**Testimony of John E. Lowe**

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**ConocoPhillips**

**Before the**

**Committee on the Judiciary**

**U.S. Senate**

**Hearing on**

**"Exploring the Skyrocketing Cost of Oil"**

**On**

**Wednesday, May 21, 2008**

## Introduction

Good morning, Mr. Chairman and Members of the Committee on the Judiciary. My name is John Lowe, and I am executive vice president of Exploration and Production for ConocoPhillips. In that capacity, I am responsible for our worldwide oil and natural gas exploration, development and production for the company.

ConocoPhillips shares your and the American public's concern about high consumer energy prices and we appreciate the invitation to provide our views on the factors that led to today's situation and to dispel some common misperceptions. We also welcome the opportunity to discuss our own efforts to expand U.S. energy supplies and thus improve the nation's energy security, as well as offer suggestions on what we believe the government should do to facilitate the process.

Let me begin by briefly describing ConocoPhillips. We are an international, integrated energy company, headquartered in Houston, Texas and active in nearly 40 countries. Among U.S.-based companies, we are the third-largest integrated energy company based on market capitalization, the second-largest domestic refiner, and a leading natural gas producer. We had annualized revenues of $220 billion, assets of $183 billion and approximately 32,800 employees as of March 31, 2008.

As you requested, my testimony here today will address the following subjects:

- Perspective and drivers of higher gasoline prices,
- The impact of mergers on energy markets,
- Misperceptions about oil industry profitability,
- ConocoPhillips' activities to increase U.S. conventional oil and gas supply and alternatives, and
- The path to a sound energy policy, including policies that should be avoided.

## Perspective on Gasoline Prices

I want to start by giving you my perspective on gasoline prices and discuss what is driving those prices. This section of my testimony makes the following points:

- Gasoline prices have not increased as quickly as crude oil prices this year. This stems from the fact that the U.S. gasoline supply and demand balance is loosening due to a combination of flat-to-declining gasoline demand, increased gasoline production capability, higher imports in recent months, and greater use of ethanol in fuel supplies. As a result, refining profit margins are shrinking and consumers – although they have been severely impacted – are not paying the full cost of crude oil price increases. Refiners and other market participants are absorbing the difference – and are thus impacted along with consumers.

- Higher world crude oil prices continue to be the primary driver of increased domestic retail gasoline prices.

- In contrast with the global gasoline balance, the global diesel fuel balance is tightening due to a long-term trend of higher demand growth, with limited capability to shift existing refinery capacity to make more diesel fuel. Unlike the increased ethanol use in the U.S. that is reducing the demand for conventional gasoline, biodiesel is less competitive and is thus having a much smaller impact on diesel fuel demand. As a result of these factors, diesel fuel prices around the world are rising relative to gasoline prices.

- Gasoline and diesel fuel prices are set as a result of thousands of transactions between buyers and sellers on a global basis. Price variations between regions in large part are caused by differences in product specifications, supply and transportation costs, operating costs and taxes.

*Gasoline prices are not rising as quickly as crude prices this year*

The average U.S. retail gasoline price on May 12 was $3.72 per gallon, which is about 20 percent higher than during the same week last year. Retail gasoline prices are rising this year primarily as a result of higher crude oil prices. However, the rise in absolute terms is masking the underlying trend of weakening gasoline prices relative to crude oil prices. Figure 1 below shows that relative to last year, crude prices increased significantly more than gasoline prices.

*Figure 1*

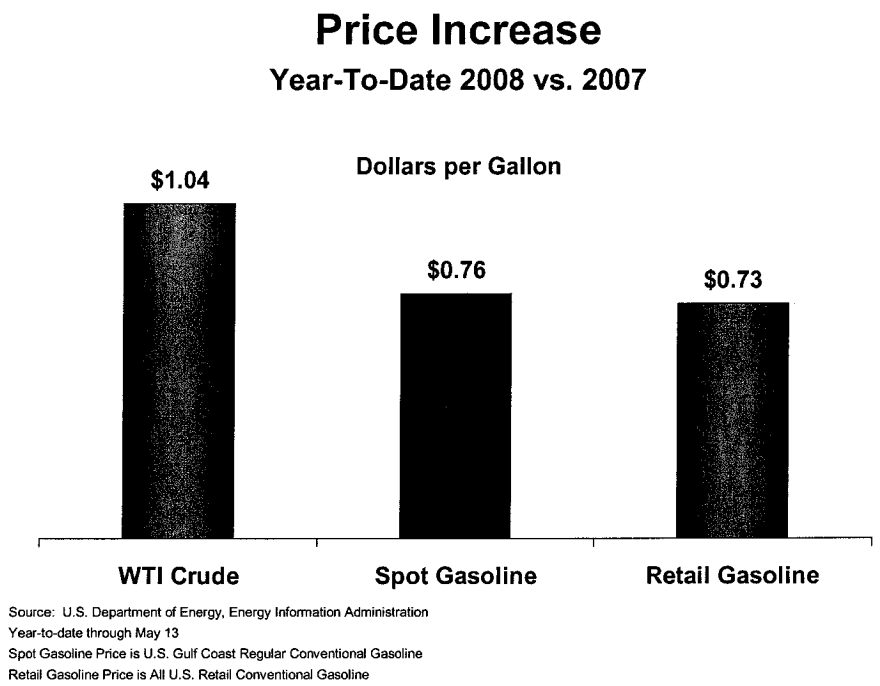



Figure 2 also shows that spot gasoline prices relative to crude oil prices have been unseasonably weak this spring, which is highly unusual for the start of driving season. There are several reasons for this relative weakness:

