gov/public/_files/ChristyJR_CST_071114_written.pdf), accessed 8-16-10.

The human race will adapt to whatever trajectory the climate system selects. Having a firm understanding of past variability allows society to adapt more intelligently to variations almost certain to occur in the future. Such is a benefit of a robust observing system. In 1988 I pinned a General Rule of Climate, "If it happened before, it will happen again, and probably worse." The point is that if we prepare for what has already been observed (e.g. hurricanes, droughts, floods, heat waves, blizzards) and then some, we will be much better prepared for whatever the climate does. There is no guarantee that energy policies intended to deal with climate change will have the desired effect, either in sign or magnitude. However, policies which address the reduction of emissions as well as other important issues, one being the emphatically desirable goal of affordable energy, are worth pursuing.

## OIL CONSUMPTION DESIRABLE: INEVITABLE

1. DESPITE DOWNSIDE RISKS, OIL WILL CONTINUE TO BE AN IMPORTANT ENERGY SOURCE FOR MANY YEARS TO COME

Bipartisan Policy Center, "BPC Response to the Oil Spill Commission," 8-25-10, [www.bipartisanpolicy.org/sites/default/files/BPC Response to Oil Spill Commission\\_0.pdf](http://www.bipartisanpolicy.org/sites/default/files/BPC%20Response%20to%20Oil%20Spill%20Commission_0.pdf), accessed 8-26-10. The BP Oil Spill is the largest marine oil spill in history and has caused severe environmental and economic harm. It is widely understood that a full recovery will take time and effort. Even though the well has been capped, the spill continues to pose a threat to marine and wildlife habitats, fishing, tourism, and other commercial industries. This catastrophic oil spill is a reminder of the risks associated with fossil fuel exploration and production. As efforts to encourage a transition to cleaner domestic energy sources continue, oil will play a significant role in the U.S. energy mix for years to come. Therefore, we must balance the risks and opportunities of domestic oil production, including the benefits of reducing our reliance on imported oil, against the economic and environmental risks of producing it.

2. OIL USE IS INEVITABLE -- THERE IS NO WAY THAT WE CAN REPLACE IT

Robert Bryce, senior fellow, Manhattan Institute, "Drilling Moratorium Hurts U.S., Helps Brazil," WASHINGTON EXAMINER, 8-25-10, [www.washingtonexaminer.com/opinion/columns/101465244.html](http://www.washingtonexaminer.com/opinion/columns/101465244.html), accessed 8-27-10.

Now, it would be callous -- or perhaps downright stupid -- to ignore the ecological impacts of the Macondo well blowout in the Gulf of Mexico. BP's bone-headed bungling resulted in the largest oil spill in US history, some 5 million barrels. But as bad as the spill may be, it does not, cannot, change this essential truth: if oil didn't exist, we would have to invent it. No other substance can match petroleum when it comes to energy density, cost, convenience, flexibility, or ease of handling. Those characteristics help explain why oil has become the dominant source of global energy, accounting for about 35 percent of the world's total energy needs and about 95 percent of its transportation fuels.

3. EVEN WITH EFFORTS TO DECREASE CO2 EMISSIONS, WE WILL STILL BE USING FOSSIL FUELS LIKE OIL FOR MANY YEARS

Christine Woodside, "Deepwater Oil Drilling: Not that New, but not that Much Known Either," YALE FORUM ON CLIMATE CHANGE & THE MEDIA, 7-8-10, [www.yaleclimatemediaforum.org/2010/07/deepwater-oil-drilling/](http://www.yaleclimatemediaforum.org/2010/07/deepwater-oil-drilling/), accessed 8-17-10.

In all the noise of the Gulf disaster, it is easy to overlook the urgency most western governments have expressed to reduce carbon dioxide emissions dramatically in the next 40 years. While every indication from economists and energy experts is that deepwater drilling will survive the political damages resulting from this spill, it's also true that the oil industry will recover only so much oil even from these sites, and that the industry has been looking for ways to move beyond petroleum. At the World National Oil Companies Congress in London on June 22, BP's Group Chief of Staff, Steve Westwell, addressed this issue in a speech for the absent BP CEO Tony Hayward. "The risk of climate change means we need to use energy more efficiently and diversify the energy mix with more low-carbon options," he said. "But as the IEA (International Energy Agency) and other experts have shown, fossil fuels will still be the dominant source of energy in 2030, even in a scenario where major carbon emissions are tightly constrained." (For the speech, go here.) "The Gulf of Mexico incident has raised major questions about the risks that are faced at the industry's frontiers, and specifically in deepwater," Westwell added. "Restoring confidence won't be easy. But let's not forget how much is at stake." Agreeing on that point, Boston University's Cleveland said, "First of all, we are going to continue to do deepwater drilling. We have to get the MMS reorganized," referring to the Department of the Interior's Minerals Management Service, now renamed the Bureau of Ocean Energy Management, Regulation, and Enforcement.

## DEEPWATER DRILLING UNDESIRABLE: TOPSHELF

### 1. OFFSHORE DRILLING THREATENS COASTAL ECONOMIES AND ENVIRONMENTS -- LEAKS, SPILLS, NOISE POLLUTION, HABITAT DESTRUCTION

GREENPEACE, "Offshore Drilling -- It's NOT the Answer to High Gas Prices at the Pump," 8-4-08, [www.greenpeace.org/usa/en/news-and-blogs/news/offshore-drilling-it-s-not-t/](http://www.greenpeace.org/usa/en/news-and-blogs/news/offshore-drilling-it-s-not-t/), accessed 8-23-10.

If the moratorium is lifted, our oceans and the species that call them home will suffer. An increase in offshore drilling will put more of this country's beaches, fish, and marine mammals at risk, as both the exploration and the drilling for oil increase the threat to our valuable coastlines. Tourism along our beaches and coastal communities is vital to our economy. Seismic testing to locate oil creates decibel levels of 260 -- twice as loud as an ambulance. Exposure to these levels of noise can cause disorientation, beaching, and brain hemorrhaging in whales and dolphins. Drilling for oil results in routine releases of toxic drilling muds, excavation materials, production waters, and contaminants such as mercury lead, cadmium and radioactive substances such as radium. Offshore oil drilling also comes with tanker, boat and barge traffic and other industrial activity and noise that disturb wildlife. And all offshore oil drilling requires an onshore network of pipelines, roads, refineries, docks and other infrastructure that release pollutants into the air and water, as well as destroy coastal habitat. Plus, offshore drilling creates an increased risk of oil spills close to our beaches and coastlines. One of the biggest myths told by political candidates (the oil industry and their allies in Congress) is that hurricanes Katrina and Rita caused no significant oil spills in the Gulf of Mexico. Nothing could be further from the truth. Katrina and Rita trashed drilling platforms, ruptured pipelines and yanked 2-million-gallon storage tanks off their foundations. More than 9 million gallons of oil spilled as a result of those two storms. Compare that amount with the 11 million gallons of oil spilled by the infamous Exxon Valdez when it ran aground in Prince William Sound Alaska in 1989. The Minerals Management Service (MMS), the federal agency that regulates offshore drilling, reported that hurricanes Katrina and Rita destroyed 113 oil platforms and damaged 457 pipelines. Supercharged storms like Katrina and Rita will continue to pummel coastal areas and oil infrastructure as global warming continues, meaning more oil spills are inevitable.

### 2. EFFICIENCY AND ALTERNATIVE ENERGY SOURCES ARE A FAR BETTER WAY TO ADDRESS ENERGY DEPENDENCE

GREENPEACE, "Offshore Drilling -- It's NOT the Answer to High Gas Prices at the Pump," 8-4-08, [www.greenpeace.org/usa/en/news-and-blogs/news/offshore-drilling-it-s-not-t/](http://www.greenpeace.org/usa/en/news-and-blogs/news/offshore-drilling-it-s-not-t/), accessed 8-23-10.

Drilling for more oil is not the answer. If we are to truly gain energy independence we have to start tapping into our future by investing and developing renewable energy sources. We also have to conserve energy and cut back where we can to reduce our dependence on oil and other fossil fuels. By requiring all automobiles in the U.S. to achieve 35 mpg by 2020 we will save 1 million barrels of oil per day-far more than we will get from new offshore oil leases being proposed by President Bush. Wind power is the world's fastest growing energy source. Today, a wind farm can generate the same amount of power as some conventional power plants, but they don't dump mercury, sulfur dioxide, and global warming pollution into the air. And while wind power is still growing here in the U.S., Denmark received 22 percent of its electricity from wind in 2007. Every 30 minutes, the sun sends more energy to our planet than is consumed in a whole year. In fact, the energy generated by the sun in just 20 days is equal to the energy of all the coal, oil, and natural gas buried underground. And just like wind power, solar energy is already being harnessed in many parts of the world. Now isn't the time for following leaders who promise quick fixes to high gas prices. It's the time to end our dependence on oil and fossil fuels and begin a meaningful transition toward a future where we utilize renewable energy sources that will be able to sustain generations to come.

## DEEPWATER DRILLING UNDESIRABLE: TOPSHELF cont'd

### 3. SHOULD BE CAUTIOUS ABOUT DEEPWATER DRILLING -- WE TEND TO UNDERESTIMATE THE RISKS

Christine Woodside, "Deepwater Oil Drilling: Not that New, but not that Much Known Either," YALW FORUM ON CLIMATE CHANGE & THE MEDIA, 7-8-10,

[www.yaleclimatemediaforum.org/2010/07/deepwater-oil-drilling/](http://www.yaleclimatemediaforum.org/2010/07/deepwater-oil-drilling/), accessed 8-17-10.

"We tend to be wowed by the technological feats we are increasingly able to perform without thinking about the possible ramifications," he said. "We tend to historically underestimate the risk. We tend to downplay the assessment of risk. The problem with that is the potential risk becomes larger and larger." So far, deepwater drilling has been receiving much media attention for how it affects local economies in Gulf Coast states, and also on the localized environmental disaster unfolding in the Gulf: gushing oil and the traveling oil slick killing birds, fish, and much ocean life. The media rightly see these as huge, and hugely important, stories.

### 4. DEEPWATER HORIZON PROVES THAT THE CONSEQUENCES OF A MAJOR SPILL COULD DESTROY THE U.S. ECONOMY

Richard Heinberg, Senior Fellow-in-Residence, Post Carbon Institute, "Deepwater Horizon: The Worst-Case, Best-Case, and Most-Likely Scenarios," MUSELETTER n. 218, July 2010,

<http://richardheinberg.com/218-deepwater-horizon-the-worst-case-best-case-and-most-likely-scenarios/>, accessed 8-19-10.

For the economies of coastal states, a worst-case leakage scenario would be utterly devastating. Not only the fishing industry, but the oil industry as well would be crippled, due to the disruption of operations at refineries. Shipping via the Mississippi River, which handles 60 percent of all U.S. grain exports, could be imperiled, since the Port of South Louisiana, the largest bulk cargo port in the world, might have to be closed if ships are unable to operate in oil-drenched waters. Unemployment in the region would soar and economic refugees would scatter in all directions. The consequences for BP would almost certainly be fatal: it is questionable whether the corporation can survive even in the best case (that is, if "bottom kill" efforts succeed in August); if the spill goes on past the end of the year, then claims against the company and investor flight will probably push it into bankruptcy. Americans may shed few tears over this prospect, but BP happens to be Great Britain's largest corporation, so the impact to the British economy could be substantial. The consequences for the oil industry as a whole would also be dire. More regulations, soaring insurance rates, and drilling moratoria would lead to oil price spikes and shortages. Foreign national oil companies could of course continue to operate much as before, but the big independent companies, even if they shifted operations elsewhere, would be hit hard. For President Obama, an environmental disaster of the scale we are discussing could have political consequences at least equivalent to those of the Iranian hostage crisis during the Carter presidency. Obama's only chance at survival would be an FDR-like show of leadership backed by bold energy and economic plans and ruthless disregard for partisan bickering and monied interests. For the U.S. economy, already weakened by a still-unfolding financial crisis, a worst-case scenario in the Gulf could be the last straw. The cumulative impacts -- falling grain exports, soaring unemployment in southeastern coastal states, higher oil prices -- would almost certainly spell the end to any hope of recovery and might push the nation into the worst Depression in its history.

## DEEPWATER DRILLING UNDESIRABLE: ACCIDENTS INEVITABLE

### 1. TECH FAILURE IS GOING TO HAPPEN -- VERY DIFFICULT CONDITIONS

Robert Bryce, senior fellow, Manhattan Institute, "Risky Business," ENERGY TRIBUNE, 4-23-10, [www.manhattan-institute.org/html/miarticle.htm?id=6439](http://www.manhattan-institute.org/html/miarticle.htm?id=6439), accessed 8-25-10.

In many ways, drilling in ultra-deep water is more akin to space exploration than it is to traditional oil and gas production. And with that cutting-edge exploration work, new technologies are always going to be essential. But will they work? All of the testing in the world cannot assure 100% success once the technology is put into the extreme environments that are common offshore. And as drilling moves progressively into ever-deeper water, the industry will inevitably have to rely more heavily on robots, submarines, and other high-tech machines, all of which is extraordinarily expensive.

### 2. GULF DEEPWATER RIGS ARE THREATENED BY HURRICANES, HUMAN ERROR

Robert Bryce, senior fellow, Manhattan Institute, "Risky Business," ENERGY TRIBUNE, 4-23-10, [www.manhattan-institute.org/html/miarticle.htm?id=6439](http://www.manhattan-institute.org/html/miarticle.htm?id=6439), accessed 8-25-10.

Weather risk BP's Thunder Horse platform may have cost \$1 billion, but that doesn't mean much when major hurricanes sweep through the Gulf. In 2005, the platform was evacuated ahead of Hurricane Dennis and when BP personnel returned the platform was listing dangerously and it was feared the vessel would capsize. BP eventually fixed the problems at Thunder Horse, at a cost of about \$250 million. But Dennis was followed by Hurricanes Katrina and Rita which caused widespread damage to platforms and pipelines throughout the Gulf. By January 2006, five months after Katrina hit, about 27% of the Gulf's oil production and 19% of its gas production was still shut in due to storm damage. Human error risk The causes of the Deepwater Horizon disaster aren't yet known. And they may never be known. But in many industrial accidents, human error almost always figures into the equation.

