

Prepared Testimony

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**Oil and Gasoline Markets: The Iranian Dilemma and the Role  
of the US Strategic Petroleum Reserve**

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*Testimony by*

*James Burkhard, Managing Director, IHS CERA,  
before the US House of Representatives Committee on Energy and Commerce*

*Washington, DC, March 28, 2012*

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## **OIL AND GASOLINE MARKETS:**

### **THE IRANIAN DILEMMA AND THE ROLE OF THE US STRATEGIC PETROLEUM RESERVE**

*Testimony by James Burkhard, Managing Director, IHS CERA, before the US House of Representatives Committee on Energy and Commerce, Washington, DC, March 28, 2012*

It is an honor to address the House of Representatives Committee on Energy and Commerce of the 112th Congress. It is a timely opportunity to discuss the current state of the oil and gasoline markets. The national average price of gasoline in the United States rose above \$3.90 per gallon this month, which is an increase of 18% since the beginning of the year. This is a burden for American consumers and businesses amid a fragile economic recovery. Higher crude oil prices are the main reason behind the increase in what Americans pay for gasoline. The price of crude oil typically accounts for about 60% to 75% of the total price of a gallon of gasoline in the United States. The price of crude oil has risen 21% since mid-December.

The all-time record high price of gasoline was \$4.17 per gallon in July 2008. The 2008 peak was brought about by the accumulation of oil supply disruptions and several years of strong demand growth in emerging markets. But the key factor shaping the oil price environment this time around is different. This year it is geopolitics—and specifically the uncertainty linked to the Iranian nuclear issue.

#### **THE IRAN PREMIUM DRIVEN BY LIMITED SPARE PRODUCTION CAPACITY**

Concern about Iran's efforts to develop nuclear technology with potential military applications is not new. Indeed, Iran first hatched plans to make use of nuclear technology in the 1970s. Since 2002, the Director General of the International Atomic Energy Agency (IAEA) has reported on Iran's nuclear program. In a November 2011 report, the IAEA stated "serious concerns regarding the possible military dimensions to Iran's nuclear programme." These concerns were based on its view that Iran "has carried out activities relevant to the development of a nuclear explosive device."<sup>1</sup>

In the time since the IAEA report was issued, the United States and the European Union have adopted stiffer economic sanctions against Iran. The United States has expanded efforts to disconnect Iran from the global financial system and, toward the end of June intends to sanction oil payments made through the Central Bank of Iran. The European Union has instituted an oil embargo that forbids the purchase of Iranian oil beginning this summer. Together, the American and European sanctions represent a ratcheting up of pressure on the Iranian regime. The aim is to hinder economic activity—particularly oil sales—in order to pressure Iran's leadership to rein in its nuclear program and adhere to international inspections and controls on nuclear activities.

However, in response to the latest sanctions, Iran has opted for bellicose statements such as threatening to close the Strait of Hormuz. The strait is a narrow but very important waterway that

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<sup>1</sup> *Implementation of the NPT Safeguards Agreement and relevant provisions of the Security Council resolutions in the Islamic Republic of Iran*, report dated November 18, 2011, by the Director General of the International Atomic Energy Agency.

connects the Persian Gulf to open ocean and global markets. Approximately 17 million barrels per day (mbd) of crude oil pass through the strait—this is about 35% of the world’s oil exports. There are also large shipments of liquefied natural gas (LNG) and refined petroleum products that transit the strait, which spans little more than 20 miles (with even more narrow shipping lanes) at its most narrow point between Iran and the tip of the Arabian Peninsula.

This situation—the West’s more stringent sanctions and Iran’s defiance—is unfolding in an oil market with limited spare production capacity. At most, there is about 2.5 mbd of spare production capacity. Spare capacity is the world oil market’s shock absorber. When spare capacity is high, the world oil system is better able to absorb supply disruptions or unexpected demand spikes. For example, large volumes of spare capacity were brought into production following Iraq’s invasion of Kuwait in 1990 and at the time of the US-led invasion of Iraq in 2003. Saudi Arabia has been the main holder of spare capacity for several decades—and is today as well.