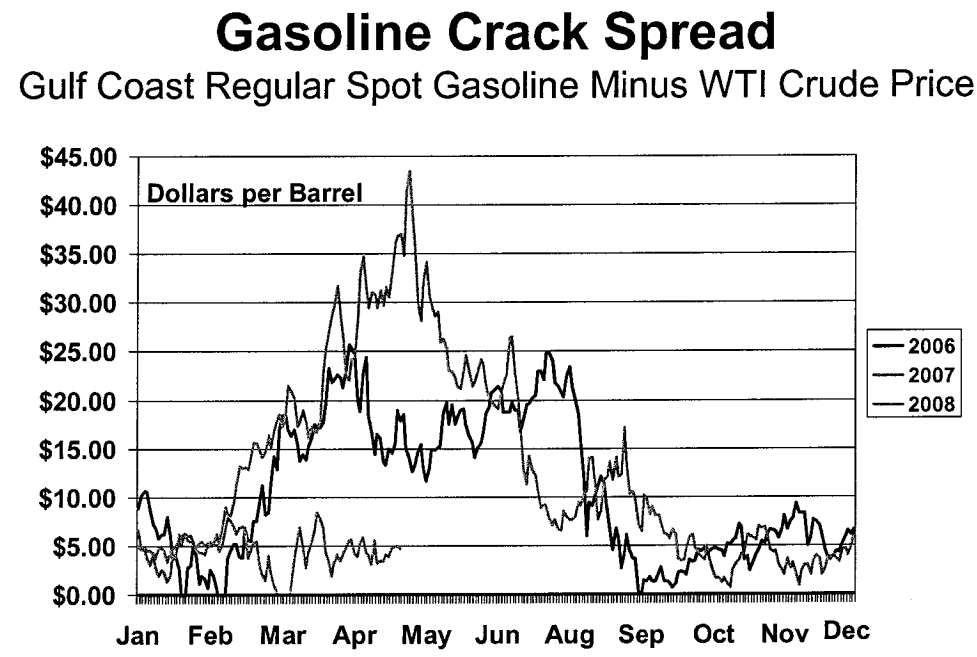
- Weakening gasoline demand due to the relatively high crude oil price level and the slowing U.S. economy,

- Rapidly increasing ethanol blending, which has expanded fuel supplies,

- The return of the domestic refinery capacity that was disrupted last year, and

- An increase in gasoline imports due to demand weakness in Europe, which continues to dieselize its automobile fleet.

*Figure 2*



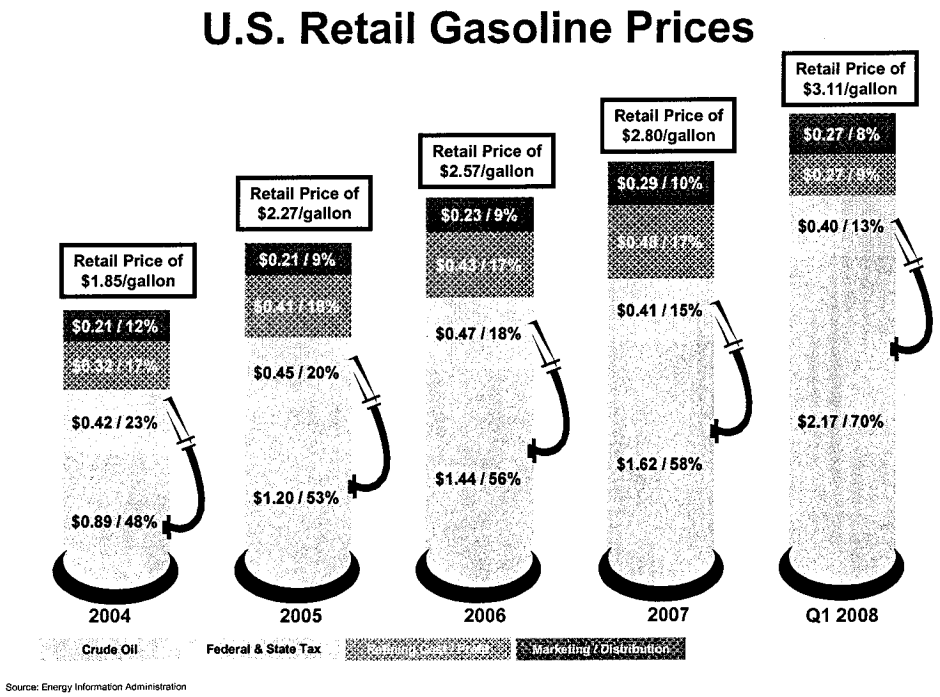

Source: U.S. Department of Energy, Energy Information Administration, spot historical through May 13, 2008

The failure of gasoline prices to keep pace with crude oil price increases reflects a longer term trend of a rising surplus of gasoline supply in the U.S. and Europe due to a long-term slowdown in gasoline demand growth. In contrast, diesel fuel prices are strengthening due to the ongoing trend of strong demand growth relative to the ability of refiners around the world to manufacture ultra-low-sulfur diesel fuel. Unfortunately, there is only a limited ability for refiners to convert existing gasoline production capacity from gasoline to diesel fuel. As a result, diesel fuel prices are strengthening globally, reaching $4.33 per gallon in the United States on May 12 compared to a gasoline price of $3.72 per gallon.