## DEEPWATER DRILLING UNDESIRABLE: ALTERNATIVES BETTER -- ETHANOL (CELLULOSIC)

### 1. CELLULOSE CAN SUSTAINABLY DECREASE OIL DEPENDENCE

Diane Greer, "Creating Cellulosic Ethanol: Spinning Straw Into Fuel," Biocycle eNews Bulletin, 4-05, [www.harvestcleanenergy.org/enews/enews\\_0505/enews\\_0505\\_cellulosic\\_ethanol.htm](http://www.harvestcleanenergy.org/enews/enews_0505/enews_0505_cellulosic_ethanol.htm), accessed 8-16-10. In the Grimm Brother's fairy tale, Rumpelstiltskin spins straw into gold. Thanks to advances in biotechnology, researchers can now transform straw, and other plant wastes, into "green" gold -- cellulosic ethanol. While chemically identical to ethanol produced from corn or soybeans, cellulose ethanol exhibits a net energy content three times higher than corn ethanol and emits a low net level of greenhouse gases. Recent technological developments are not only improving yields but also driving down production cost, bringing us nearer to the day when cellulosic ethanol could replace expensive, imported "black gold" with a sustainable, domestically produced biofuel. Cellulosic ethanol has the potential to substantially reduce our consumption of gasoline. "It is at least as likely as hydrogen to be an energy carrier of choice for a sustainable transportation sector," say the National Resources Defense Council (NRDC) and the Union of Concerned Scientists in a joint statement. Major companies and research organizations are also realizing the potential. Shell Oil has predicted "the global market for biofuels such as cellulosic ethanol will grow to exceed \$10 billion by 2012." A recent study funded by the Energy Foundation and the National Commission on Energy Policy, entitled "Growing Energy: How Biofuels Can Help End America's Oil Dependence", concluded "biofuels coupled with vehicle efficiency and smart growth could reduce the oil dependency of our transportation sector by two-thirds by 2050 in a sustainable way."

### 2. BIOMASS IS THE ONLY SUSTAINABLE ALTERNATIVE TO THE USE OF PETROLEUM FOR TRANSPORTATION

Charles E. Wyman, "What Is (and Is Not) Vital to Advancing Cellulosic Ethanol," TRENDS IN BIOTECHNOLOGY v. 25 n. 4, 4-07, p.153-157.

Petroleum is the largest energy source in the United States, supplying not, vert, similar 40% of its energy. However, it is the only source dominated by growing imports from unstable countries, which hold most of the reserves; furthermore, approximately two-thirds of this oil fuels a transportation sector that is almost totally (>96%) dependent on petroleum and is responsible for approximately one-third of greenhouse gas emissions. A sustainable alternative is vital to overcome this dangerous dependence, and biomass is the only known, large-scale, renewable resource that can be converted into the liquid fuels that are so well suited to transportation 7, 8, 9 and 10. Cellulosic ethanol is particularly promising because it can capitalize on the power of biotechnology to dramatically reduce costs, is derived from low cost and plentiful feedstocks, can achieve the high yields vital to success, has high octane and other desirable fuel properties, and is environmentally friendly 5, 11, 12 and 13. Although we can hope for a miracle cure for our addiction, we cannot count on one; and prudence dictates the rapid development and deployment of cellulosic ethanol.

### 3. CONVERSION TECH IS ADVANCING RAPIDLY -- CAN EXPECT TECHNOLOGICAL ADVANCES IN THE NEAR TERM

Charles E. Wyman, "What Is (and Is Not) Vital to Advancing Cellulosic Ethanol," TRENDS IN BIOTECHNOLOGY v. 25 n. 4, 4-07, p.153-157.

Biofuels offer the potential to substitute for a large proportion of fossil fuels, however it is considered that the utilisation of lignocellulosic biomass, via second-generation biorefining technologies, will be necessary for this to be achieved economically and sustainably. The lignocellulosic matrix is complex and recalcitrant to conversion but research in biorefining is advancing rapidly and commercial facilities are expected in the near-term. These facilities will either employ hydrolytic mechanisms to break apart the structural polysaccharides of the biomass, or thermochemical procedures to dehydrate and volatilise the feedstock. Catalysts serve vital roles in both approaches: acids and enzymes facilitate the hydrolysis of cellulose; while metal and biological catalysts can alter the volatilisation profiles of biomass or reform the gases that are liberated in the thermochemical process.

**DEEPWATER DRILLING UNDESIRABLE:  
ALTERNATIVES BETTER -- ETHANOL (CELLULOSIC) cont'd**

4. NEW TECH MEANS THAT ETHANOL WILL BE ABLE TO COMPETE WITH EVEN CHEAP OIL

Michael Griffin, executive Director, Green Design Institute and Lester Lave, Professor, Economics, Tepper School of Business, Carnegie Mellon University, "Cellulosic Ethanol in an Oil and Carbon Constrained World," A HIGH GROWTH STRATEGY FOR ETHANOL, 2006, the Aspen Institute, [www.aspeninstitute.org/atf/cf/%7BDEB6F227-659B-4EC8-8F84-8DF23CA704F5%7D/FINALEthanolText.pdf](http://www.aspeninstitute.org/atf/cf/%7BDEB6F227-659B-4EC8-8F84-8DF23CA704F5%7D/FINALEthanolText.pdf), accessed 8-5-08.

Currently there is plenty of petroleum, but world demand is increasing rapidly, giving monopoly power to OPEC and large producers. Political turmoil, civil wars, terrorist action, or natural hazards will cause oil shocks with large price increases. Ultimately, however, fuel replacements such as ethanol will likely need to compete with oil prices that could be substantially below those of today due to development of alternative fossil fuel technologies. This is important because investors and consumers will want to be assured of a market for the alternative fuels before making substantial investments from production facilities to vehicles.

## **DEEPWATER DRILLING UNDESIRABLE: ALTERNATIVES BETTER -- ETHANOL (CORN)**

### **1. BIOFUELS INCREASE ENERGY SECURITY -- REDUCE NEED FOR IMPORTS**

Margaret J. Jennings, "Bioenergy: Fueling the Future?" *DRAKE JOURNAL OF AGRICULTURAL LAW* v. 12, Spring 2007, p.222.

In addition to economic gains, using biomass to produce biofuels can lead to energy security by significantly reducing the need to import oil. Biomass is more evenly distributed over the earth's surface than other energy sources. Thus, it provides more opportunity for energy self-sufficiency on the local and national level.

### **2. RESEARCH CONSENSUS SAYS THAT RENEWABLE FUELS ARE A HUGE ENERGY NET-POSITIVE**

Raci Oriona Spaulding, "Fuel from Vegetable? A Modern Approach to Global Climate Change," *TRANSNATIONAL LAW & CONTEMPORARY PROBLEMS* v. 13, Spring 2003, p.303.

Finally, some worry that producing energy from biomass is more expensive than it is beneficial. These RFS opponents contend that, because biofuels create less energy than what is used in their production, they are an inefficient alternative to petroleum. Because they argue that biofuels are not economically efficient, they contend that they should not be used at all. Bob Dinneen, Renewable Fuels Association president, refutes these arguments, noting that: Only [one scientist] disagrees with [the] analysis [that renewable fuels are efficient]. But his outdated work has been refuted by experts from entities as diverse as the USDA, DOE, Argonne National Laboratory, Michigan State University, and the Colorado School of Mines. While the opponents of ethanol will no doubt continue to peddle [this scientist's] baseless charges, they are absolutely without credibility.

## DEEPWATER DRILLING UNDESIRABLE: ALTERNATIVES BETTER -- HYDROGEN

### 1. HYDROGEN CAN DECREASE OIL DEPENDENCE, SHIELD US FROM PRICE SPIKES

Keith Guy, Professor & Institution of Chemical Engineers, "Who's Getting High on Hydrogen? Some," POWER ENGINEERING INTERNATIONAL v. 15 n. 10, 12-07, pp.37-39.

Thirdly, at a strategic level, the increased use of hydrogen would reduce our dependence on fossil fuels from markets such as the Middle East, spreading the risk and shielding economies from oil price hikes. And finally, hydrogen can be produced at virtually any location as long as electricity and water are present. In fact, it could even be produced in individual homes with relatively simple technology. There is increasing noise coming from the hydrogen sector as the world starts to get behind this alternative fuel source. The environmental challenges of fossil fuels combined with technology breakthroughs in fuel cell technology are enabling us to take the first steps towards this new approach to energy.

### 2. HYDROGEN IS THE BEST ALTERNATIVE ENERGY SOURCE TO REPLACE FOSSIL FUELS -- SUPERIOR TO OTHER RENEWABLE ALTERNATIVES

Fritz Gautschi, "The Hydrogen Reaction," POWER ENGINEERING INTERNATIONAL v. 13 n. 11, 11-05, pp.59-61.

Part of the solution is reducing the consumption of fossil fuels and/or increasing the net efficiency of the conversion process. The hurdle to the latter has been, and remains, the need for a quick economical payback of the additional hardware costs to increase the net efficiency. This largely depends on the level of the fuel prices. An important contribution to a solution could come from renewable energies like wind and solar power. Although strongly improving, renewable energies cannot yet meet the demand to cover the supply that fossil fuels currently provide. In the US less than two per cent (8 GW) of installed electrical generating capacity is wind power. Though in Europe the number is higher (26 GW), it is still not enough to become a viable alternative to replace fossil fuels in the mid-term. As far as solar power is concerned, its first costs today are still too high to make it functional past the small niche application it inhabits. Given that renewable energy (wind, solar power) cannot fill the gap in the mid-term to cover additional needs for energy or replace existing energy sources, hydrogen is the leading alternative with the necessary characteristics to overcome the above listed challenges that confront fossil fuels. Hydrogen can be produced in quantities large enough to replace some of the fossil fuels. Hydrogen combustion is considered an emission free combustion (except for concerns regarding possible hydrogen leaks into the stratosphere). In addition, the use of a hydrogen fuel cell can transform chemical energy into electrical/mechanical energy with twice the efficiency that occurs during the combustion of gasoline in an internal combustion engine.

### 3. HYDROGEN DECREASES AIR AND GREENHOUSE EMISSIONS ACROSS THE ENTIRE ECONOMY

Jerome Hinkle, President, National Hydrogen Association, HYDROGEN: SUPPLY AND DEMAND OPPORTUNITIES, 2-22-07,

[www.hydrogenassociation.org/members/policy/updates/21jun07\\_supplyAndDemand.pdf](http://www.hydrogenassociation.org/members/policy/updates/21jun07_supplyAndDemand.pdf), accessed 8-16-10.

Global air and greenhouse gas emissions could be substantially reduced with a H2E when deploying the full range of advanced stationary and mobile technologies. There is a large domestic market potential for home, commercial, industry and the transportation sector. One third of all U.S. carbon dioxide emissions come from the transportation sector, about the same as that from coal-fired powerplants -- creating further market opportunities for U.S. products worldwide and increasing U.S. competitiveness.

**DEEPWATER DRILLING UNDESIRABLE:  
ALTERNATIVES BETTER -- HYDROGEN** cont'd

4. HYDROGEN SOLVES ALL OF THE POLLUTION PROBLEMS OF FOSSIL FUELS

Keith Guy, Professor & Institution of Chemical Engineers, "Who's Getting High on Hydrogen? Some," POWER ENGINEERING INTERNATIONAL v. 15 n. 10, 12-07, pp.37-39.

The hydrogen economy has strong green credentials. Many believe it will be key to overcoming some of the problems created by the ever-increasing use of fossil fuels in today's economy. But how? For a start, the use of hydrogen has none of the pollution problems associated with fossil fuels. When used in a fuel cell to create power, the only by-product is water, making hydrogen a clean technology with no environmental dangers. Secondly, hydrogen does not contribute to the problem of greenhouse gas emissions. The production of hydrogen occurs within a perfect cycle. Electrolysis, using renewable electricity, produces hydrogen from water, and the hydrogen then recombines with oxygen to create water and power in a fuel cell, having absolutely no negative impact on the environment.

## **DEEPWATER DRILLING UNDESIRABLE: ALTERNATIVES BETTER -- NUCLEAR POWER**

### **1. NUCLEAR POWER DECREASES OIL DEPENDENCE -- FRANCE PROVES**

Jack Spencer, Research Fellow in Nuclear Energy, Thomas A. Roe Institute for Economic Policy Studies, Heritage Foundation, "Competitive Nuclear Energy Investment: Avoiding Past Mistakes," BACKGROUND n. 2086, 11-15-07, [www.heritage.org/Research/EnergyandEnvironment/bg2086.cfm](http://www.heritage.org/Research/EnergyandEnvironment/bg2086.cfm), accessed 8-16-10. Nuclear power is a proven, safe, affordable, and environmentally friendly alternative to fossil fuels. It can generate massive quantities of electricity with almost no atmospheric emissions and can offset America's growing dependence on foreign energy sources. The French have used it to minimize their dependence on foreign energy, and at one time the United States was on the path to do the same.

### **2. NUCLEAR ENERGY HAS SMALLEST EFFECT ON ENVIRONMENT OF MAJOR POWER SOURCES -- ADDRESSES CLIMATE CHANGE, AIR POLLUTION AND ACID RAIN CONCERNS**

Linda Sikkema and Melissa Savage, journalists, "Nuclear Renaissance?" STATE LEGISLATURES v. 33 n. 3, March 2007, pp.12-15.

Why is nuclear power so popular? For starters, of all energy sources nuclear power has the lowest impact on the environment, including water, land, habitat, species and air resources. Nuclear energy also is eco-efficient -- producing the most electricity in relation to its environmental impact. Nuclear energy is the world's largest source of emission-free energy. It produces no controlled air pollutants, such as sulfur and particulates, or greenhouse gases. The use of nuclear energy in place of other energy sources helps keep the air clean, preserve the Earth's climate, avoid ground-level ozone formation and prevent acid rain. In 2005, U.S. nuclear power plants prevented 3.32 million tons of sulfur-dioxide, 1.05 million tons of nitrogen oxide, and 681.9 million metric tons of carbon dioxide from entering the earth's atmosphere. Nuclear power plants were responsible for more than a third of the total voluntary reductions in greenhouse gas emissions reported by U.S. companies in 2004 (the last year available), according to the Energy Information Administration. Emissions reductions from using nuclear energy amounted to 143 million metric tons of carbon dioxide, 36 percent of the 391 million metric tons of total carbon dioxide equivalent reductions reported.

### **3. NUCLEAR POWER CAN SOLVE GROWING ENERGY DEPENDENCE**

Linda Sikkema and Melissa Savage, journalists, "Nuclear Renaissance?" STATE LEGISLATURES v. 33 n. 3, March 2007, pp.12-15.