As recently as 2010, spare capacity stood above 5 mbd. This was after two consecutive years of declining world oil demand. This year IHS CERA estimates that spare capacity will range from 1.8 to 2.5 mbd. The top end of the range is slightly higher than the amount of crude oil Iran exported last year.

Several factors are behind the drop in spare capacity. Although world oil demand growth has weakened over the past year, demand in 2012 is projected by IHS CERA to average 89.5 mbd—a record high. This is about 4 mbd (or 5%) higher than in 2009. Also, a series of supply disruptions in Yemen, Syria, Sudan, and South Sudan have, in aggregate, removed a substantial volume of oil supply from the market. And sanctions against Iran are expected to keep some Iranian supply off the market this year. All of these factors result in a limited amount of spare capacity. Economic logic dictates that when capacity utilization goes up—and spare capacity shrinks to low levels—prices rise for a given level of demand, especially if there is a credible concern that spare capacity could shrink further.

The rise in tension between Western powers and Iran amid an oil market with limited spare capacity has resulted in higher crude oil prices. The price of Brent crude oil—the most important variable in the price of a gallon of gasoline sold in the United States—increased from around \$105 per barrel in mid-December to as high as \$128 per barrel in March. Most, if not all, of this increase can be attributed to the “Iran premium”—anxiety over the reliability and adequacy of world oil supplies related to the Iranian nuclear issue and its impact on oil flows.

If sanctions succeed in reducing Iran’s oil exports, it also means that the world’s spare capacity cushion will be whittled down as production is boosted elsewhere, mainly from Saudi Arabia, to offset the loss of Iranian supply. To be sure, oil production is growing in a number of countries. The United States, for example, is experiencing a great revival in oil production. From 2008 to 2011, oil (total liquid fuels) production increased 1.3 mbd—the largest increase for any country in the world. But production growth from the United States and other countries is incremental and cannot be called on overnight to address a major supply shortfall.

Further upward pressure on oil prices could result from a scenario in which Iranian exports are significantly lower amid shrinking spare capacity—particularly if there is little sign of Iran’s backing down. The higher oil prices rise, the more sanctions will need to limit Iran’s ability to sell oil in the international market in order to achieve the aim of reducing Iranian government revenues. Iran earned about \$105 billion in 2011 from its oil exports. If, as an illustration, Iran’s exports fall by 500,000 barrels per day for a year, but the oil price increases to an average of

\$140 per barrel, then Iran's revenues would remain stable, if not rise slightly. There is also a possibility that Iran will be forced to accept discounted prices for its oil if bargaining power grows among a reduced pool of buyers. This would help to chip away at the country's oil revenues.

## **STRATEGIC PETROLEUM RESERVES**

The oil market is tense. Despite a slowing pace of world oil demand growth—and declining demand in the United States—oil prices have soared to high levels as the confrontation with Iran has intensified. Gasoline prices are reflecting tightness in the crude oil market. It is also an election year. This has raised the question, again, of the purpose of the US Strategic Petroleum Reserve (SPR). The SPR currently holds 696 million barrels of crude oil—equivalent to about 80 days of worth of US net petroleum imports. It is the largest emergency reserve of oil in the world. The oil is held in underground salt caverns along the coast of the US Gulf of Mexico, which is also home to the nation's largest concentration of refineries.

The SPR was created in the mid-1970s in response to the 1973–74 oil crisis, which exposed the vulnerability of the US and the global economies to an unexpected disruption in oil flows. The original purpose of the SPR was to help the United States manage a very large oil supply disruption from the Persian Gulf. In 1973 this was the most important oil-producing region and oil shipping route in the world—and it still is today.

