

Prepared Testimony

Oil & Gasoline Markets

Testimony by

Dr. Daniel Yergin

*before the US Senate Energy Committee on Energy and Natural
Resources*

Washington, DC, March 29, 2012

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It is an honor to address the U.S. Senate Committee on Energy and Natural Resources. I appreciate the invitation to participate in this important hearing. It is timely – and indeed urgent – to discuss the current state of the oil and gasoline markets.

Gasoline prices are going up again, as they did four years ago, once again creating pain for American motorists and for the overall economy – and this time looming as a major risk for economic recovery. It does seem to be back to the future. At the end of March, 2012, the average gasoline price was about \$4.00 a gallon – the same level as at the end of May, 2008.

Yet much has changed in terms of the causes. This is also true for the circumstances. One decisive change is that America's energy position is much more resilient and its resources understood to be more abundant than four years ago.

The 2008 price increase was generated by a number of factors. The "Demand Shock" was the most important – arising from surging consumption in emerging markets countries. Just a decade ago, at the beginning of the 21st century, almost two out of every three barrels of oil were consumed by developed countries. As the decade progressed, demand from emerging

markets—especially China—surged, most notably in 2004-2005. The emerging markets nations are on their way to using more oil than the developed world. Their share will continue to rise as their consumption of oil continues to surge, while demand in the developed world peaks.¹

In the price run-up last decade, the impact of this “Demand Shock” was augmented by what we have called the “Aggregate Disruption” – the loss of supply from Venezuela, Nigeria, Iraq, and the US Gulf of Mexico due to Hurricanes Rita and Katrina. The result was an inordinately tight oil market, especially in 2005. On top of these fundamental factors of supply and demand, the “financialization” of oil became more pronounced as commodities emerged as a distinct asset class for a wide range of investors. Persisting weakness in the dollar also seemed to boost the oil price – and thus gasoline prices. On top of all of this was a pervasive pessimism about the adequacy of future supplies, both in the United States and in the world—in other words, a belief that the world was “running out” of oil and the United States was “running out” of natural gas.

What has Changed

Today some of the same factors remain at work. The emerging markets continue to dominate world demand growth. To be sure, the rate of this growth is lower than in some previous years. Nonetheless, world oil demand is expected to

¹ Daniel Yergin, *The Quest: Energy, Security, and the Remaking of the Modern World* (New York: Penguin, 2011), Chapter 8 “The Demand Shock”, Chapter 6 “Aggregate Disruption.”

reach a record high of 89.5 million barrels per day this year, due primarily to emerging markets growth. Also, commodities remain a distinct asset class.

Meanwhile, the oil market is again experiencing a number of supply disruptions. The loss of supply from Libya last year – about equivalent to the volumes lost due to Hurricanes Katrina and Rita – contributed to a tight oil market. That loss helped to push up world oil prices in 2011, on an average annual basis, to their highest level on an inflation-adjusted basis since the 1860s. The market has tightened further in recent months, and prices so far this year are higher than last year's average. Today, supply is disrupted from Sudan, Yemen, Syria, among other locations. At this point, disruptions have taken at least 750,000 barrels per day off the market.

A key indicator of the current relatively tight market balance now is the thin cushion of spare production capacity – the difference between world oil production and production capacity. Spare capacity is expected to range between 1.8 and 2.5 million barrels per day in 2012, low compared with recent years. Such a tight balance would, in any circumstances, create upward pressures on price.

This year, the dominant factor in pushing up world oil prices – and thus gasoline prices in the United States – is geopolitics – specifically, rising tension over Iran. The report of the United Nations International Atomic Energy Agency at the end of November 2011 introduced a new phase in the contention over Iran's nuclear program. In its report the IAEA warned of "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.”²

Sanctions and Iran’s Threats

Since mid-December, both world oil and U.S. gasoline prices have increased about 20 percent. The European Union has agreed to place an embargo on the importation of Iranian oil and has restricted Iran’s access to its financial markets. The United States is expected to make a determination imminently as to whether the world oil price and supply of non-Iranian oil are sufficient to implement new, tighter sanctions on oil transactions three months from now. These sanctions will deny access to the U.S. financial system to entities undertaking oil transactions with Iran’s central bank, unless countries are certified to have made “significant” reductions in imports of Iranian oil. (Japan and some European countries were recently exempted.)

The purpose of tighter US and EU sanctions and restrictions is to constrain the ability of Iran to sell its oil—and ultimately reduce the amount of oil revenues flowing into Tehran’s coffers. Iranian oil exports, which have been running at about 2.2- 2.5 million barrels per day , provide over half of Iran’s total government revenues.³ This is the first major effort by the West to restrict

² *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.