Not all agree that nuclear energy is America's answer to foreign energy dependency. Many point to radioactive disasters like Three Mile Island and Chernobyl as reasons to look to other sources of energy. And while Three Mile Island was the most serious nuclear accident in the United States to date, no radiation escaped from the containment building. Several positive changes resulted, including improved safety systems and new industrywide regulations. Most do agree, however, that meeting the current and future energy needs in the United States is approaching a crisis. Our demand for energy is expected to jump by 50 percent in the next 25 years. Some experts say the United States will have to import 65 percent of its oil and 30 percent of its gas by 2015. Domestically, fuels will get harder to get to and be located far from where they are needed. A limited foreign oil supply and competition from growing needs in China and India will make it more difficult and more expensive to depend on foreign imports. At the same time, there is an increasing demand for clean energy. States are implementing stricter environmental and air quality standards and the federal government is expected to do the same. Nuclear energy is a possible solution to this growing dilemma. As a clean energy source, it meets environmental standards. It is cheaper than coal. Development costs for a nuclear plant are less than that of a coal plant. Thirty-one states have already incorporated nuclear power into their energy portfolios and have been able to safely meet energy demand for consumers. Arizona, Vermont, New Jersey, South Carolina, Connecticut and Illinois use it the most.

## **DEEPWATER DRILLING UNDESIRABLE: ALTERNATIVES BETTER -- RENEWABLES**

### **1. OFFSHORE DRILLING TRADES OFF WITH RENEWABLES DEVELOPMENT**

Rachel Cernansky, "Offshore Drilling Bad for Environment, Energy Security, and Job Creation: Oceana," PLANET GREEN, 4-1-10, <http://planetgreen.discovery.com/work-connect/oceana-offshore-drilling-economy.html>, accessed 8-23-10. Ocean conservation group [www.oceana.org](http://www.oceana.org)">Oceana is calling him out on it, saying not only is it a threat to the environment and marine life, but it compromises efforts to improve energy security and may threaten job creation. Instead of drilling offshore, which Oceana campaign director Jacqueline Savitz called "a wholesale assault on the oceans," she said "the U.S. should focus its resources on expanding offshore wind and other renewable energy opportunities." These opportunities would go much farther to create jobs and address climate change, whereas offshore drilling will compete for resources with renewables -- making all energy sources more expensive to bring to market. From a jobs, costs and climate standpoint, says Oceana, the most beneficial are renewables, such as offshore wind.

### **2. RENEWABLES CREATE MORE JOBS THAN FOSSIL FUELS -- MORE LABOR INTENSIVE, ALSO CREATE MORE LOCAL JOBS**

Alan Noguee, Jeff Deyette & Steve Clemmer, Union of Concerned Scientists, "The Projected Impacts of a National Renewable Portfolio Standard," ELECTRICITY JOURNAL v. 20 n. 4, May 2007, p.33+. Renewable energy technologies tend to create more jobs than fossil fuel technologies because they are more labor-intensive. A large share of the expenditures for renewable energy is spent on manufacturing equipment, and installing and maintaining it. With biomass, money is also spent on fuel, but usually from sources that are within 50 miles of a biomass plant, because it is too expensive to transport it for long distances. Therefore, renewable energy facilities avoid the need to export cash to import fuel from other states, regions, or countries-keeping money circulating in the local economy, and creating more local jobs. Many of the new jobs would be located in rural areas where the renewable energy generating facilities would be sited. However, a national RPS can also benefit manufacturing states, even those with less abundant renewable resources, by providing them the opportunity to manufacture and assemble components for renewable energy facilities. Developing a strong manufacturing base can also create enormous export opportunities, given the rapidly growing commitment of the rest of the world to expand use of renewable energy.

**DEEPWATER DRILLING UNDESIRABLE:  
ALTERNATIVES BETTER -- RENEWABLES** cont'd

3. FOSSIL FUEL SOURCES ARE VULNERABLE TO PRICE FLUCTUATIONS -- RENEWABLES SOLVE RISK OF PRICE SHOCKS

Justin W. Curtis, "My Two Cents Per Kilowatt-Hour: Virginia's Renewable Energy Portfolio Standard," UNIVERSITY OF RICHMOND LAW REVIEW v. 42, January 2008, p.759-760.

In addition to the well-known environmental benefits of renewable energy, there are lesser-known economic benefits. Natural gas, petroleum, and coal are tradable commodities. The prices of these fossil fuels can vary wildly. For instance, over the past twelve years, wholesale natural gas prices have been as low as \$ 1 per million British thermal units ("BTUs") and as high as \$20 per million BTUs. These price fluctuations have been driven in large part by unforeseen natural disasters, such as Hurricanes Katrina and Rita, which caused spikes in oil and natural gas prices. An advantage of most renewable energy sources, such as wind and solar, is that they have no fuel source that must be purchased -- although the sun and wind may be intermittent at times, they never go up in price. The primary determinant of the cost for energy from renewable power sources is the capital cost invested in the generation facilities, such as the wind turbines or solar arrays. Thus, the price of energy produced from renewable sources is generally stable and predictable. The predictability of renewable energy prices makes them ideal for hedging against fuel cost fluctuations in a diversified energy supply market. Including renewable power in the supply mix serves to dampen fuel price shocks that may be passed through to retail customers if the supply mix over-relies on any one fuel source. For instance, if the price of natural gas spiked, a customer who relied solely on natural gas-generated power in an unregulated market would see her electricity bills soar. A customer in the same market who purchased half of her energy from renewable energy sources would only see her bill increase by half as much as the first customer.

## DEEPWATER DRILLING UNDESIRABLE: ALTERNATIVES BETTER -- UNCONVENTIONAL OIL

### 1. OIL DEPLETION IS NOT A THREAT -- LOTS OF UNCONVENTIONAL OIL, COAL IS READILY CONVERTED

Jerry Taylor and Peter Van Doren, Cato Institute, "Myth Five -- Price Signals are Insufficient to Induce Efficient Energy Investments," ENERGY AND AMERICAN SOCIETY: THIRTEEN MYTHS, 2007, [www.cato.org/pubs/articles/myth9.pdf](http://www.cato.org/pubs/articles/myth9.pdf), accessed 8-16-10.

Oil depletion concerns, however, rest on shaky ground. First, they are primarily about the future availability of conventional crude oil. Unconventional crude oil deposits -- such as those found in heavy bitumen, tar sands, and shale rock -- are extremely plentiful and only lightly tapped at the moment because of high extraction costs. Moreover, the technology exists to convert coal and natural gas to synthetic petroleum liquids, which means that other more plentiful fossil fuels could be harnessed to produce vast amounts of petroleum if the economics are favorable. Second, concerns that conventional crude oil is becoming scarce in any meaningful sense have not stood up well to serious scrutiny.

### 2. ARE ENORMOUS QUANTITIES OF UNCONVENTIONAL OIL SOURCES -- TAR SANDS, OROCO SLUDGE, EVEN COAL

Curtis Rist, journalist, "Why We'll Never Run Out of Oil," DISCOVER, June 1999, ASP.

When and if supplies of natural gas begin to run out, the oil companies will focus on squeezing usable fuels out of even more difficult prospects. Already, the Canadians are starting to mine the tar sands of Alberta, where an estimated 300 billion barrels of oil are trapped. And Venezuelans are beginning to excavate the solid tarry deposits of the Oronoco sludge belt, which contains as much as 1 trillion barrels of oil. If those supplies run out, there's always coal -- the most abundant and environmentally damaging of all fuels. Ninety percent of the world's fossil fuels are contained in coal deposits. Tapping it and converting it to liquid fuels (a process nobody has fully mastered yet) could yield a Supply lasting a millennium.

### 3. ARE OVER 5 TRILLION BARRELS OF HEAVY OIL AND TAR SANDS

Stephen Lendman, associate, "Peak Oil -- True or False," GLOBAL RESEARCH, 3-6-08, [www.globalresearch.ca/index.php?context=va&aid=8260](http://www.globalresearch.ca/index.php?context=va&aid=8260), accessed 8-16-10.

Another resource assessment comes from Petroleum Equities. It's a management consulting firm specializing in oil and gas exploration and production. It estimates combined heavy oil and tar sands worldwide reserves at around 5.4 trillion barrels with 80% of them in the western hemisphere. For extra-heavy oil alone, the US Department of Energy (on its web site) estimates Venezuela has 1.36 trillion barrels, or 90% of the world total. That's more than all "proved" world reserves combined and in addition to Venezuela's "proved" light sweet resources of around 80 billion barrels that alone ranks it seventh in the world behind the five largest Middle East producers and Canada.

### 4. OIL SHALE RECOVERY TECHNOLOGY IS NEARING COMMERCIAL VIABILITY

The Southern States Energy Board, AMERICAN ENERGY SECURITY: BUILDING A BRIDGE TO ENERGY INDEPENDENCE AND TO A SUSTAINABLE FUTURE, July 2006, p.xxi.

Several large scale oil shale recovery technologies are nearing the commercial stage: surface retorting of mined oil shale feedstocks, and in-situ processing and recovery of oil shale kerogen which is converted to oil. A good analog for U.S. oil shale is the success Alberta, Canada, has had developing its tar sands with new technology. Canada is now second only to Saudi Arabia in proven oil reserves and ninth in the world in annual oil production. This is a direct result of successful development of its tar sands. The driving force has been the Alberta government's decision to help promote and develop this vast alternative liquid fuel resource, and not giving up as methods and technologies were evolved to allow highly profitable oil recovery. Projections in this study indicate that the emerging oil shale technologies can be profitable in the very near-term.

## DEEPWATER DRILLING UNDESIRABLE: ARCTIC SPILLS

### 1. ACCIDENT RISK IN ARCTIC DEEPWATER SITES IS HIGH, WOULD HAVE DEVASTATING EFFECTS

LOS ANGELES TIMES, "Shell Outlines Precautions for Offshore Arctic Drilling," Greenspace Blog, 5-17-10, <http://latimesblogs.latimes.com/greenspace/2010/05/arctic-oil-drilling-shell-response.html>, accessed 8-18-10. Critics continue to insist that there are far too many unanswered questions to proceed with drilling in the frigid, fragile Arctic, home to threatened and endangered polar bears, bowhead whales and countless other wildlife whose survival often hangs by a thread. "When I've been listening to the stories about the Gulf of Mexico, all I can think is that something like this happening in the Arctic would be devastating," said David Barber, chair of Arctic system science at the University of Manitoba. "The Arctic is a sensitive system, and the reason it's sensitive is there aren't a whole lot of alternatives for the organisms that live there. If you really affect one part of it dramatically, they can't go somewhere else to do something differently."

### 2. ARCTIC SPILL CONTAINMENT UNLIKELY -- DIFFICULT CONDITIONS

Kim Murphy and Jim Tankersley, "What if an Oil Spill Happened at an Arctic Well?" LOS ANGELES TIMES, 5-6-10, <http://articles.latimes.com/2010/may/06/nation/la-na-oil-arctic-20100506>, accessed 8-18-10. Unlike the Gulf of Mexico, where offshore drilling is easily accessible to the massive oil industry infrastructure along the coast, the Arctic is a remote region where cleanup crews may be hampered by bone-chilling cold, 24-hour-a-day darkness, 20-foot waves, clouds too low to launch aircraft and waters too shallow to bring in large ships. To drill there, Shell must assemble a small flotilla of oil spill response equipment that will accompany the drilling rig, backed up by teams and equipment stationed 240 miles away at Prudhoe Bay and elsewhere along the North Slope. "Based on my experience, the likelihood of being able to contain and clean up and control a well blowout in the Arctic is slim," said Leslie Pearson, who managed the state of Alaska's oil spill program for six years and who now consults on oil spill issues. "A lot of that is just the location, the lack of infrastructure in that part of Alaska, where the equipment would have to come from to actually get on scene and be mobilized and operational. There really aren't even any ports up in that part of the world." So concerned is the federal National Oceanic and Atmospheric Administration that it advised the federal Minerals Management Service last year to hold off on further oil and gas development off the Alaska coast until more research is done on oil spill risks. Obama heeded those warnings when developing his drilling plan. "The challenges posed by Arctic conditions are greatly understated" in the existing federal documents preparing for leasing on the Arctic shelf, NOAA said.

### 3. ARCTIC SPILLS ARE EVEN WORSE -- SLOW RESPONSE TIMES, POORLY ADAPTED EQUIPMENT

LOS ANGELES TIMES, "Shell Outlines Precautions for Offshore Arctic Drilling," Greenspace Blog, 5-17-10, <http://latimesblogs.latimes.com/greenspace/2010/05/arctic-oil-drilling-shell-response.html>, accessed 8-18-10. But critics insist it's a big unknown. "If a spill were to happen off the coast of the North Slope, maybe 500 miles or so in broken or light ice conditions, it could realistically be days or weeks before anyone could even get to the source of the spill," said Joe Cunningham, research engineer with the NOAA-funded Coastal Response Research Center in New Hampshire. "The other problem is since the Arctic is such a new environment for oil spill operations, we're kind of relying on equipment that was developed for warm water use. There hasn't been a lot of study done on how that same equipment will operate under Arctic conditions." The Pew Environment Group, in an analysis of Shell's oil spill response capability, said important shortfalls remain. "Shell lists a few major response vessels, a few thousand feet of boom and about 30 small work boats that would form the basis of their in-region response," the group said, adding that the main oil spill cleanup industry co-op on the North Slope, Alaska Clean Seas, based about 240 miles away from the Chukchi drilling site in Prudhoe Bay, does not appear to have the necessary equipment to do offshore cleanup. "A major spill would require bringing in boats, trained personnel, boom, skimmers, aircraft and dispersants from all over the U.S. Shell does not specify how or when these resources would be mobilized to the remote Arctic," Pew said.

## DEEPWATER DRILLING UNDESIRABLE: ARCTIC SPILLS cont'd

### 4. ARCTIC SPILL WOULD BE MUCH MORE DIFFICULT TO ADDRESS THAN ONE IN THE GULF

Kim Murphy and Jim Tankersley, "What if an Oil Spill Happened at an Arctic Well?" LOS ANGELES TIMES, 5-6-10, <http://articles.latimes.com/2010/may/06/nation/la-na-oil-arctic-20100506>, accessed 8-18-10.

A coalition of some of the nation's most influential environmental groups launched an 11th-hour challenge Wednesday to halt the next frontier in offshore drilling -- the July start of Shell Offshore Inc.'s plan to drill three exploration wells in the Arctic. The groups -- the Sierra Club, the Wilderness Society and the Natural Resources Defense Council -- appealed to U.S. Interior Secretary Ken Salazar to suspend the drilling plan at least until a cause can be determined for the disastrous blowout in the Gulf of Mexico. They warned that the challenges of coping with an oil rig blowout in remote Arctic waters "would far surpass those related to BP's Deepwater Horizon explosion," which is estimated to be gushing oil into the gulf at a rate of 5,000 barrels a day. They said Shell's emergency plans are weak and there is a lack of sufficient support crews and emergency equipment to respond quickly to a significant oil spill.