*Global crude oil prices are the biggest driver of gasoline prices*

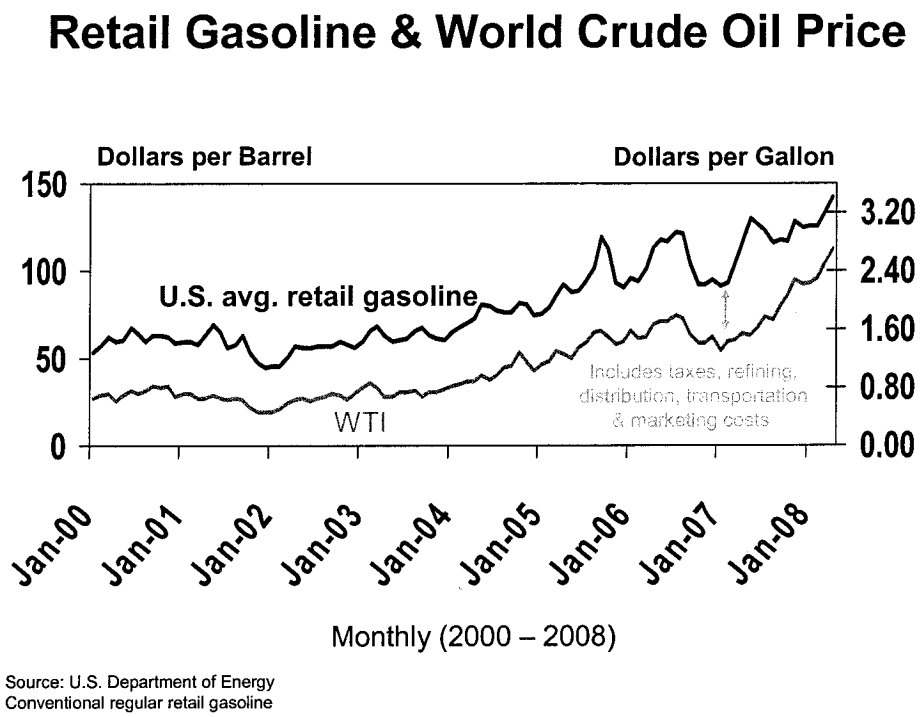
The biggest driver of increased gasoline prices has been higher global crude oil prices. The cost of crude oil is the largest single component of retail gasoline prices, representing about 70 percent of the pump price in the first quarter of 2008 (see Figure 3 below).[1] All costs and profits for the refining, distribution and marketing segments only accounted for 17 percent of the pump price in the first quarter of this year, with federal and state excise taxes accounting for 13 percent. Historical analysis also shows that changes in crude oil prices explained about 97 percent of the variation in the pre-tax price of gasoline between 1918 and 2006.[2] Figure 4 below demonstrates graphically that gasoline prices have historically moved with crude oil prices.

*Figure 3*




[1] U.S. Department of Energy, Energy Information Administration
[2] Carol Dahl, Colorado School of Mines, "What Goes Down Must Come Up; A Review of the Factors Behind Increasing Gasoline Prices, 1999-2006," April 2007

*Figure 4*




Crude oil is a global commodity with prices determined by the interaction of thousands of buyers and sellers in physical as well as futures markets around the world. Prices set in this global market reflect both current and future expected supply and demand.

The increase in global crude oil prices has been caused by:

- A period of strong global economic growth and thus oil demand growth, especially in developing Asian countries, Russia and the Middle East,

- A weak demand response to higher prices outside the United States due to price subsidies in developing countries and the weakening U.S. dollar,

- Constraints to expanding supply, including constrained resource access in many nations (including the United States), cost inflation and increased taxes,

- Increased geopolitical supply risk,

- Little excess OPEC production capacity,

- A rotation by the financial sector into commodities.

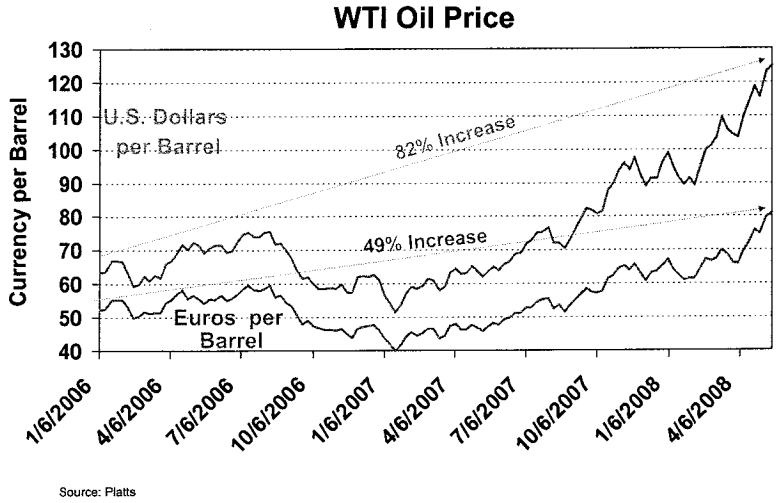
Global economic growth – One of the primary drivers of higher global oil prices over the last five years has been a sustained period of robust global economic growth, which led to stronger-than-expected energy demand growth. In fact, real growth in global gross domestic product between 2004 and 2007 of nearly 5 percent per year was about 40 percent higher than the average growth rate since 1980.[3] Due to this economic prosperity, between 2004 and 2007, oil demand grew by 2 percent per year, almost twice the rate experienced from 2000 to 2003. Nearly half of the demand growth since 2000 has been in emerging Asian nations that have reached a highly energy-intensive stage of their development. In these nations, rising per-capita income also enables a larger proportion of the population to afford affluent lifestyles similar to those in the United States. Oil demand growth in the Middle East, Russia and other oil-producing regions is also robust due to strong economic growth and fuel price subsidies.

Weak demand response to higher prices – Outside of the United States, high oil prices have not done much to trim demand growth. In Europe, tax rates on fuel consumption are sufficiently high to dwarf the impact of crude price increases. In developing countries, about 70 percent of demand is subsidized by the government so consumers are not experiencing the full impacts of price increases. Another factor is the decline in the U.S. dollar, in which oil is priced. Other countries have not experienced the same degree of crude price increase because their currencies have appreciated versus the U.S. dollar. Figure 5 below shows that the increase in crude oil prices in euros per barrel is significantly lower than the increase in crude oil prices in dollars per barrel.