³ IHS Global Insight, “Iran’s Economy”, March 2012

directly Iran's oil exports. The stricter sanctions are driven by the conclusion that such severity is required by the seriousness of the risk that Iran is approaching and will cross what has been described as the "red line" in the development of nuclear weapons.

Iran has stoked the tensions since November by threatening to "close" the Strait of Hormuz, through which passes 35 percent of world oil exports, along with a substantial part of world liquefied natural gas (LNG) shipments and significant volumes of refined products. It has also held highly-visible naval exercises and weapons tests; refused access for IAEA inspectors to Iranian enrichment facilities; and, implicitly, threatened other responses.

Iran's threat to close to the Strait of Hormuz would first and foremost punish Iran itself, which depends on the Strait for virtually all of its oil exports. Moreover, the threat looks toward the "West", aimed at intimidating Europe and the United States. But times have changed. China depends on transport through the Strait for more than two million barrels a day of supply, and China's Premier Wen Jiabao recently warned Tehran against "extreme acts across the Strait of Hormuz".⁴

Balance in the Market

It is the prospect of Iranian barrels dropping out of relatively tight market – and not being replaced –that is affecting crude oil prices. This in turn, is affecting the prices that Americans pay at the pump.

⁴ "Wen Says China Against 'Any Extreme Acts,' at Hormuz," English.news.cn, January 19, 201

Will tighter Iranian sanctions lead to a shortfall that makes the world oil market tighter still, and prices yet higher?

The answer will be determined by one of two things: either “replacement” barrels come into the market, or fewer barrels being needed because world demand is lower than anticipated.

Saudi Arabia, holding almost all of the world’s spare capacity, has the ability to fill a two million barrel a day gap in supply. However, that would virtually exhaust the world’s spare capacity, a situation that would alarm the market. Additional supplies could come in over the course of the year from a number of countries – Iraq, Libya, Angola, Colombia – and the United States and Canada. Yet, such supplies cannot be called on immediately to address a major supply disruption.

Oil demand may be modulated by the weakness of Europe’s economy, an economic slowdown in China, increased efficiency in energy use, and the effects of higher oil prices.

The Great Revival in North America

Looking ahead, new sources of oil supply are coming into the market. While new oil production capacity cannot come to the market overnight, there is much greater confidence in oil supplies than in 2008. East Arica is emerging as a

major new oil and gas play. Ghana is joining the ranks of exporters. Major new discoveries have been found off the coast of French Guyana in Latin America.

But nowhere is the change in perspective more striking than in the United States – and North America more broadly. In 2008, the dominant view was that the United States was a region of declining oil and gas production, and that the decline was irreversible. It was expected that the United States was on course to be a major importer of LNG – and would end up spending upwards of \$100 billion a year to do so. Since then, however, the unconventional natural gas revolution – the surge in shale gas production – has transformed the U.S. gas position. At current prices, there is a growing interest in having some natural gas will go into the transportation sector, particularly large trucks and fleets.

The technology that underlies shale gas is also changing the outlook for oil supply in the U.S., which is now experiencing a “great revival” in production. North Dakota has recently overtaken California as the third-largest oil producing state in the country. Altogether, U.S. petroleum production is up almost 20 percent since 2008 – some 1.1 million barrels per day. It is expected that U.S. production could increase by another 300,000 barrels per day this year.

The change in North America is not limited to the United States. The production of Canadian oil sands has almost tripled since the beginning of the 21st century. Today the output from the oil sands -- 1.7 million barrels per day – is greater than Libya was producing before its civil war.

While U.S. oil production has gone up, oil consumption in the United States is down -- almost 10 percent since 2007 – a decline of two million barrels per day. In fact, United States oil consumption in 2011 was back to where it was 14 years

before -- in 1997. The result is that net U.S. oil imports have declined from 60 percent in 2005 to 44 percent at the beginning of this year and are likely to continue to decline, as supply increases and more efficient cars come into the fleet.

“Energy Less-Dependence”

All this does not add up to energy independence for North America, but it does add up to “energy less-dependence”. Continuing to facilitate these trends would be very helpful.

There are some more immediate things that can be done to help mitigate high prices at the pump. Additional supplies and rising inventories are the starting point. The experience during Hurricanes Katrina and Rita demonstrates that promoting flexibility in the movement of crude and products can help offset upward price pressures. Building confidence about future supplies, both in the United States and internationally, is another measure. The G-8 and IEA nations can coordinate to focus on the relatively modest measures that individuals and companies can take that collectively add up to help modulate demand. If for any reason there is some relaxation in tensions over Iran’s nuclear program, then that will reduce the evident security premium in the price. But, if events remain on the course described above, then oil prices will be a barometer of those tensions and of what unfolds in the months ahead.