### 5. COULD TAKE WEEKS TO EVEN RESPOND TO A SPILL IN THE ARCTIC

Kim Murphy and Jim Tankersley, "What if an Oil Spill Happened at an Arctic Well?" LOS ANGELES TIMES, 5-6-10, <http://articles.latimes.com/2010/may/06/nation/la-na-oil-arctic-20100506>, accessed 8-18-10.

The exploration program is scheduled to take place in the relatively ice-free summer months, but oil spills under icy conditions raise a new level of complexity: how to track and control oil trapped under ice, how to gather oil that is seeping through melting ice, how to move vessels and containment booms through closely clustered ice floes. Cleanup under these conditions could take months, some scientists studying the problem predict, in a harsh, fragile environment where rejuvenation milestones may be measured in decades, not years. "If a spill were to happen off the coast of the North Slope, maybe 500 miles or so in broken or light ice conditions, it could realistically be days or weeks before anyone could even get to the source of the spill," said Joe Cunningham, research engineer with the NOAA-funded Coastal Response Research Center in New Hampshire.

## DEEPWATER DRILLING UNDESIRABLE: ECONOMY/COASTAL COMMUNITIES

### 1. OIL SPILLS HAVE DEVASTATING IMPACTS ON COASTAL COMMUNITIES

NATURAL RESOURCES DEFENSE COUNCIL, "Protecting Our Ocean and Coastal Economies; Avoid Unnecessary Risks from Offshore Drilling," September 2009, [www.nrdc.org/oceans/offshore/files/offshore.pdf](http://www.nrdc.org/oceans/offshore/files/offshore.pdf), accessed 8-23-10.

**Oil Spills Inflict Devastating Economic Losses Upon Coastal Communities** Oil spills exact a serious toll on coastal economies, including our approximately \$35 billion commercial fishing and \$60 billion ocean and coastal tourism and recreation industries. The damage and clean up costs following the Exxon Valdez spill were so extensive that Exxon paid out more than one billion dollars to the federal and state governments for damages and clean up costs -- and still owes fishermen, Alaska Natives, business owners, and others a billion dollars to redress the spill's harm. In another example of economic and environmental damage, a July 2008 accident between a chemical tanker and an oil barge discharged more than 270,000 gallons of fuel oil, closing a huge swath of the Lower Mississippi River to vessel traffic for several days. The Port of New Orleans, located at the center of the world's busiest port complex, was shut down and residents were asked to conserve water when water intakes were closed to prevent contamination of drinking water.

### 2. DRILLING HURTS COASTAL COMMUNITIES -- RELY ON A SAFE ENVIRONMENT

Rachel Cernansky, "Offshore Drilling Bad for Environment, Energy Security, and Job Creation: Oceana," PLANET GREEN, 4-1-10,

<http://planetgreen.discovery.com/work-connect/oceana-offshore-drilling-economy.html>, accessed 8-23-10.

A study by the Political Economy Research Institute at the University of Massachusetts has shown that for every \$1 million of U.S. investment in clean energy technology (including wind, solar, smart grid work and building retrofits to increase energy efficiency), three times more jobs are created than if the same amount were invested in oil and gas. Drilling projects will compromise the economic health of coastal communities, which rely on clean waters and intact ecosystems. Without proper understanding of how drilling will affect the ecosystem -- or the ability to predict the future -- these projects are also seen as risky and, for some of the leases in Alaskan waters, subject to challenge in the Court of Appeals because of a lack of sound science promising the environmental safety of drilling in these areas.

## DEEPWATER DRILLING UNDESIRABLE: ENVIRONMENT/OIL SPILLS

### 1. DEEPWATER HORIZON PROVES THAT SPILLS CAUSE DISASTER -- MASSIVE ENVIRONMENTAL DAMAGE FROM BOTH THE OIL AND THE CLEANUP

Richard Heinberg, Senior Fellow-in-Residence, Post Carbon Institute, "Deepwater Horizon: The Worst-Case, Best-Case, and Most-Likely Scenarios," MUSELETTER n. 218, July 2010, <http://richardheinberg.com/218-deepwater-horizon-the-worst-case-best-case-and-most-likely-scenarios>, accessed 8-19-10.

Reports from the Gulf of Mexico just keep getting worse. Estimates of the rate of oil spillage from the Deepwater Horizon wellhead continue gushing (the latest official number: up to 60,000 barrels per day, with BP now saying the maximum potential leakage rate could be 100,000 b/d). Forecasts for how long it will take before the leak is finally plugged are pluming toward August -- maybe even December. In addition to the oil itself, BP has (in this case deliberately) spilled a million gallons of toxic Corexit dispersant. Biologists' accounts of the devastation being wreaked on fish, birds, amphibians, turtles, coral reefs, and marshes grow more apocalyptic by the day -- especially in view of the fact that the vast majority of animal victims die alone and uncounted. Warnings are now being raised that the natural gas being vented along with the oil will significantly extend the giant dead zones in the Gulf. And guesses as to the ultimate economic toll of this still-unfolding tragedy -- on everything from the tourism and fishing industries of at least five coastal states to the pensioners in Britain whose futures are at risk if BP files for bankruptcy or is taken over by a Chinese oil company -- surge every time an analyst steps back to consider the situation from another angle.

### 2. ENVIRONMENTAL DOWNSIDE RISKS ARE HIGH -- CLEANUP AND RESPONSE CAPABILITIES LACK DRILLING TECHNOLOGY

Toni Johnson, "U.S. Deepwater Drilling's Future," Backgrounder, Council on Foreign Relations, 5-27-10, [www.cfr.org/publication/22204/us\\_deepwater\\_drillings\\_future.html](http://www.cfr.org/publication/22204/us_deepwater_drillings_future.html), accessed 8-17-10.

While the environmental damage caused by the Deepwater Horizon spill is ongoing, it will be hard to quantify because it is so far out in the Gulf. But environmental advocates have long warned about the potential for catastrophic spills from offshore drilling and consider deepwater drilling safety assurances particularly weak. And while the extraction technology that makes deepwater projects possible is state of the art, cleanup technologies lag decades behind. David Pettit, a lawyer with the environmental group National Resources Defense Council, says the booms, hay bales, and dispersants being used on the 2010 spill are the same methods used to clean up the Santa Barbara oil spill of 1969. "This is a huge and costly experiment to see what will happen in the Gulf," Pettit said.

### 3. REGULATORY FAILURE BY THE GOVERNMENT EXACERBATES THE IMPACT OF ACCIDENTS

Toni Johnson, "U.S. Deepwater Drilling's Future," Backgrounder, Council on Foreign Relations, 5-27-10, [www.cfr.org/publication/22204/us\\_deepwater\\_drillings\\_future.html](http://www.cfr.org/publication/22204/us_deepwater_drillings_future.html), accessed 8-17-10.

The United States has a number of environmental laws to ensure the safety of drilling operations. However, according to reports, the MMS, in charge of regulating oil and gas leasing, has failed to follow through on many of those regulations. The agency has also been criticized for grossly underestimating the dangers of spills from deepwater drilling in its own environmental reviews and for failing to ensure that safety equipment worked properly. The 2010 spill outstripped a 2007 MMS worst-case scenario estimate in the first day alone, Pettit said. Some environmental advocates are also raising concerns about BP's Atlantis project in the Gulf, which -- at depths of more than seven thousand feet -- is one of the deepest offshore drilling operations in the world. In a 2009 letter to the MMS, advocates sounded an alarm, arguing the project posed potentially immediate and "catastrophic harm" PDF to the water of the Gulf and its marine life. One Texas-based environmental group is warning that Atlantis has the "same safety deficiencies" (Texas Tribune) as Deepwater Horizon.

## DEEPWATER DRILLING UNDESIRABLE: ENVIRONMENT/OIL SPILLS cont'd

### 4. OIL SPILLS HAVE LINGERING, LONG-TERM ENVIRONMENTAL EFFECTS

NATURAL RESOURCES DEFENSE COUNCIL, "Protecting Our Ocean and Coastal Economies; Avoid Unnecessary Risks from Offshore Drilling," September 2009, [www.nrdc.org/oceans/offshore/files/offshore.pdf](http://www.nrdc.org/oceans/offshore/files/offshore.pdf), accessed 8-23-10.

Oil Spills Have Lasting Ecological Impacts According to the National Academy of Sciences, current cleanup methods can only remove a small fraction of the oil spilled into the ocean, leaving the remaining oil to continue affecting ocean ecosystems over time. Scientists investigating the long-term impacts of the Exxon Valdez spill estimate that nearly 20,000 gallons of oil from that spill remain in Prince William Sound, continuing to harm threatened and endangered species and undermine their recovery. Marine mammals, sea birds, fish, shellfish, and other sea life are extremely vulnerable to oil pollution and the long-term toxic effects can impair reproductive success for generations. Studies have shown that tiny amounts of oil -- as little as one part per billion -- can harm pink salmon and cause their eggs to fail.

### 5. OFFSHORE DRILLING RISKS PERMANENT DAMAGE TO THE ENVIRONMENT

NATURAL RESOURCES DEFENSE COUNCIL, "Protecting Our Ocean and Coastal Economies; Avoid Unnecessary Risks from Offshore Drilling," September 2009, [www.nrdc.org/oceans/offshore/files/offshore.pdf](http://www.nrdc.org/oceans/offshore/files/offshore.pdf), accessed 8-23-10.

Healthy oceans are critically important to marine life and to coastal communities whose economies rely on tourism and fishing. Opening up new offshore areas to drilling risks permanent damage to our oceans and beaches without reducing our dependence on oil. When oil spills occur they can bring catastrophic harm to marine life and devastating losses for local businesses. Even routine exploration and drilling activities bring harm to many marine species. The Administration and Congress must work together to assess the environmental impacts of offshore drilling before making key decisions about offshore oil and gas activities in new areas or Alaska.

### 6. OIL SPILLS SPREAD ACROSS VAST DISTANCES

NATURAL RESOURCES DEFENSE COUNCIL, "Protecting Our Ocean and Coastal Economies; Avoid Unnecessary Risks from Offshore Drilling," September 2009, [www.nrdc.org/oceans/offshore/files/offshore.pdf](http://www.nrdc.org/oceans/offshore/files/offshore.pdf), accessed 8-23-10.

Offshore Drilling Poses Serious Environmental Risks Expanded offshore drilling poses the risk of oil spills ruining our beaches from Florida to Maine and along the Pacific Coast, bringing harm to those who live, work, and vacation along the coasts, as well as harming habitats critical to plants and animals. Oil spills can quickly traverse vast distances. For example, when powered by the Gulf of Mexico's Loop Current, an oil spill in the eastern Gulf of Mexico could affect Florida's Panhandle beaches and even travel around the Florida Keys to wreak havoc on estuaries and beaches from the Everglades to Cape Canaveral. Contamination from the massive 1989 Exxon Valdez oil spill reached shorelines nearly 600 miles away; if the spill had occurred on the East Coast, it would have extended from Massachusetts to North Carolina. In September 2008, Hurricane Ike destroyed oil platforms, tanks, and pipelines throughout the Gulf of Mexico, releasing at least a half-million gallons of crude oil. During Hurricanes Katrina and Rita there were 125 spills from platforms, rigs, and pipelines on the ocean's Outer Continental Shelf, releasing almost 685,000 gallons of petroleum products. Worse yet, if you include the land-based infrastructure that supports offshore drilling, the damage from these two hurricanes includes 595 spills releasing millions of gallons of oil.

## DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO: "DRILLING IS SAFE"

### 1. DEEPWATER HORIZON PROVES THAT A CONTAINMENT FAILURE COULD CAUSE A SPILL THAT LASTS FOR DECADES

Richard Heinberg, Senior Fellow-in-Residence, Post Carbon Institute, "Deepwater Horizon: The Worst-Case, Best-Case, and Most-Likely Scenarios," MUSELETTER n. 218, July 2010, <http://richardheinberg.com/218-deepwater-horizon-the-worst-case-best-case-and-most-likely-scenarios>, accessed 8-19-10.

For weeks various petroleum engineers and geologists working on the sidelines have speculated that the problems with Deepwater Horizon may go deep -- that the steel well casing, and the cement that seals and supports that casing against the surrounding rock, may have been seriously breached far beneath the seabed. If that is true, then escaping oil mixed with sand could be eroding what's left of the well casing and cement, pushing out through the cracks and destabilizing the ground around the casing. According to Lisa Margonelli in *The Atlantic*, "There is the possibility that as the ground and the casing shift, the whole thing collapses inward, the giant Blow Out Preventer falls over, the drill pipe shoots out of the remains of the well, or any number of other scenarios," that could make it virtually impossible ever to cap the well or even to plug it at depth via relief wells. Read, for example, this comment at [www.TheOilDrum.com](http://www.TheOilDrum.com), a site frequented by oil industry technical insiders who often post anonymously. The author of the comment, "dougr," argues fairly persuasively that disintegration of the sub-surface casing and cement is the best explanation for the recent failure of "top kill" efforts to stop the oil flow by forcibly injecting mud into the wellhead. Concerns about the integrity of the sub-seabed well casing appear also to be motivating some seriously doomerish recent public statements from Matt Simmons, the energy investment banker who decided to go rogue a couple of years ago following the publication of his controversial Peak Oil book *Twilight in the Desert*. Simmons says, for example, that "it could be 24 years before the deepwater gusher ends," a forecast that makes little sense if one accepts the conventional view of what's wrong with Deepwater Horizon and how long it will take to plug it with relief wells.

### 2. TRANSPORTING THE OIL IS EVEN MORE DANGEROUS THAN DRILLING, PLUS WE CAN EXPECT MASSIVE SPILLS THAT CAUSE MASSIVE ENVIRONMENTAL AND ECONOMIC LOSSES

Jill Connors, "Offshore Drilling: Is Energy Worth the Ecological Disaster of Oil Spills," TREEHUGGER, 2-18-09, updated 6-10, [www.treehugger.com/files/2009/02/offshore-drilling-oil-false-hope.php](http://www.treehugger.com/files/2009/02/offshore-drilling-oil-false-hope.php), accessed 8-23-10.

With the BP oil spill forcing the worst of the environmental risk associated with offshore drilling to the fore, let's take a step back for a second and examine some of the less flashy aspects of the potential problems. Recent research suggests that transporting the oil poses greater threats than the drilling process itself. In Louisiana, the 10,000 miles of canals dug to transport oil and lay pipelines contribute to coastal erosion because the canals crisscross the state's coastal wetlands. While technology improvements have lessened the occurrence of oil spills in the last 40 years, the Mineral Management Service a bureau in the U.S. Department of the Interior that manages the nation's natural gas, oil and other mineral resources on the outer continental shelf, projects about one oil spill per year of at least 1,000 barrels in the Gulf of Mexico over the next 40 years. Every three to four years, it says, a spill of at least 10,000 barrels can be expected. As the BP spill illustrates, these spills could potentially hit the beaches of western Florida, Alabama, and Texas. In Louisiana, it's not just beaches, but wetlands that can be affected -- destroying critical wildlife habitat, hurting tourism and ruining the livelihoods of fishermen throughout the region. Additionally, out to sea the impact on wildlife is dramatic. Beyond killing adult animals, the spawning grounds of endangered bluefin tuna and other iconic species is contaminated. The BP oil spill is unprecedented in scale in the United States, and recent simulations show that once a spill reaches this size it can be picked up by ocean currents and be dragged far away from the initial spill area. In the Gulf of Mexico, should a spill get into the Loop Current it can easily be taken all the way to Florida, through the Florida Keys (impacting Cuba and other Caribbean islands in the process), up the East Coast as far as North Carolina and then out into the Atlantic.