The SPR provides the president of the United States with the ability to call on a large pool of emergency oil reserves in the event of an oil supply disruption that threatens the economy. There have been three releases under this condition as part of International Energy Agency (IEA)-coordinated releases of strategic reserves by IEA member countries.

- **January 1991 at the beginning of Operation Desert Storm.** Oil exports from Iraq and Kuwait had been halted following the August 1990 Iraqi invasion of Kuwait. Higher production, mainly from Saudi Arabia, prevented physical shortfalls from emerging in the months after the invasion. But out of concern for how oil markets would react once the US-led coalition began attacking Iraqi forces, President George H. W. Bush authorized the sale of 33.75 million barrels of oil from the SPR on January 16, 1991—the first day of the war. This was part of a drawdown coordinated by the IEA (the agency was also created in the aftermath of the first oil crisis to help its members address major supply disruptions). The release helped to calm the oil market. In the end, 17.3 million barrels were sold. The war was over in less than two months.
- **September 2005 in the aftermath of Hurricane Katrina.** Crude oil production facilities, import terminals, refineries, and pipelines along the US Gulf Coast were heavily damaged by Hurricane Katrina, which struck in late August. President George W. Bush authorized the sale of 30 million barrels of oil from the SPR as part of a coordinated effort with the IEA in which members directed gasoline and other refined products to the United States. In the end, 11 million barrels of oil were sold from the SPR and 9.8 million barrels were borrowed by refineries as emergency loans.

- **June 2011 in response to the Libyan civil war.** The United States made available 30 million barrels of oil from the SPR. This was also part of a coordinated IEA release, and in total 60 million barrels was made available by IEA members to the market. In announcing the release, US Energy Secretary Steven Chu said the release was “in response to the ongoing loss of crude oil due to supply disruptions in Libya and other countries and their impact on the global economic recovery.”

There have been other releases from the SPR, mostly in the form of exchanges of limited scale and in response to short-lived infrastructure difficulties. Exchanges are similar to loans. Concern about high oil prices was a key factor behind a release approved in September 2000 that involved the time exchange (borrow oil now and return oil later) of 30 million barrels of SPR oil.

### **THE SPR: EMERGENCY RESERVES TO ADDRESS A MAJOR DISRUPTION, NOT PRICES**

The prices of crude oil and gasoline in the United States are shaped by many variables. Among these are global economic growth, oil industry investment trends, consumer behavior, retail pricing policy in large consuming countries, and unexpected events that influence the amount of oil available in the global market.

Developments in the United States can help shape long-term trends in the oil market. The great revival in US production in recent years has been an important boost to global supplies. Without this growth, the oil market would be even tighter than it is today. Higher fuel economy standards for cars and light trucks adopted by President George W. Bush in 2007 and later strengthened by President Barack Obama will also have an impact on demand by making the US vehicle fleet more efficient. But this impact will take many years to unfold.

The global oil market is resilient and flexible. Price signals direct flows of oil on a daily basis. But the global scope of the market also makes it difficult for a single country to unilaterally lower oil prices—and keep them low.

In 1991, the coordinated release of oil from the SPR was conducted out of concern for what could happen amid the fog of war in the world’s most important oil-producing region. When the release was announced, war was certain. And it did follow on the heels of a massive removal of supply from the market several months earlier. The release had a calming impact on the oil market.

If the SPR is used to influence the price of gasoline, it is a blunt instrument with limited prospects for a lasting impact. The original purpose of the SPR was not to manage prices—an extremely daunting challenge even under benign conditions—but to help address a major oil supply disruption from the Persian Gulf.

Deterioration in global economic growth and the impact of high oil prices on demand growth could remove some of the heat from today’s price of oil. Iran could also back down from its current stance—as it has in the past. But there is a risk that ratcheting up economic pressure on Iran combined with Iranian intransigence on the nuclear issue could lead to a situation where the SPR needs to be used for its original purpose—as an emergency response to a massive oil supply disruption.