[3] International Monetary Fund, "Updated October 2007 World GDP Growth and PPP Weights," January 30, 2008 (4.7% average for 2004-2007 vs. 3.3% average from 1980-2007)

*Figure 5*

## Weak U.S. Dollar Blunts Price Effects on Oil Demand Outside the U.S.

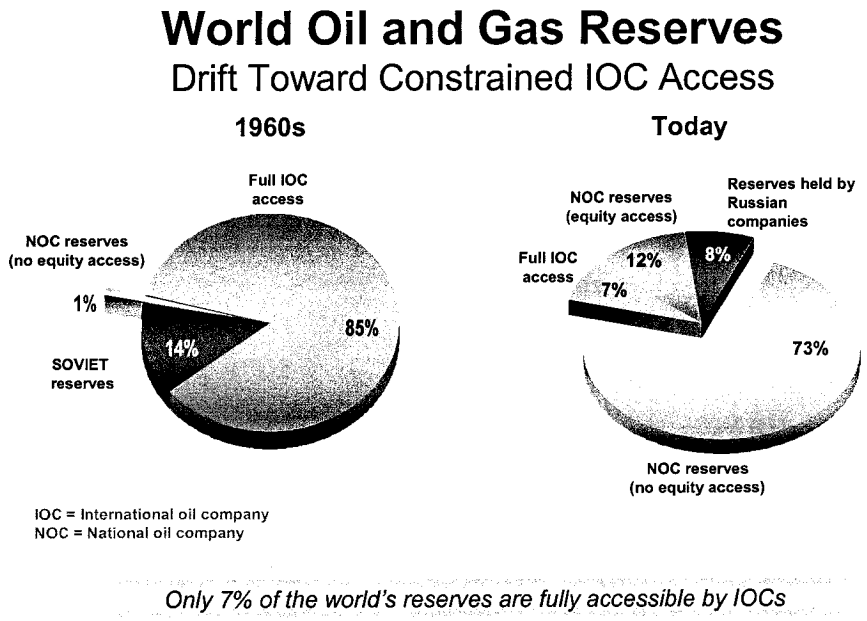



Source: Platts

Supply constraints – A second reason for high global crude oil prices is constraints on expanding conventional supplies. The biggest constraint is rising resource nationalism that limits access to resources for development. Figure 6 below shows that in the 1960s, 85 percent of global oil and natural gas reserves were available for direct development by international oil companies, versus only 7 percent today. In addition, rising competition for access to the relatively limited resources that are open for development has enabled host governments to dictate fiscal terms that are so onerous that publicly traded oil companies cannot economically pursue them. Increased taxes are a part of the change in fiscal terms. Morgan Stanley estimates that the exploration and production tax rates of major oil companies have increased from about 30 percent to 45 percent since 2000.[4] In some cases, governments change fiscal terms after investments have been made or increase taxes on existing production, even in mature producing areas in otherwise stable countries (Alaska in the United States, and the United Kingdom). Such actions can make it uneconomic to invest the capital required to slow decline rates in existing fields. Increases in tax rates and other forms of government take are particularly problematic due to the maturity of oil provinces in areas such as the United States, the North Sea and Western Siberia and the increasing amount of capital required to offset the rising decline rates.

[4] Morgan Stanley Research, "Integrated Oil," March 14, 2008, Exhibit 17, page 11, exploration and production taxes divided by exploration and production earnings before taxes

*Figure 6*




Source: PFC Energy, Oil & Gas Journal, BP Statistical Review 2007
Note: Excludes unconventional crude oil and bitumen reserves

Resource access is also very limited in the United States, where an estimated 40 billion barrels of technically recoverable oil resources are either completely off limits or subject to significant lease restrictions. Similar restrictions apply to more than 250 trillion cubic feet of recoverable natural gas resources.[5]

Another constraint on expanding supplies is rapid inflation in industry drilling and service costs and difficulties in obtaining contractors to perform work on the desired time schedule. An upstream capital cost index, published by Cambridge Energy Research Associates, indicates that industry capital costs have approximately doubled since 2000,[6] reflecting higher costs for materials, equipment and personnel. Driving factors include higher industry activity and spending levels and the decline in the U.S. dollar, as well as strong demand for materials, equipment and people in other sectors of the global economy. Industry costs are also pushed upward by limited resource access and depletion of existing lower-cost resources, which force the industry to develop higher-cost resources. Such resources are typically located in deeper water or more remote locations, or may be unconventional in nature, requiring specialized development and refining techniques. Goldman Sachs estimates that marginal oil reserve

[5] National Petroleum Council, "Facing the Hard Truths about Energy," 2007, page 20
[6] Cambridge Energy Research Associates, "Upstream Capital Costs Index," December 5, 2007

replacement costs today to achieve a cost-of-capital return are about $90 per barrel.[7] Higher oil prices reflect the higher costs of reinvesting in new supplies.

Geopolitical risk – Also pushing crude oil prices upward is the high geopolitical supply risk attributable to the world's low level of excess oil production capacity and the fact that in several key oil-producing countries, political factors are constraining production (e.g., Nigeria, Iraq, Venezuela and Iran). The combination of strong demand growth and the need to offset lost production from these countries left the Organization of the Petroleum Exporting Countries (OPEC) at year-end 2007 with only 2.5 million barrels per day of excess capacity, equal to just 3 percent of global oil demand. This contrasts sharply with the greater than 10 million barrels per day of excess capacity that existed in the mid-1980s. This lack of spare capacity leaves world markets more vulnerable to oil supply disruptions caused by political events, storm damage to producing facilities, or unforeseen operational problems.

Role of OPEC – Within limits, OPEC could historically influence prices by adjusting its production to tighten or loosen the supply and demand balance. However, today the large amount of oil traded in futures exchanges (1.3 billion barrels per day) is 36 times greater than OPEC's oil production of 36 million barrels per day.[8] In addition, given OPEC's small excess production capacity, its member nations have significantly less influence on the price of crude oil than they had in the past.