**DEEPWATER DRILLING UNDESIRABLE:  
ANSWERS TO: "DRILLING IS SAFE" cont'd**

3. DRILLING ITSELF CAUSES SIGNIFICANT AMOUNTS OF ENVIRONMENTAL POLLUTION

NATURAL RESOURCES DEFENSE COUNCIL, "Protecting Our Ocean and Coastal Economies; Avoid Unnecessary Risks from Offshore Drilling," September 2009, [www.nrdc.org/oceans/offshore/files/offshore.pdf](http://www.nrdc.org/oceans/offshore/files/offshore.pdf), accessed 8-23-10.

Spills Aside, Drilling Operations are a Major Source of Pollution In addition to environmental damage from oil spills, the routine operations associated with offshore drilling produce many toxic wastes and other forms of pollution. For example, each drill well generates tens of thousands of gallons of waste drilling muds (materials used to lubricate drill bits and maintain pressure) and cuttings. Drilling muds contain toxic metals such as mercury, lead, and cadmium that may bioaccumulate and biomagnify in marine organisms, including in our seafood supply. The water that is brought up from a given well along with oil and gas, referred to as "produced water," contains its own toxic brew of benzene, arsenic, lead, toluene, and varying amounts of radioactive pollutants. Each oil platform can discharge hundreds of thousands of gallons of this produced water daily, contaminating both local waters and those down current from the discharge. An average oil and gas exploration well spews roughly 50 tons of nitrogen oxides, 13 tons of carbon monoxide, 6 tons of sulfur oxides, and 5 tons of volatile organic chemicals.

## DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO: "HIGH OIL PRICES"

### 1. HIGH PRICES ARE GOOD -- ENCOURAGE EXPLORATION, WHICH IS KEY TO FUTURE SUPPLIES

Jad Mouawad, "Oil Industry Sets a Brisk Pace of New Discoveries," NEW YORK TIMES, 9-23-09, [www.nytimes.com/2009/09/24/business/energy-environment/24oil.html](http://www.nytimes.com/2009/09/24/business/energy-environment/24oil.html), accessed 8-23-10.

It is not just oil that is benefiting from the exploration boom. Repsol, Spain's biggest oil company, said this month that it had discovered what could turn out to be Venezuela's biggest natural gas field. In recent years, companies have found substantial natural gas reserves in the United States, from shale rocks once believed to be impossible to drill. "The No. 1 question that exploration teams have right now is, Where do we go next?" said Robert Fryklund, who ran the operations of ConocoPhillips in Libya and Brazil, and is a vice president in Houston at Cambridge Energy Research Associates. Exploration spending swelled in recent years, partly to offset a doubling of costs throughout the industry -- from steel prices to the cost of renting deepwater drilling rigs. A big issue confronting the industry now is how to drive down costs while maintaining a high level of exploration. On average, costs have fallen by 15 to 20 percent from their peak, according to petroleum executives. Exploration remains a risky, and costly, business, where some deepwater wells can cost up to \$100 million. From 30 to 50 percent of exploration wells find oil. Some executives are also worried the world might face a shortfall in supplies in coming years if another decline in oil prices causes exploration to falter. The chief executive of the French oil giant Total, Christophe de Margerie, has warned that such a supply crunch is possible by the middle of the next decade. "There could be a shortage of capacity," he said.

### 2. LOW OIL PRICES THREATEN SUPPLY -- SLOW OPEC PRODUCTION EXPANSION

Jad Mouawad, "Oil Industry Sets a Brisk Pace of New Discoveries," NEW YORK TIMES, 9-23-09, [www.nytimes.com/2009/09/24/business/energy-environment/24oil.html](http://www.nytimes.com/2009/09/24/business/energy-environment/24oil.html), accessed 8-23-10.

His concerns echoed those of Abdullah al-Badri, the secretary general of the Organization of the Petroleum Exporting Countries, who said that lower oil prices also threatened investments by OPEC nations. Saudi Arabia is also unlikely to expand its production in coming years because of the uncertainty clouding future oil demand, Ali al-Naimi, the kingdom's oil minister, signaled earlier this month. Saudi Arabia is just completing a \$100 billion program to increase its capacity to 12.5 million barrels a day, from around 9 million barrels a day just a few years ago.

**DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO:  
"INDUSTRY CAN RESPOND TO SPILLS"**

- OIL INDUSTRY CANNOT DEAL WITH A MAJOR SPILL -- DEEPWATER HORIZON RESPONSE PROVES

Regan Nelson, Natural Resources Defense Council, "Shallow-Water Drilling is Dangerous, Too," Switchboard Blog, 6-2-10, [http://switchboard.nrdc.org/blogs/rnelson/shallow-water\\_drilling\\_is\\_dang.html](http://switchboard.nrdc.org/blogs/rnelson/shallow-water_drilling_is_dang.html), accessed 8-17-10.

#3) The industry clearly does not have adequate containment and clean-up capabilities. As anyone watching the news recently can tell you, the oil industry does not have the ability to contain a major spill. Despite having two weeks of lead time to prepare for oil from the Deepwater Horizon well to hit shore, the industry failed to protect the country's most fragile marshlands and valuable beaches. Boom is ineffective. It needs constant maintenance to ensure it doesn't wash ashore, lose air or break apart. And that's in ideal weather conditions. Add some wind and waves, and the booms lose all ability to stop or contain oil. Furthermore, how are booms sitting on top of the water supposed to stop oil that has been dispersed into the water column? They can't. Burning and skimming are equally problematic in that these techniques only clean-up a tiny fraction of the oil, and that's just the oil on the surface of the water. They do nothing for the giant oil plumes found underwater. And we've all watched in dismay as top-kill, junk-shot, top-hat and other shoot-from-the-hip techniques fail to plug the oil gusher. The worst part of it is these shoddy efforts are considered "proven techniques" that multiple oil companies have cited when they gained approval to drill.

## DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO: "OIL DEPENDENCE"

### 1. DRILLING WILL HAVE ZERO IMPACT ON ENERGY SECURITY, TAKES FOREVER

GREENPEACE, "Offshore Drilling -- It's NOT the Answer to High Gas Prices at the Pump," 8-4-08, [www.greenpeace.org/usa/en/news-and-blogs/news/offshore-drilling-it-s-not-t/](http://www.greenpeace.org/usa/en/news-and-blogs/news/offshore-drilling-it-s-not-t/), accessed 8-23-10.

The United States burns 24 percent of the world's oil, yet we only have 3 percent of the world's oil reserves. Even if we drilled every drop of oil the U.S. has on shore or off its coasts, we will never be able to drill our way to lower oil prices or energy security. We simply burn more than we could ever drill. Offshore oil drilling is not a short-term fix. It would take at least a decade to bring new leases into production. And, it will be years before exploration could begin and years after that before production would start. If any effect were to be felt on gas prices (most likely only a few pennies per gallon), that effect is decades away. Offering up more of our coastline for drilling won't lower gas prices. Since President Bush took office in 2000, the number of wells in federally leased areas has increased exponentially, yet gas prices have doubled during that same time. Yet, this type of evidence is never mentioned in the media or by proponents for offshore drilling. Another reason that drilling for more oil in the U.S. won't result in lower gas prices is because oil prices are set on the global oil market. What this means is that all oil produced around the world is sold all at the same price. There is no guarantee that we would even be using the oil that was drilled here in the U.S. And, we certainly wouldn't get a discount just because we drilled for it on U.S. soil. We would pay the same rate as the rest of the world.

### 2. DEEPWATER SITES IN THE GULF CAN ONLY PRODUCE A FRACTION OF U.S. DOMESTIC OIL NEEDS

Christine Woodside, "Deepwater Oil Drilling: Not that New, but not that Much Known Either," YALW FORUM ON CLIMATE CHANGE & THE MEDIA, 7-8-10, [www.yaleclimatemediaforum.org/2010/07/deepwater-oil-drilling/](http://www.yaleclimatemediaforum.org/2010/07/deepwater-oil-drilling/), accessed 8-17-10.

Forecasts for deepwater drilling in the Gulf by Cambridge Energy Research Associates a few years ago predicted that these new sources deep below the sea would produce 800,000 barrels of oil a day by 2013, or about 11 percent of U.S. oil production. Recent statistics from the U.S. Energy Information Administration report that offshore federal waters in the Gulf produce 1.28 million barrels a day, or about 25 percent of the declining U.S. production total. Prudhoe Bay in Alaska produced 1.5 million barrels a day at its peak, and this, too, served only to slow down the decline of oil production in the U.S. that began in the early 1970s.

### 3. OIL DEPENDENCE IS INEVITABLE OVER AT LEAST THE NEXT 20 YEARS

John Deutch and James R. Schlesinger, Chairs, NATIONAL SECURITY CONSEQUENCES OF U.S. OIL DEPENDENCY, Independent Task Force Report n. 58, Council on Foreign Relations, 2006, p.4.

This report concentrates on the next twenty years, a period long enough to put necessary policy measures into place but not so distant as to encounter a wider range of future geopolitical or technological uncertainties. During this next twenty years (and quite probably beyond), it is infeasible to eliminate the nation's dependence on foreign energy sources. The voices that espouse "energy independence" are doing the nation a disservice by focusing on a goal that is unachievable over the foreseeable future and that encourages the adoption of inefficient and counterproductive policies. Indeed, during the next two decades, it is unlikely that the United States will be able to make a sharp reduction in its dependence on imports, which currently stand at 60 percent of consumption. The central task for the next two decades must be to manage the consequences of dependence on oil, not to pretend the United States can eliminate it.

## DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO: "OIL DEPENDENCE" cont'd

### 4. DEEPWATER FINDS WON'T BE EXPLOITED QUICKLY, WON'T MAKE MUCH OF A DENT ON SHORT-TERM ENERGY DEPENDENCE

Clifford Krauss, "Big Oil Find Is Reported Deep in Gulf," NEW YORK TIMES, 9-6-06, [www.nytimes.com/2006/09/06/business/worldbusiness/06oil.html?ex=1315195200&en=aadad2b19fb28e40&ei=5090&partner=rssuserland&emc=rss](http://www.nytimes.com/2006/09/06/business/worldbusiness/06oil.html?ex=1315195200&en=aadad2b19fb28e40&ei=5090&partner=rssuserland&emc=rss), accessed 8-20-10.

The analysts cautioned that there was little likelihood the report would give drivers much relief at the pump because full production might not come on line for five years or more. By itself, it also appears that the discovery could make little more than a dent in the country's energy dependence. And given that the United States uses 20.5 million barrels of crude oil a day, the new areas at most hold supplies that would quench the nation's oil thirst for two years. In addition, there is a shortage of rigs able to drill in deep water, another constraint in exploiting the find quickly.

### 5. DEEPWATER DRILLING WON'T SOLVE OIL DEPENDENCE -- IS AT BEST A STOP GAP MEASURE

Christine Woodside, "Deepwater Oil Drilling: Not that New, but not that Much Known Either," YALW FORUM ON CLIMATE CHANGE & THE MEDIA, 7-8-10, [www.yaleclimatemediaforum.org/2010/07/deepwater-oil-drilling/](http://www.yaleclimatemediaforum.org/2010/07/deepwater-oil-drilling/), accessed 8-17-10.

But beyond the tragedy and chaos of the spill, what hasn't received much attention is its chilling reminder that, at its best, deepwater oil and natural gas drilling is essentially a stopgap in the United States' finite domestic oil production, and one that does nothing to further goals of moving toward a low-carbon economy. It's also expensive and energy intensive, of course, to develop deep wells. The U.S. produces only 8 percent of the oil it uses, and it uses 25 percent of the world's oil. The U.S. was the world's fastest growing oil producer in 2009 (according to BP's Statistical Review of World Energy) and the U.S. waters of the Gulf accounted for almost 30 percent of the country's total. But even the most optimistic moments in deepwater drilling's infant history illustrate that the best hopes for deepwater drilling in the Gulf are that it will stabilize declining oil production.

### 6. OPEC CONTROL OVER THE GLOBAL OIL MARKET IS INEVITABLE IN THE NEAR-TERM FUTURE

John Deutch and James R. Schlesinger, Chairs, NATIONAL SECURITY CONSEQUENCES OF U.S. OIL DEPENDENCY, Independent Task Force Report n. 58, Council on Foreign Relations, 2006, p.16.

At times, oil prices also reflect the actions of the oil cartel OPEC. During times that the OPEC nations have held large amounts of extra capacity available for production, OPEC has been able to approximately stabilize the oil price, keeping it from dropping to the very low level that would reflect true market competition. This has been accomplished by an imperfectly observed agreement among the OPEC members to limit their production of crude oil and possibly through limitations on investments in oil production capacity. At times like now when there is very little extra capacity, the OPEC cartel has little or no ability to keep prices from rising. The potential market power of OPEC will not decline in future years, partly because the market share of oil production by OPEC is not expected to decline.

### 7. DRILLING SIMPLY WILL NOT ADDRESS OUR ENERGY CRISIS

CENTER FOR AMERICAN PROGRESS, "Ten Reasons Not to expand Offshore Drilling," 9-15-08, [www.americanprogress.org/issues/2008/09/10\\_reasons.html](http://www.americanprogress.org/issues/2008/09/10_reasons.html), accessed 8-23-10.

We can't drill our way out of the energy crisis. According to a report by the House Committee on Natural Resources Majority Staff: "Between 1999 and 2007, the number of drilling permits issued for development of public lands increased by more than 361 percent, yet gasoline prices have also risen dramatically, contradicting the argument that more drilling means lower gasoline prices. There is simply no correlation between the two."

## DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO: "OIL DEPENDENCE" cont'd

### 8. DRILLING WILL NOT MAKE A DENT IN U.S. OIL NEEDS

CENTER FOR AMERICAN PROGRESS, "Ten Reasons Not to expand Offshore Drilling," 9-15-08, [www.americanprogress.org/issues/2008/09/10\\_reasons.html](http://www.americanprogress.org/issues/2008/09/10_reasons.html), accessed 8-23-10.

We don't have enough oil to meet our demand. The U.S. oil supply-demand balance is insurmountable. We have less than 2 percent of the world's known reserves, yet use 25 percent of its oil. Even if we drilled off of every beach, and inside every national park, refuge, and forest, we could not produce enough oil to offset our growing demand. 3. Oil companies have not utilized the leases they have now. Why open up new areas to drilling when oil companies hold over 4,000 undeveloped leases in the western Gulf of Mexico? What's more, the government already leases 44 million acres offshore, of which only 10.5 million -- or one quarter -- are producing oil or gas.

### 9. DRILLING CANNOT ACHIEVE ENERGY INDEPENDENCE

UNION OF CONCERNED SCIENTISTS, "Offshore Drilling Plan Fails to Deliver Energy Security," 3-31-10, [www.ucsusa.org/news/press\\_release/offshore-drilling-plan-fails-0366.html](http://www.ucsusa.org/news/press_release/offshore-drilling-plan-fails-0366.html), accessed 8-23-10.

The United States Can Not Drill Its Way to Energy Independence: The United States consumes nearly 25 percent of the world's oil, but holds less than 3 percent of the world's proven reserves. There is not sufficient domestic supply to meet U.S. demand. The only solution to cutting U.S. oil dependence is to decrease consumption through improved energy efficiency and expanding the use of domestic low-carbon alternative fuels.

### 10. DEEPWATER DRILLING HAS NO GUARANTEES -- ENORMOUSLY EXPENSIVE, MAY NOT TURN UP OIL

Robert Bryce, senior fellow, Manhattan Institute, "Risky Business," ENERGY TRIBUNE, 4-23-10, [www.manhattan-institute.org/html/miarticle.htm?id=6439](http://www.manhattan-institute.org/html/miarticle.htm?id=6439), accessed 8-25-10.

Geologic risk Companies are betting huge sums of money that the geologic zone they are targeting will contain commercial quantities of oil and gas. But to assure commerciality, the geologic zone must have the right porosity and permeability. In 2006, Chevron, Devon Energy and Norway's Statoil ASA announced a major discovery with a well called the Jack No. 2. The three companies found a huge field in the deepwater of the Gulf of Mexico, about 270 miles southwest of New Orleans. The Jack well, drilled in 7,000 feet of water, to a depth of more than 20,000 feet below the sea floor, found a major field in a geological area called the lower tertiary trend. That formation may hold up to 15 billion barrels of oil, an amount that could boost America's reserves by 50 percent. The three companies took major geologic risk by targeting the lower tertiary, but they were proved right. The cost of being proved right? The Jack well cost more than \$100 million.

### 11. THE U.S. HAS BEEN AN IMPORTER FOR ALMOST A HUNDRED YEARS WITH NO EFFECT

Robert Bryce, energy analyst, "The Impossible Dream of Energy Independence," interviewed by Brian Doherty, REASON ONLINE, 2-20-08, [www.reason.com/news/show/125027.html](http://www.reason.com/news/show/125027.html), accessed 8-16-10.

While "energy independence" has soared to fresh public prominence in this era of soaring gas prices and Mideast wars, it's not a new idea, is it? Robert Bryce: The first president to promote the idea was [Richard] Nixon in the wake of the oil embargo in 1973. In his State of the Union address in 1974, Nixon said that he was aiming for energy independence by the end of the decade. He hoped that by 1980 the U.S. would not be importing any oil. And every president since Nixon, in one way or another, has espoused a similar idea. But if you look back at the data, the U.S. was a net crude oil importer [as early as] 1913 and ever since we've been a net crude importer with a handful of years [as exceptions]. It's remarkable how much the rhetoric about "energy independence" has had no connection with reality.

## DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO: "OIL DEPENDENCE" cont'd

12. EVEN A MASSIVE SUPPLY SHOCK WOULD ONLY HAVE MILD ECONOMIC EFFECTS, FOLLOWED BY EFFICIENCY GAINS AND A CRASH IN OIL PRICES

Jerry Taylor and Peter Van Doren, Cato Institute, "The Energy Security Obsession," LINES: THE ITALIAN JOURNAL OF GEOPOLITICS, 11-23-07, [www.cato.org/pubs/articles/energy-security.pdf](http://www.cato.org/pubs/articles/energy-security.pdf), accessed 8-16-10. Regardless, the departure of Saudi Arabia from world crude oil market would probably have about the same effect on domestic oil prices as the departure of Iran from world crude oil markets in 1978. The Iranian revolution reduced oil production by 8.9 percent, whereas Saudi Arabia accounts for about 13 percent of global oil production today. Oil prices increased dramatically after the 1978 revolution, but those higher prices set in motion market supply and demand responses that undermined the supply reduction and collapsed world prices eight years later. The short term macroeconomic impacts of such a supply disruption would actually be less today than they were then given the absence of price controls on the U.S. economy and our reduced reliance on oil as an input for each unit of GDP.

13. ENERGY INDEPENDENCE WON'T AFFECT TERRORISM -- WE BUY OUR OIL FROM OTHER SOURCES, IS SO CHEAP THAT OIL REVENUES ARE NOT NECESSARY

Robert Bryce, fellow at the Institute for Energy Research, "5 Myths About Breaking Our Foreign Oil Habit," WASHINGTON POST, 1-13-08, p.B3.

Energy independence will reduce or eliminate terrorism. In a speech last year, former CIA director R. James Woolsey Jr. had some advice for American motorists: "The next time you pull into a gas station to fill your car with gas, bend down a little and take a glance in the side-door mirror. What you will see is a contributor to terrorism against the United States." Woolsey is known as a conservative, but plenty of liberals have also eagerly adopted the mantra that America's foreign oil purchases are funding terrorism. But the hype doesn't match reality. Remember, the two largest suppliers of crude to the U.S. market are Canada and Mexico -- neither exactly known as a belligerent terrorist haven. Moreover, terrorism is an ancient tactic that predates the oil era. It does not depend on petrodollars. And even small amounts of money can underwrite spectacular plots; as the 9/11 Commission Report noted, "The 9/11 plotters eventually spent somewhere between \$400,000 and \$500,000 to plan and conduct their attack." G.I. Wilson, a retired Marine Corps colonel who has fought in Iraq and written extensively on terrorism and asymmetric warfare, calls the conflation of oil and terrorism a "contrivance." Support for terrorism "doesn't come from oil," he says. "It comes from drugs, crime, human trafficking and the weapons trade."

14. OFFSHORE DRILLING WILL NOT DECREASE U.S. ENERGY DEPENDENCE

Jill Connors, "Offshore Drilling: Is Energy Worth the Ecological Disaster of Oil Spills," TREEHUGGER, 2-18-09, updated 6-10, [www.treehugger.com/files/2009/02/offshore-drilling-oil-false-hope.php](http://www.treehugger.com/files/2009/02/offshore-drilling-oil-false-hope.php), accessed 8-23-10.

Political posturing notwithstanding, offshore drilling will not eliminate US demand for foreign oil or really even make significant strides into reducing that dependency. At current consumption, the US uses about 8 billion barrels of oil per year; conventionally recoverable oil from offshore drilling is thought to be 18 billion barrels total, not per year. What's more, offshore oil drilling will not guarantee lower fuel prices -- oil is a global commodity, and US production is not big enough to influence global prices.

## DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO: "OIL PRICES"

### 1. HIGH OIL PRICES ARE GOOD -- FORCE US TO CHANGE BEHAVIOR TOWARDS A MORE SUSTAINABLE PATH

Matthew Lynn, journalist, "Commodities, Oil Bubbles Are Reason to Celebrate," CALGARY HERALD, 5-30-08, p.E2.

Prices of oil, commodities and food have exploded in recent months. Although there are some solid foundations to that, the boom has now turned into a bubble. Prices are starting to race far ahead of anything that can be justified by the fundamentals of supply and demand. Predictably, that is creating a backlash against the financial markets that are pushing prices up. We should all leave the speculators alone. The world needs a massive change in the way it uses raw materials. Politicians are too timid to bring that about. The markets are doing the job for them, and if it takes a bubble to change people's energy consumption, then so be it. Oil now costs more than \$130 US a barrel. Nobody expects the price to come down fast anytime soon. Instead, it may go higher.

Goldman Sachs Group Inc. analyst Arjun Murti has said the price may reach \$200. So has Svein Rennemo, the chairman of Norway's StatoilHydro ASA, according to the Finansavisen newspaper. After the increase over the past three years, it would be a brave investor who bets against \$200 oil. What is true of oil is true of many other basic commodities. Copper and iron have soared in the past few years. Wheat, corn, rice and soybeans all peaked this year: at one point, rice was a record \$25.07 for 100 pounds (45 kilograms). That has sparked riots from Haiti to Egypt. Some people may go hungry. Not surprisingly, that has triggered action against speculators. This month, India expanded its ban on trading of food futures, including soybean oil, potatoes and chick peas, in an attempt to curb price increases. In the United States, Joseph Lieberman, chairman of the Senate homeland security and government affairs committee, has said legislation may have to be passed to limit big investors taking positions in commodities. Plenty of Germans would like to do something similar. "The biggest cause of the soaring food prices is the financial speculators, and in this case they truly are locusts," Gerd Sonnleitner, the president of the German farmers association, said this month. "The locusts don't care about rice or milk or people. They only care about the fluctuations in the market." In one sense they are right. The "locusts" -- shorthand for hedge funds -- have been at work. As OPEC secretary general Abdalla el-Badri pointed out this month, speculators are playing an "important role" in surging oil prices. The same is true of commodities and food. Yet they are wrong in thinking it's a bad thing. Here's why. First, oil production needs to expand. The International Energy Agency estimates global oil consumption will rise to 98.5 million barrels a day by 2015 from 84.6 million in 2006. By 2030, it will be up to 116.3 million. To get that out of the ground and into the pumps is going to involve more exploration, production, refining and distribution. There is only one way that scale of investment will be mobilized: by causing a price increase that starts a buying frenzy in oil assets. Next, the developed world has to start making itself more fuel-efficient. If China and India begin using as much oil as Europe and the U.S., we won't just need more supply -- we'll need lower consumption in rich countries. And if we are to combat climate change, we'll need to cut our pollution as well. To make that happen, behaviour must change. That means gas-guzzling sport utility vehicles will have to be replaced with hybrids. High-speed trains should take over from planes as the standard way of covering distances of up to about 1,500 kilometres. Our houses have to be redesigned to use less energy, and more of it should come from solar and wind power. All of that is expensive and hard work. Politicians are too nervous to impose the taxes to bring that about. With oil at \$50 or \$100 a barrel it wouldn't happen. At \$200 a barrel, the only place we'll be driving an SUV is to the scrap-metal merchant. Lastly, agricultural policies need to change. Again, if India and China are to become as wealthy as Europe and the U.S., the world will need a lot more food. That means modifying the way we run agriculture, which, in Europe at least, has been more about preserving farming jobs, and caring for the landscape, than maximizing output. Countries such as Germany with lots of fertile land and falling populations should be turning themselves into major food exporters. But, again, it's not going to happen unless a massive price increase forces it. It always takes a big shock to the system to change behaviour. That is just what the speculative bubble in commodity prices is delivering. It may not be pretty, or comfortable, but it is the market doing the job -- which is why we should celebrate the bubble, and not condemn it.

## DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO: "OIL PRICES" cont'd

### 2. OFFSHORE DRILLING WON'T IMPACT OIL PRICES

NATURAL RESOURCES DEFENSE COUNCIL, "Protecting Our Ocean and Coastal Economies; Avoid Unnecessary Risks from Offshore Drilling," September 2009, [www.nrdc.org/oceans/offshore/files/offshore.pdf](http://www.nrdc.org/oceans/offshore/files/offshore.pdf), accessed 8-23-10.

Increased Offshore Drilling Will Not Lower the Price of Oil According to the Department of Energy's Energy Information Administration, drilling in areas previously closed to oil and gas drilling by Presidential and Congressional actions "would not have a significant impact on domestic crude oil and natural gas production before 2030 [the end of the analysis period]." Even then, "Because oil prices are determined on the international market, any impact on average wellhead prices is expected to be insignificant."

### 3. U.S. ECONOMY CAN WEATHER \$4 GALLON GASOLINE

Tom Johnson, journalist, "Analysts See No End to Oil's Record Rise," THE STAR-LEDGER, 3-16-08, p.1. Eric DeGesero, executive director of the New Jersey Fuel Merchants Association, said the higher diesel prices are being felt by consumers. "In the last six weeks, the price of pizza, bagels and the price of everything else is going up, and it's because it is costing more to ship those goods," he said. Still, even at \$4 per gallon, Chorn said the U.S. economy can weather high gas prices. "It's not a doomsday scenario," he said, adding it may, however, encourage people to get rid of their gas-guzzling SUVs in exchange for more fuel-efficient vehicles.

### 4. EXPANDING DRILLING WILL NOT IMPACT GAS PRICES

GREENPEACE, "Offshore Drilling -- It's NOT the Answer to High Gas Prices at the Pump," 8-4-08, [www.greenpeace.org/usa/en/news-and-blogs/news/offshore-drilling-it-s-not-t/](http://www.greenpeace.org/usa/en/news-and-blogs/news/offshore-drilling-it-s-not-t/), accessed 8-23-10.

Record high gas prices have been making the news headlines for the past few months. Each week gas prices top the previous week, resulting in a new all-time high. Unless you are fortunate enough to live, work and play within walking distance from your home, you have been affected by these high gas prices like the rest of the nation. While the public continues to be outraged about gas prices, some politicians (McCain, Bush, and Gingrich) are taking advantage of the dire situation by organizing a push to drill for oil along our coastlines and lift a 27-year moratorium. But, if you scratch below the surface of their "drill now pay less" rhetoric, you'll learn that the only people who stand to benefit from offshore oil drilling would be their friends in big oil. Exxon Mobil and the other oil major oil companies are already bringing in record profits due to high gas prices, more drilling would mean they'd make even more money, while the public would not see any change in gas prices.

### 5. OFFSHORE DRILLING WON'T MAKE A DENT IN U.S. ENERGY DEMAND

Matthew McDermott, "Offshore Oil Drilling Will Still Not Lower Gasoline Prices," TREEHUGGER, 8-4-08, [www.treehugger.com/files/2008/08/obama-willing-to-compromise-offshore-oil-drilling.php](http://www.treehugger.com/files/2008/08/obama-willing-to-compromise-offshore-oil-drilling.php), accessed 8-23-10.