Financial sector rotation to commodities – A final possible reason for recent increases in crude oil prices is the rising attractiveness of commodities to financial investors. Commodity index funds have been developed to provide investors with a financial vehicle to gain commodity price exposure. Investors have moved large amounts of capital into these funds in order to seek higher returns than are currently available through the stock and bond markets, to hedge the risk in their portfolios given the negative correlation between commodity prices and prices of stocks and bonds, or to hedge against inflation. Declines in U.S. interest rates or the value of the dollar stoke concerns about inflation, prompting an inflow of cash into these

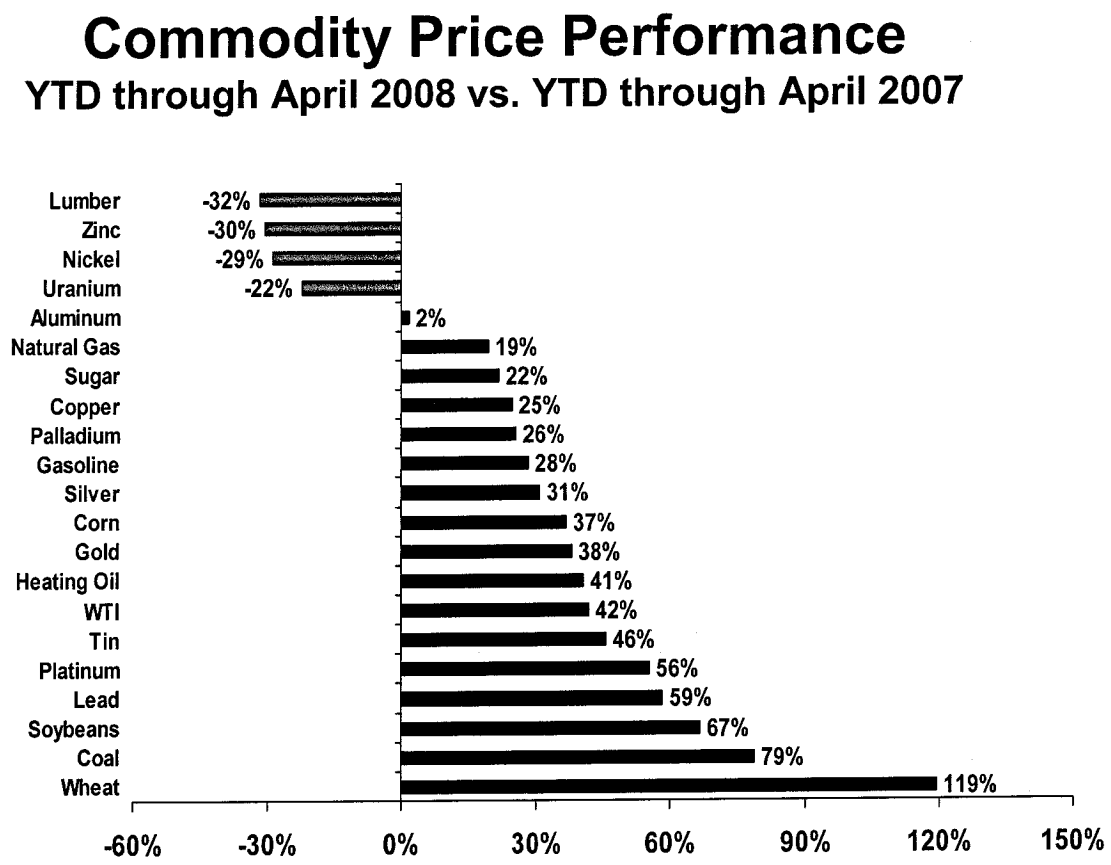
[7] Goldman Sachs, Global Roundtable, "$100 oil reality, part 2: Has the super-spike end game begun?" May 5, 2008, page 6

[8] OPEC production is 2007 estimate from the International Energy Agency Monthly Oil Market Report, The 1,272 million barrels per day trading estimates from futures exchanges are for March 2008 and include 679 million barrels per day for NYMEX WTI, 280 million barrels per day for Intercontinental Exchange WTI and 313 million barrels per day for Intercontinental Exchange Brent; OPEC production includes natural gas liquids

funds. According to Daniel Yergin, chairman of Cambridge Energy Research Associates, "oil has become the 'new gold' – a financial asset in which investors seek refuge as inflation rises and the dollar weakens." [9]

It is possible that the inflow of capital into long-only commodity futures funds is temporarily exaggerating upward oil price movements, as well as upward movements in the prices of other commodities (e.g., platinum, tin, gold and wheat). The funds are disproportionately weighted in energy commodities – one popular fund reports over a 70 percent weighting for energy. Figure 7 below shows that year-to-date in 2008 versus 2007, most commodities experienced substantial price increases, with many other commodity prices increasing more than the price of WTI crude oil.

*Figure 7*




Source: Bloomberg, Platts, spot prices, January 1 – April 30 2008 vs. 2007

[9] Daniel Yergin, Alexander's Gas and Oil Connections, volume 13, issue 7, April 15, 2008

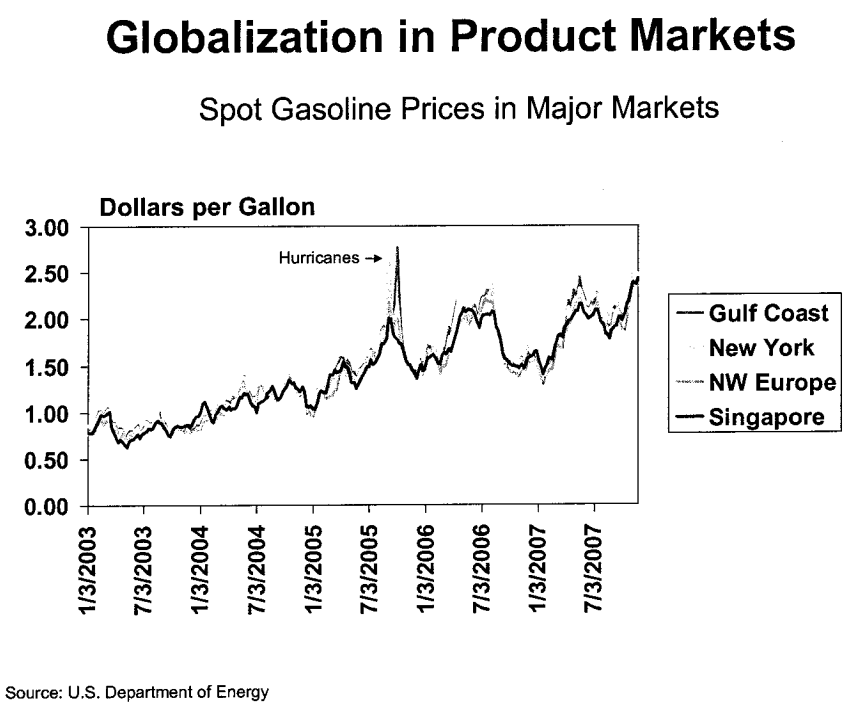
***Other causes of high gasoline prices in recent years***