Most importantly, at least to my 'truthiness' meter, is that there is no language saying that more offshore oil drilling will rapidly reduce gasoline prices. Because it won't. To recap: 1) There are 17.8 billion barrels of "undiscovered recoverable resources" (not actual oil, mind you, but potential oil) in areas currently off limits, according to the U.S. Geological Survey. 2) The Energy Information Administration says that once opened, leasing would not begin until 2012, production would not begin until 2017 and would not be of sufficient scale until 2030 to have any impact on the US oil or natural gas market. By this time offshore oil drilling would add approximately 250,000 barrels a day to the U.S. market, against an overall current demand of about 21 million barrels. To use my father's vernacular: The amount of oil contained in offshore areas which are current off limits means bubkiss when compared to overall U.S. oil demand.

## DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO: "OIL PRICES" cont'd

6. OFFSHORE DRILLING WILL HAVE NO IMPACT ON OIL PRICES -- ACTUALLY LOCKS IN HIGH PRICES

CENTER FOR AMERICAN PROGRESS, "Ten Reasons Not to expand Offshore Drilling," 9-15-08, [www.americanprogress.org/issues/2008/09/10\\_reasons.html](http://www.americanprogress.org/issues/2008/09/10_reasons.html), accessed 8-23-10.

Offshore drilling would have an "insignificant" effect on long-term prices. Offshore drilling in sensitive areas would increase domestic oil production by 3 percent by 2030 compared to a reference case, according to the Energy Information Administration. But "because oil prices are determined on the international market -- any impact on average wellhead prices is expected to be insignificant." 5. Drilling could lock us in to a future of expensive gasoline. By committing to costly recovery, oil companies are betting that oil prices (and gas prices) will stay high enough to justify their investments. Opening the Outer Continental Shelf could never bring us back to \$2-a-gallon gas, but would ensure that companies that develop the newly available oil have an interest in keeping gas prices high enough to justify their investments.

7. EVEN UNDER THE BEST CASE SCENARIO, NEW DRILLING WON'T IMPACT PRICES FOR 20 YEARS

CENTER FOR AMERICAN PROGRESS, "Ten Reasons Not to expand Offshore Drilling," 9-15-08, [www.americanprogress.org/issues/2008/09/10\\_reasons.html](http://www.americanprogress.org/issues/2008/09/10_reasons.html), accessed 8-23-10.

Production would be expensive, would not start for a long time, and would have no short-term effect on oil prices. The average oil field size in the OCS is smaller than the average in the Gulf of Mexico, which is already being developed. As a result, much of the oil in the OCS would be expensive to extract, and is only becoming attractive now as a result of high oil prices. According the Energy Information Administration, it would take at least five years for oil production to begin. EIA predicted that there would be no significant effect on oil production or price until nearly 20 years after leasing begins.

## DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO: "PEAK OIL"

### 1. DEEPWATER PRODUCTION FAILS -- WILL NOT BE ABLE TO EXTRACT A LOT, TOO EXPENSIVE

Tom Whipple, "The Peak Oil Crisis: The Real Gulf Crisis," FALLS CHURCH NEWS-PRESS, 6-30-10, [www.fcnp.com/commentary/national/6815-the-peak-oil-crisis-the-real-gulf-crisis.html](http://www.fcnp.com/commentary/national/6815-the-peak-oil-crisis-the-real-gulf-crisis.html), accessed 8-19-10. Right now there are two issues regarding deepwater oil. First is how much can be extracted. If it turns out that 10 or 20 percent of initial estimates is all that can really be recovered, then the cost of this oil will be prohibitive. Deepwater wells were running \$100 to in some cases \$200 million per well drilled. Platforms that drill and support multiple wells can easily get into the billions of dollars before they are producing. If these wells unlimitedly yield only a fraction of what their planners were hoping for, there are going to be some very broke oil companies, or some very expensive gasoline in our future. The next question is what the fallout from the Deepwater Horizon disaster will be for deepwater oil. The U.S. has already imposed a moratorium on further drilling until the causes of the blowout are fully understood. This moratorium alone is almost certain to add substantially to the costs of drilling in deepwater. Add to this the new and most likely tougher drilling regulations and the development and deployment of a new generation of blowout preventers that work reliably and we are going to see some very high cost oil coming from offshore wells. All this says that we may not be getting half of our oil from deepwater wells 10 or 15 years from now. Unless there are some major advances in vehicle mileage, the oil that we get from offshore just may be too expensive to put in our gas tanks.

### 2. DEEPWATER PRODUCTION CLAIMS ARE OVERBLOWN -- WILL ONLY HIT 10 TO 20 PERCENT OF ESTIMATES

Tom Whipple, "The Peak Oil Crisis: The Real Gulf Crisis," FALLS CHURCH NEWS-PRESS, 6-30-10, [www.fcnp.com/commentary/national/6815-the-peak-oil-crisis-the-real-gulf-crisis.html](http://www.fcnp.com/commentary/national/6815-the-peak-oil-crisis-the-real-gulf-crisis.html), accessed 8-19-10. While new oil discoveries are trumpeted widely, failing projects, especially multi-billion dollar ones, just seem to fade away. Another Gulf project know as Neptune is not doing too well either. Neptune was expected to produce 50,000 b/d. The platform peaked at 40,000 b/d in August 2008. Sixteen months later production was down to 16,000 b/d. It now looks as if the platform that was supposed to produce 150 million barrels of crude will produce on the order of 33 million. The pattern emerging here is that deepwater oil production is not only dangerous, it may not be all it is cracked up to be. The international oil companies that are drilling in deep water certainly are not about to connect the dots for us, but independent observers say it is looking like our new deepwater oil wells are only going to be producing some 10 or 20 percent of initial estimates. Deep water oil is a whole different game with which no one has much experience. None of the deepwater fields have been producing long enough to have established any track record as to just how much oil can ultimately be recovered from deep beneath the sea where temperatures and pressures are extreme.

### 3. EVEN HIGH END ESTIMATES OF DEEPWATER RESERVES WOULD ONLY SUPPLY THE WORLD FOR A FEW YEARS

Tom Whipple, "The Peak Oil Crisis: The Real Gulf Crisis," FALLS CHURCH NEWS-PRESS, 6-30-10, [www.fcnp.com/commentary/national/6815-the-peak-oil-crisis-the-real-gulf-crisis.html](http://www.fcnp.com/commentary/national/6815-the-peak-oil-crisis-the-real-gulf-crisis.html), accessed 8-19-10. Now all this might be of academic interest until we recall that, outside of Iraq, there are few places left to drill on dry land with much potential. The few good dry land and shallow water sites left are firmly in the hands of national oil companies, whose first job is to ensure that their domestic oil market is fully supplied with cheap oil for their citizens. If there is any left over, they will be happy to sell it to foreigners. A recently released BP document shows that before the Deepwater Horizon explosion, the company was basing its whole future on production from deepwater wells. There is little doubt that there is a whole lot of oil deep below the Gulf of Mexico, off the coast of Brazil and the east coast of Africa. The industry hype says there is at least 100 billion barrels or even more. Keep in mind that this is only three years of global oil consumption and even in the best of circumstances; it would take decades to extract.

## DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO: "PEAK OIL" cont'd

### 4. WE WILL NEVER RUN OUT OF OIL -- IT WILL SMOOTHLY BE REPLACED BY A NEW ENERGY TECHNOLOGY

Leonard Maugeri, Senior Vice President, Corporate Strategies and International Relations, ENI SPA, "Time to Debunk Mythical Links Between Oil and Politics," OIL & GAS JOURNAL, 12-15-03, p.18+.

Hence oil companies are obliged to dismiss many investment opportunities worldwide because they do not fit these very tight requirements. And the larger a company's production, the larger the challenge, because higher production requires higher replacement ratios. Thus financial discipline puts oil majors under considerable stress as far as reserve replacement is concerned, reducing their options for sustaining future production. Basically, the financial markets' prudent approach (maybe too prudent) depends on the assumption of oil depreciation in the long term; oil is considered a semimature commodity whose fate is closely connected with that of most raw minerals, all affected by a rise-and-fall consumption pattern in modern economic history. According to this pattern, just as the Stone Age did not end for the lack of stones, the Oil Age will not end because of the scarcity of oil. Rather oil will inevitably be surpassed in convenience by a new source of energy in the future.

### 5. ANY NEW OFFSHORE WELLS WON'T PRODUCE ANY OIL FOR YEARS

Jill Connors, "Offshore Drilling: Is Energy Worth the Ecological Disaster of Oil Spills," TREEHUGGER, 2-18-09, updated 6-10, [www.treehugger.com/files/2009/02/offshore-drilling-oil-false-hope.php](http://www.treehugger.com/files/2009/02/offshore-drilling-oil-false-hope.php), accessed 8-23-10.

However, offshore drilling in new areas won't deliver a drop of oil for ten years, according to numbers cited by the Bush administration last year. In fact, the U.S. Energy Information Administration recently did a detailed study of the likely outcome of offshore drilling for their Annual Energy Outlook 2007, and concluded that increased access would not have a significant impact on domestic crude oil production or prices before 2030.

### 6. NO PEAK -- LARGE RECENT DISCOVERIES, MANY OFFSHORE

Jad Mouawad, "Oil Industry Sets a Brisk Pace of New Discoveries," NEW YORK TIMES, 9-23-09, [www.nytimes.com/2009/09/24/business/energy-environment/24oil.html](http://www.nytimes.com/2009/09/24/business/energy-environment/24oil.html), accessed 8-23-10.

The oil industry has been on a hot streak this year, thanks to a series of major discoveries that have rekindled a sense of excitement across the petroleum sector, despite falling prices and a tough economy. These discoveries, spanning five continents, are the result of hefty investments that began earlier in the decade when oil prices rose, and of new technologies that allow explorers to drill at greater depths and break tougher rocks. "That's the wonderful thing about price signals in a free market -- it puts people in a better position to take more exploration risk," said James T. Hackett, chairman and chief executive of Anadarko Petroleum. More than 200 discoveries have been reported so far this year in dozens of countries, including northern Iraq's Kurdish region, Australia, Israel, Iran, Brazil, Norway, Ghana and Russia. They have been made by international giants, like Exxon Mobil, but also by industry minnows, like Tullow Oil. Just this month, BP said that it found a giant deepwater field that might turn out to be the biggest oil discovery ever in the Gulf of Mexico, while Anadarko announced a large find in an "exciting and highly prospective" region off Sierra Leone.

## DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO: "PEAK OIL" cont'd

### 7. DEEP DRILLING WON'T HELP -- BASIC GEOLOGY MEANS THERE ISN'T ANY BELOW 15,000 FEET

John Attarian, PhD, "The Coming End of Cheap Oil," THE SOCIAL CONTRACT v. 12 n. 4, Summer 2002, [www.thesocialcontract.com/artman2/publish/tsc1204/article\\_1095.shtml](http://www.thesocialcontract.com/artman2/publish/tsc1204/article_1095.shtml), accessed 8-16-10.

"Another promising region," Brown added, is deeper depths of existing petroleum areas. "That is, for economic reasons over 95 percent of the existing basins have not been explored below 15,000 feet." Higher prices give incentives to drill deeper, and while it is too soon to say what the potential of deeper deposits is, "[t]here is little doubt that they will be significant. There is a reasonable chance that they will prove to be astonishingly productive" due to new technology. By 2100, Brown believed, almost all petroleum resources up to 40,000 feet down, perhaps deeper, would be explored. Similarly, in 1991 Simon trumpeted that we will "dig deeper and pump faster" and get more oil. But going deeper would overshoot the "oil window." Drilling stopped at 15,000 feet for geological reasons, not economic ones going deeper didn't make sense, because deeper down there generally wasn't any oil. Petroleum geologists already knew this. Hunt's textbook, to repeat, appeared in 1979. That Brown, and Simon himself, were so crassly ignorant of well-established facts readily available even in a previously published college textbook is damning. The cornucopians did not know what they were talking about. Geologists would not have made these howlers, but Brown was Director of Energy and Technological Studies at the Hudson Institute; Simon was an economics professor and Heritage Foundation adjunct scholar. Cornucopians tend to be dwellers in a realm of words, theories, and abstractions not people in contact with the realities of a limited world. The latter, such as Campbell, Deffeyes, and Ivanhoe, do not parrot Simonesque platitudes. They know better. That the closer one gets to reality and hard science the fewer cornucopians one finds is telling.

## **DEEPWATER DRILLING UNDESIRABLE: ANSWERS TO: "REGULATIONS SOLVE ANY PROBLEMS"**

### **1. POST DEEPWATER HORIZON REGULATORY CHANGES WON'T FIX THE PROBLEM**

Chris Kahn et al., "U.S. Looking at Ending Deepwater Drilling Moratorium," HUFFINGTON POST, 8-15-10, [www.huffingtonpost.com/2010/08/15/deepwater-drilling-moratorium\\_n\\_682489.html](http://www.huffingtonpost.com/2010/08/15/deepwater-drilling-moratorium_n_682489.html), accessed 8-20-10. Now that the worst offshore oil spill in U.S. history has effectively been stopped, the White House is considering an early end to its moratorium on deepwater drilling. But four months after the explosion of the Deepwater Horizon, regulators have only started to make good on promises to overhaul drilling. Tough measures are stalled in Congress. A \$1 billion emergency response network proposed by the industry won't be operational for another year. And while doomsday scenarios from the BP spill, like oil washing up the East Coast, have not come to pass, there are no guarantees that drilling will be any safer once it does resume. What's changed is "not enough to make a big difference," said Charles Perrow, a Yale professor who has studied the spill in the Gulf.

### **2. EFFECTIVE ENGINEERING FOR DEEPWATER DRILLING IS ENORMOUSLY DIFFICULT**

Robert Bryce, senior fellow, Manhattan Institute, "Risky Business," ENERGY TRIBUNE, 4-23-10, [www.manhattan-institute.org/html/miarticle.htm?id=6439](http://www.manhattan-institute.org/html/miarticle.htm?id=6439), accessed 8-25-10. The Deepwater Horizon disaster had two of the world's most experienced companies: Transocean and BP. And yet there was apparently a blowout. Why didn't the blowout preventers on the rig kick in and seal the well? We don't know the answer to that. Perhaps there was something wrong with the equipment that was being used on the well. Companies working offshore are continually running up against engineering challenges. In January, New Orleans-based McMoRan Exploration announced that its ultra-deep Davy Jones well (drilled to 28,600 feet) had found 200 feet of pay zone. The well was drilled in 20 feet of water off the Louisiana coast. But to produce hydrocarbons from the new target zone, McMoRan is going to need special equipment that is capable of dealing with the high temperatures (more than 400 degrees Fahrenheit) and intense pressures (more than 20,000 pounds per square inch) that are found in the deep reservoir. That means developing new technologies.