While most of the variation in refined product prices is due to changes in crude oil prices, the supply and demand balance in the market for refined products also contributed to higher gasoline prices in the mid 2000s. However, as previously mentioned, those prices increased at a slower rate than crude oil prices this year. The factors that had contributed to rising gasoline prices until recently were:

- High global refinery capacity utilization due primarily to a period of strong global gasoline, diesel and other refined products demand growth,
- Constraints to the U.S. supply system, such as state or local requirements for "boutique" fuels,
- Refinery outages due to hurricanes and other unforeseen events, and
- Higher refining costs.

Before addressing these trends, it is important to point out that like crude oil, refined products also trade in the global marketplace at prices determined by global, regional, and local supply and demand fundamentals. Illustrating the point that this is a global market, Figure 8 below demonstrates that wholesale or spot gasoline prices in four diverse regions have experienced similar upward and downward pressures. There are occasional temporary regional dislocations due to weather conditions or refinery or transportation outages. However, any regional surplus products tend to rapidly move to supply-short regions and thus restore the global equilibrium, provided that geographic isolation or specialized product specifications do not interfere with this flow of products.

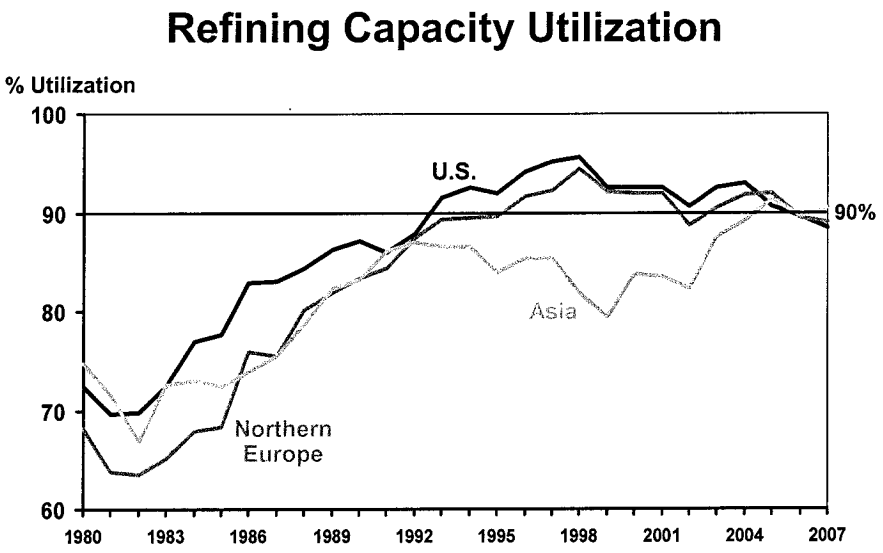
*Figure 8*




Global refinery capacity utilization – Until the mid 2000s, substantial excess refinery capacity in other nations enabled the United States to benefit from imports of surplus refined products. However, *strong global demand growth* has generally absorbed that surplus. Figure 9 below shows that refinery capacity utilization rates in the United States, Europe and Asia have all increased substantially in recent decades. High utilization, in turn, led to higher refinery margins that have in turn made economically possible a large number of currently planned refinery capacity expansions. The International Energy Agency estimates that 10.6 million barrels per day of global refining capacity is being added between 2007 and 2012. These additions represent a 12 percent increase in global refining capacity and are 9 percent greater than the Agency's projected oil demand growth during that period. Half of the additions are from incremental expansions in the United States and Asia and half are from new refineries being built in the Middle East and developing Asian nations. In addition to the 1.1 million barrels per day of expansions in distillation capacity planned in the United States by 2012, there are also large-scale upgrading capacity additions that will process increasing amounts of Canadian heavy, sour crude oil, and increase yields of clean-fuels products. [10]

[10] International Energy Agency, "Medium-Term Oil Market Report," July 2007, pages 54 and 60

*Figure 9*




Source: BP Statistical Review, 2007; U.S. Department of Energy for U.S.
2008 = YTD DOE for U.S., COP estimates for other regions

In addition to a prolonged period of strong demand growth, there are several other reasons why refinery capacity growth had not kept pace with demand in recent years. The refining industry has historically had *weak returns on capital*, which made it difficult to justify major expansions. For example, between 1995 and 2005 the return on investment in the refining sector was 10 percent, about 4.7 percent less than the average returns realized by the S&P industrials.[11] In addition, the U.S. refining industry has been required to *invest substantial sums on making cleaner fuels and reducing emissions, which has crowded out investment on expansions*. The U.S. refining industry has invested more than $84 billion since 1990 to improve the environmental performance of its products, facilities and operations.[12]

Even when the considerable economic hurdles for major expansions can be overcome, we are finding it *extremely difficult to obtain permits for expansions*. For example, ConocoPhillips applied in May 2006 for a permit to expand the Wood River refinery (a 50 percent joint venture with EnCana) in Illinois, and still does not have a final permit. At our refinery in Wilmington, California, local permit challenges and litigation have threatened an ultra-low-

[11] Timothy J. Muris and Richard G. Parker, "A Dozen Facts You Should Know About Antitrust and the Oil Industry," June 2007, page vi
[12] American Petroleum Institute, Environmental Expenditures by the U.S. Oil and Gas Industry, page 3

sulfur diesel fuel project since 2004. An expansion at our Rodeo refinery near San Francisco took 28 months to permit. The International Monetary Fund, in recognition of the barriers that hamper U.S. investment in downstream infrastructure such as refineries, stated "even when investment is allowed, environmental regulations and policies may drive up capital costs, causing delays."[13]

Our industry is often asked why the number of operable refineries in the United States has declined rather than increased in the last few decades, falling from 319 in 1980 to 149 in 2007. According to the Federal Trade Commission (FTC), the closures typically involved small, relatively unsophisticated facilities.[14] Between 1973 and 1981, federal government incentives enabled companies to own and profitably operate these small and often inefficient refineries. However, these refineries were hurt by the elimination of these incentives in 1981 as well as by the large capital expenditures that were required to meet government-mandated product specifications (such as clean fuels) and emissions reductions.

New refineries have not been built in the United States because building new refineries would cost considerably more than expanding existing refineries, and would face much greater permitting challenges. Thus, the industry has focused on incremental expansions of existing refineries. In fact, continuous expansions and improved efficiency have enabled the U.S. refining industry to increase crude runs nearly 30 percent since 1983,[15] despite closures of the smaller refineries and the refining industry's historically low returns on investment.

Constraints to the supply system – Another factor causing upward gasoline price volatility is the *proliferation of different grades of gasoline* required by various state and federal government environmental mandates. The existence of multiple unique product specifications makes it difficult to replenish supplies in the event of a disruption, such as storm-related refinery equipment outages. Regions with unique product specifications therefore experience greater price volatility than regions with standard specifications. A study by the U.S. Department of Energy indicated that "boutique" specifications did in fact result in upside

[13] International Monetary Fund, "What Hinders Investment in the Oil Sector," February 22, 2005, page 5
[14] U.S. Federal Trade Commission, Bureau of Economics, "The Petroleum Industry: Mergers, Structural Change, and Antitrust Enforcement," August 2004, page 7
[15] U.S. Department of Energy, Energy Information Administration, U.S. Weekly Crude Inputs Into Refineries, website (11.8 mmbd in 2003 and 15.2 in 2007)

volatility of gasoline prices,[16] a particular concern since more states are in the process of mandating new "boutique" grades of biofuels. The U.S. also requires lower sulfur gasoline than many other nations, which limits the sources from which gasoline can be imported into the United States. Other constraints to the supply system include limited import infrastructure, particularly on the West Coast, and the inability to ship ethanol-blended fuels in pipelines.

Refinery outages – While this has not been a large factor to date this year, unplanned refinery outages contributed to higher gasoline prices in some regions last year. In addition to unplanned outages, refineries undertake planned maintenance turnarounds, which are required to ensure the continued safe and efficient operation of refineries. Turnarounds are normally planned multiple years in advance and are scheduled before or after driving season to enable the refineries to run at full capacity during the peak demand period. The U.S. Department of Energy noted in a recent report that "the size and complexity of a refinery turnaround leaves little flexibility to change plans. The large commitments for labor, equipment and materials needed for process improvements make changes very costly at best, and safety concerns can override all other considerations."[17]

Higher refining costs – Additionally contributing to higher gasoline prices are higher refining costs. The refining industry has experienced substantial increases in energy, labor and materials costs. For example, the Nelson-Farrar composite index of refinery operating costs increased by 50 percent since 2002.[18] Contributing to this inflationary pressure is the fact that much of the domestic refining industry is competing for a limited pool of goods and services as multiple companies are working simultaneously to expand capacity. The refining industry has also had to expend capital on projects that reduce emissions and produce lower-sulfur fuels. Unfortunately, although performed for worthy causes, such projects often tend to increase operating costs.

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[16] U.S. Department of Energy, Energy Information Administration, "Gasoline Type Proliferation and Price Volatility," September 2002, page 4

[17] U.S. Department of Energy, Energy Information Administration, "Refinery Outages: Description and Potential Impact on Petroleum Prices," March 2007, page v

[18] Oil and Gas Journal data base, "Nelson-Farrar refinery operating index," monthly as of November 2007

***Gasoline supply and demand balance is moving back into equilibrium***

Even as concerns grow over rising gasoline pump prices, the U.S. gasoline market is already moving back toward equilibrium due to:

- Slowing growth in demand caused by the higher gasoline price levels (in turn caused by higher crude oil prices) and the slowdown in the U.S. economy,
- Refinery capacity expansions,
- The restoration of domestic refining capacity that was disrupted last year,
- The increased use of ethanol in gasoline, and
- An increase in gasoline imports versus last year due to weakening gasoline demand outside the United States. The continued dieselization of Europe's automobile fleet is causing gasoline demand there to decline, and much of the surplus gasoline comes to the United States.

Evidence for the restoration of the balance in gasoline markets is the fact that as stated earlier, gasoline price increases are not keeping pace with crude oil price increases this year.

The relatively high gasoline-to-crude oil price spreads experienced in the last few years indicated tightness in the gasoline balance and provided the impetus for slower demand growth and increased production capacity. The market functioned properly to restore the gasoline balance. The best example of the market's effective response to a supply shortfall can be found in the aftermath of hurricanes Katrina and Rita in the fall of 2005, which temporarily shut down nearly 30 percent of total U.S. refining capacity as well as crude oil and product pipelines originating in the Gulf Coast. The higher gasoline price caused by the disruption resulted in increased refinery production outside the impacted area and higher gasoline imports. During the three weeks following Hurricane Rita, gasoline imports to the United States rose by 65 percent versus the previous year's rate. As a result of the market response, U.S. Department of Energy data indicates that the average retail gasoline price in

the United States dropped below pre-hurricane levels within one month (October 24, 2005) of the hurricane's landfall (Rita landfall: September 24, 2005).