## OIL CONSUMPTION UNDESIRABLE: ENVIRONMENT

### 1. OIL EXTRACTION CAUSES SUBSTANTIAL ENVIRONMENTAL DAMAGE -- ALL FORMS

Richard Heinberg, Senior Fellow-in-Residence, Post Carbon Institute, *SEARCHING FOR A MIRACLE: "NET ENERGY" LIMITS & THE FATE OF INDUSTRIAL SOCIETY*, 2009, 32.

MINUS: Oil's downsides are as plain as its advantages. Its negative environmental impacts are massive. Extraction is especially damaging in poorer nations such as Ecuador, Peru, and Nigeria, where the industry tends to spend minimally on the kinds of remediation efforts that are required by law in the U.S.; as a result, rivers and wetlands are poisoned, air is polluted, and indigenous people see their ways of life devastated. Meanwhile, burning oil releases climate-changing carbon dioxide (about 800 to 1000 lbs of CO<sub>2</sub> per barrel, or 70 kg of CO<sub>2</sub> per GJ), as well as other pollutants such as nitrogen oxides and particulates.

### 2. OIL IS RESPONSIBLE FOR A HUGE PORTION OF CO<sub>2</sub> EMISSIONS, AIR POLLUTION

David Sandalow, Energy & Environment Scholar, "Ending Oil Dependence: Protecting National Security, the Environment and the Economy," *Opportunity 08: Independent Ideas for Our New President*, Brookings Institution, 2007, [www.brookings.edu/~media/Files/Projects/Opportunity08/PB\\_Energy\\_Sandalow.pdf](http://www.brookings.edu/~media/Files/Projects/Opportunity08/PB_Energy_Sandalow.pdf), accessed 8-16-10.

Oil is one of Earth's principal reservoirs of carbon. When oil is burned, this carbon is transformed into carbon dioxide (CO<sub>2</sub>), which stays in the atmosphere -- trapping heat -- for more than a century. Today, oil accounts for 42 percent of the world's energy-related CO<sub>2</sub> emissions (more than coal). Total emissions from oil use are climbing sharply in the United States and around the world. Oil is also a major cause of urban smog and, as a result, of asthma and heart disease. Oil spills have contaminated land and water supplies and damaged marine ecosystems worldwide. When it comes to fighting global warming, not all ways of reducing oil dependence are created equal. Technologies that improve fuel efficiency are best, since all existing fuels produce at least some heat-trapping gases. Ethanol made from cellulose or sugar is a substantial improvement over oil. Ethanol made from corn also helps, though only slightly, since growing corn typically involves substantial fossil fuel inputs.

### 3. OIL CONSUMPTION CAUSES A MULTITUDE OF PROBLEMS

Lauren Poole, National Renewable Energy Laboratory, "Oil: More Costly than You Think," *ECO IQ MAGAZINE*, Summer 2000, <http://www.ecoiq.com/magazine/features/feature71.html>, accessed 8-16-10.

Every time gas prices rise, there is a public outcry to reduce the cost of oil. What most Americans don't realize, however, is that they have been paying a very high price for oil -- but only a fraction at the gas pump -- for years. Fueling our automobiles and other transportation vehicles with oil has many costs. These include polluting the air in our cities and contaminating our water and land, contributing to global warming, and damaging our public health, our economy, and our country's energy security. None of these costs are reflected in the market price of oil.

### 4. OIL DESTROYS THE ENVIRONMENT -- ITS USE EMITS SUBSTANTIAL GREENHOUSE GASES

Raci Oriona Spaulding, "Fuel from Vegetable? A Modern Approach to Global Climate Change," *TRANSNATIONAL LAW & CONTEMPORARY PROBLEMS* v. 13, Spring 2003, p.301.

Furthermore, oil is certainly damaging to the environment. By emitting huge amounts of greenhouse gases, oil significantly contributes to the problem of global warming. This environmental cost should be factored into oil's price when comparing it to biofuels. The same experts who estimated oil's true cost at \$ 5 per gallon note that this amount "doesn't factor in oil's enormous damage to the environment." If environmental damage was included in the analysis, oil's true cost would be more than \$ 5 per gallon!

## OIL CONSUMPTION UNDESIRABLE: ENVIRONMENT cont'd

### 5. OIL CAUSES SERIOUS ENVIRONMENTAL PROBLEMS

WORLD RESOURCES INSTITUTE, "Expanding Domestic Oil and Natural Gas Production," no date, <http://www.wri.org/publication/content/8356>, accessed 8-23-10.

Other environmental concerns related to oil and natural gas production and transport include: spills, leaks, explosions, and damage to natural habitats. While improved exploration and drilling practices have dramatically reduced local environmental impacts, oil and gas production in pristine areas remains an invasive activity. Refineries that convert crude oil into valuable petroleum products have more concentrated environmental and safety impacts.

## OIL CONSUMPTION UNDESIRABLE: WAR

- OIL SCARCITY IS INEVITABLE, WILL PRODUCE CONFLICT

Richard Heinberg, Senior Fellow-in-Residence, Post Carbon Institute, *SEARCHING FOR A MIRACLE: "NET ENERGY" LIMITS & THE FATE OF INDUSTRIAL SOCIETY*, 2009, 32.

Most importantly, oil is non-renewable, and many of the world's largest oilfields are already significantly depleted. Most oil-producing nations are seeing declining rates of extraction, and future sources of the fuel are increasingly concentrated in just a few countries -- principally, the members of the Organization of Petroleum Exporting Countries (OPEC). The geographic scarcity of oil deposits has led to competition for supplies, and sometimes to war over access to the resource. As oil becomes scarcer due to depletion, we can anticipate even worse oil wars.

## OIL CONSUMPTION UNDESIRABLE: WARMING

### 1. THERE IS A VERY STRONG SCIENTIFIC CONSENSUS THAT WARMING IS REAL AND HUMAN CAUSED

Scientific Expert Group on Climate Change (SEG), *CONFRONTING CLIMATE CHANGE: AVOIDING THE UNMANAGEABLE AND MANAGING THE UNAVOIDABLE*, ed. R.M. Bierbaum, J.P. Holdren, M.C. MacCracken, R.H. Moss & P. H. Raven, United Nations Commission on Sustainable Development, Sigma Xi & UN Foundation, 2007, <http://www.globalpolicy.org/socecon/envronmt/climate/2007/0227segreport.pdf>, accessed 8-16-10.

The Intergovernmental Panel on Climate Change (IPCC) was organized in 1988 as a joint effort of the World Meteorological Organization and the UN Environment Programme to summarize the state of scientific knowledge about climate change in a periodic series of major assessments. The first of these was completed in 1990, the second in 1995, and the third in 2001 (IPCC, 2001a). The IPCC will complete its Fourth Assessment Report in 2007. The three preceding assessments have carefully documented the scientific basis for increasing confidence that climate change is happening, that this change is being primarily driven by human activities (mainly the combustion of coal, oil, and natural gas, and deforestation), and that continuing to base most of the world's energy supply on technologies that burn coal, oil, and natural gas and release the resulting carbon dioxide (CO<sub>2</sub>) into the atmosphere will lead to much greater climate change in the future. While the projections of future change cannot be precise, as much because they depend on how society will evolve and generate its energy as on limitations in scientific understanding of the climate system, there is very high confidence in the scientific community that significant change is underway and that the world is on a path to much more climate change over coming decades and centuries. The analyses in the first three IPCC assessments, along with more recent scientific findings and assessments (ACIA, 2004; Millennium Ecosystem Assessment, 2005a), form the basis for the rest of this chapter. Collectively, the scientific evidence makes clear that human activities have already caused significant changes in the climate. In addition, a substantial fraction of the CO<sub>2</sub> added to the atmosphere by human activities stays there for decades to centuries. Because a similar interval is required for the Earth's climate system to achieve a new equilibrium with a change in the atmospheric CO<sub>2</sub> concentration, the world is committed to nearly as much additional warming as the amount already experienced, even without any further emissions (e.g., Meehl et al., 2005). Sea-level rise will continue for at least several centuries.

### 2. OIL AND NATURAL GAS CONSUMPTION CAUSE GLOBAL WARMING

WORLD RESOURCES INSTITUTE, "Expanding Domestic Oil and Natural Gas Production," no date, <http://www.wri.org/publication/content/8356>, accessed 8-23-10.

Both oil and natural gas contribute to climate change by forming carbon dioxide during combustion. Natural gas emits only about half, and oil about two-thirds, the carbon dioxide per unit of energy as coal. The greenhouse gas profiles of imported oil and gas resources compared to their domestic counterparts are roughly similar. In some cases, imports may result in slightly higher emissions since they are often transported a greater distance. In other cases, however, carbon-intensive infrastructure may be needed to deliver domestic oil and gas to U.S. markets. Oil from the Trans-Alaska pipeline, for example, almost certainly has higher lifecycle greenhouse gas emissions than oil from Canada or even Nigeria.

## OIL CONSUMPTION UNDESIRABLE: WARMING cont'd

### 3. WARMING IS HUMAN CAUSED, WILL HAPPEN IN A NON-LINEAR FASHION

Maxine Burkett, Associate Professor, Law, University of Colorado, "Just Solutions to Climate change: A Climate Justice Proposal for a Domestic Clean Development Mechanism," BUFFALO LAW REVIEW v. 56, April 2008, p.175-176.

Human beings, and in particular U.S. citizens, are responsible for this dramatic change. Global atmospheric concentrations of greenhouse gases -- including carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons -- have increased markedly as a result of human activities since 1750 and now "far exceed" pre-industrial values. These activities include land-use changes and, most importantly, the combustion of fossil fuels. As a result, the current concentration of carbon dioxide in the atmosphere is the highest in at least a million years. The changes that result from the concentrations are non-linear, such that positive feedback loops accelerate the adverse effects that climate change sets in motion. These changes will continue for centuries because of the "timescales associated with climate processes and feedbacks." In other words, even if anthropogenic emissions were to stabilize at this very moment, the average time for removal of added carbon dioxide from the atmosphere is measured in centuries, during which climate change effects will continue to manifest.

### 4. WE ARE ON BRINK OF MASSIVE WARMING UNLESS WE CUT EMISSIONS

Mary Christina Wood, Professor, Law, University of Oregon, "Nature's Trust: A Legal, Political and Moral Frame for Global Warming," BOSTON COLLEGE ENVIRONMENTAL AFFAIRS LAW REVIEW v. 34, 2007, p.579.

Carbon dioxide -- the gas emitted from cars, coal fire plants, and gas heating -- has climbed to levels unknown in the past 650,000 years, and we are still pumping it out at an annual increase of two percent per year. According to the United Nations Intergovernmental Panel on Climate Change (IPCC), the average surface temperature on Earth will rise between 2.5 degrees and 10.4 degrees Fahrenheit within the next 100 years if our greenhouse gas emissions do not turn downward soon enough.

### 5. MUST ACT NOW: (1) HARDER TO ACT IN FUTURE; (2) MOST CERTAIN WAY TO AVOID NEGATIVE EFFECTS

Frances Beinecke, President, Natural Resources Defense Council, Testimony before Senate Environment and Public Works Committee, Subcommittee on Private Sector and Consumer Solutions to Global Warming and Wildlife Protection, CQ CONGRESSIONAL TESTIMONY, 10-24-07, lexis.

Climate scientists warn us that we must act now to begin making serious emission reductions if we are to avoid truly dangerous global warming pollution concentrations. Because carbon dioxide and some other global warming pollutants can remain in the atmosphere for many decades, centuries, or even longer, the climate change impacts from pollution released today will continue throughout the 21st century and beyond. Failure to pursue significant reductions in global warming pollution now will make the job much harder in the future both the job of stabilizing atmospheric pollution concentrations and the job of avoiding the worst impacts of a climate gone haywire.

## OIL CONSUMPTION UNDESIRABLE: WARMING cont'd

### 6. THE WORLD IS WARMING AND WILL GROW WORSE -- WILL CAUSE A HUGE NUMBER OF POTENTIAL PROBLEMS

Scientific Expert Group on Climate Change (SEG), *CONFRONTING CLIMATE CHANGE: AVOIDING THE UNMANAGEABLE AND MANAGING THE UNAVOIDABLE*, ed. R.M. Bierbaum, J.P. Holdren, M.C. MacCracken, R.H. Moss & P. H. Raven, United Nations Commission on Sustainable Development, Sigma Xi & UN Foundation, 2007, <http://www.globalpolicy.org/socecon/envronmt/climate/2007/0227segreport.pdf>, accessed 8-16-10.

The world is warming, and the climate is changing. Temperatures are rising in all seasons and over land and in the ocean. Heavy rainfall is occurring more frequently, exacerbating flooding, while the higher temperatures are amplifying evaporation, depressing soil moisture, and intensifying droughts. Sea ice is retreating from shorelines around the Arctic, and glaciers are melting rapidly in the Alps, Alaska, and Greenland, as well as in low-latitude mountain ranges around the world. Sea level is rising, and the rate of rise is apparently increasing. Projections indicate that much greater climate change lies ahead. The impacts of the changing climate on the environment and society will be pervasive and complex. Already, the ranges of animal and plant species are shifting poleward and to higher elevations. Increasing populations and development in coastal cities and communities are increasing the vulnerability of society to sealevel rise and intense storms, and global warming appears to be increasing storm intensity. Greater climate change will significantly disrupt the distribution of natural and managed ecosystems on which society relies. Agricultural zones and food production will shift, with the potential for more food production being dependent on the ability to control increasingly favorable conditions for weeds and pests. The magnitude and seasonal availability of water resources will change in many regions in ways that exacerbate shortages. Sea-level rise will continue to erode coastlines and threaten low-lying islands. More frequent, longer-lasting, and more intense heat waves will cause many more deaths unless actions are taken to reduce vulnerability. In many locations, conditions more favorable for mosquitoes and other disease vectors will intensify and spread the threat of infectious diseases, requiring greater protection and eradication efforts. The close coupling of indigenous cultures and traditions to the timing and pattern of nature's exquisite web of life will be disrupted as changes occur in the timing of migrations, the life cycles of plants and animals, and the populations of sensitive species.

### 7. WARMING RISKS A LAUNDRY LIST OF PROBLEMS

Mary Christina Wood, Professor, Law, University of Oregon, "Nature's Trust: A Legal, Political and Moral Frame for Global Warming," *BOSTON COLLEGE ENVIRONMENTAL AFFAIRS LAW REVIEW* v. 34, 2007, p.581-582.

Hurricane Katrina -- which devastated the U.S. Gulf Coast in 2005 -- signaled what we can expect from the global warming already underway as a result of the carbon emissions that we cannot call back. Scientists across multiple disciplines warn of crop losses, food shortages, flooding, coastal loss, wildfire, drought, pests, hurricanes, tornadoes, heat waves, landslides, species extinctions, vanishing snow pack, increased disease vectors, and other harms. An international climate research team recently warned of a need to prepare for as many as fifty million environmental refugees by 2010.