***Tightening global diesel supply and demand balance***

The other shift occurring in global and U.S. product markets is the strengthening of diesel fuel prices relative to gasoline prices. Globally, and within the United States, diesel fuel demand has increased faster than gasoline demand in recent years. In the United States, diesel fuel demand growth has been robust due to strong economic growth until recently, and the heavy use of diesel fuel to transport products that are sold in the United States. Europe has had strong diesel fuel demand growth as a result of the tax-driven dieselization of the passenger vehicle fleet. Meanwhile, due to strong economic growth, Asia constitutes a greater share of the world's oil demand growth. It has traditionally had stronger demand growth for diesel fuel for use in the shipment of products and for generating electricity than it has had growth in demand for gasoline for use in personal transport. As a result of these global structural changes, overall world diesel fuel demand increased by 2.5 percent per year over the last decade, while gasoline demand grew by 1.5 percent per year. In 2000, global distillate demand (diesel fuel and heating oil) became a larger portion of global demand than gasoline.

The issue with the acceleration of diesel fuel demand relative to gasoline demand is that – to meet past demand patterns – refineries were generally configured to maximize gasoline production with a typical distillate yield in the United States of only about 25 percent. The ability to change the configuration of an existing refinery to produce more diesel fuel is limited and it would reduce gasoline production. Building new diesel-oriented refineries will require a significant amount of time and capital. Thus, the global diesel fuel supply/demand balance has tightened relative to gasoline.

Another reason for rising diesel prices is that the U.S. and Europe have substantially lowered the sulfur content of their diesel fuels in recent years. In addition to costing more to manufacture lower-sulfur products, other potential suppliers around the world can no longer meet the more stringent U.S. and European diesel fuel specifications, which reduces available imports. In addition, the production of ultra-low-sulfur diesel fuel can reduce the volume

produced from some refineries. Thus, acceptable diesel fuel supplies are more limited and cost more than in the past.

Diesel fuel prices are also stronger than gasoline prices because biodiesel is having less of an impact on demand than ethanol is on gasoline demand. While increased U.S. ethanol use is reducing demand for conventional gasoline, biodiesel is less competitive and is contributing less to overall diesel fuel supplies.

As a result of these global and U.S. market forces, U.S. prices for on-road retail diesel fuel averaged about 10.5 cents per gallon above gasoline prices since 2005, compared to averaging 5.5 cents per gallon below gasoline prices between 1995 and 2004.[19] In recent weeks, spot diesel prices in the Gulf Coast have been trading 50 cents per gallon above spot gasoline prices.

In addition, diesel fuel prices in the United States are being buoyed this year by strong demand and pricing in other nations. For example, there have been reports of additional diesel fuel demand for use in power generation as a result of disruptions in power markets and coal shortages in other nations, including China.[20]

***Reasons for regional variations in retail gasoline or diesel prices***

There is a common misperception that differences in retail prices across regions indicate that the market is not functioning properly. There are many legitimate reasons for regional variations in gasoline prices:

State or local environmental programs – Some areas of the country are required to use special "boutique" gasolines. Environmental programs, aimed at reducing carbon monoxide, smog and air toxics include the manufacture of federal and/or state-required oxygenated, reformulated and low-volatility gasolines. Other environmental programs put restrictions on transportation and storage. The reformulated gasolines required in some urban areas and in California cost more to produce than conventional gasoline used elsewhere, increasing the

[19] U.S. Department of Energy, Energy Information Administration, Weekly Petroleum Status Report, U.S. Gasoline and Diesel Retail Prices
[20] International Energy Agency, Oil Market Report, April 11, 2008, page 17

price paid at the pump. Many different states are now considering mandating differing percentages of biofuels usage, which will create additional boutique gasoline and diesel fuels.

State and local taxes – State gasoline sales tax rates in the United States range from a low of 7.5 cents per gallon in Georgia to a high of 34 cents per gallon in the state of Washington. Some localities also levy taxes on fuel.

Proximity of supply – The farther a location is from refineries or major pipelines, the higher you would expect the price to be given the necessity of trucking products from a pipeline terminal to the site. Trucking is more costly than pipeline transport.

Supply disruptions – Events that temporarily slow or stop production of gasoline or diesel fuel, such as storms or unplanned refinery maintenance, can prompt market participants to bid up the price of available supplies. Then, if the transportation system cannot easily move supplies from regions where they are in surplus to where they are needed, prices will remain comparatively high.

Operating costs – Even stations located adjacent to each other may have different traffic patterns, rents, and sources of supply that influence retail fuel prices. States also have different refinery production costs and product transportation costs, due to such factors as different crude oil supply sources, electricity and other utility costs, land values and wage rates.

## The Impact of Mergers on Energy Markets

This section of my testimony indicates that mergers are not a cause of higher energy prices and instead have helped constrain energy prices from levels they might have otherwise reached. The main points are that:

- One of the primary reasons for the merger between Conoco Inc. and Phillips Petroleum Company was a response to adversely changing market conditions, such as the trend toward limited resource access discussed earlier, and growing size and risk of the remaining available development opportunities. These are the same trends that are

currently working to drive crude oil prices higher, despite the positive impact of industry mergers.

- "Big Oil" – the traditional publicly owned international oil companies – in fact is not so big when its small market share relative to that of national oil companies is considered. In addition, concentration levels of the various segments of the petroleum industry are low relative to those of other industries.

- Oil pricing and oil industry mergers have been subject to greater scrutiny by the Federal Trade Commission (FTC) than other industries. FTC merger reviews have more closely analyzed oil than other industries and the FTC have challenged mergers at lower levels of concentration. The FTC has also conducted several investigations of pricing anomalies and generally concluded that market forces were responsible.

- Our experience with the merger between Conoco Inc. and Phillips Petroleum Company suggests that consumers have benefited from the improved cost structure and higher efficiency of our greater scale of operations.

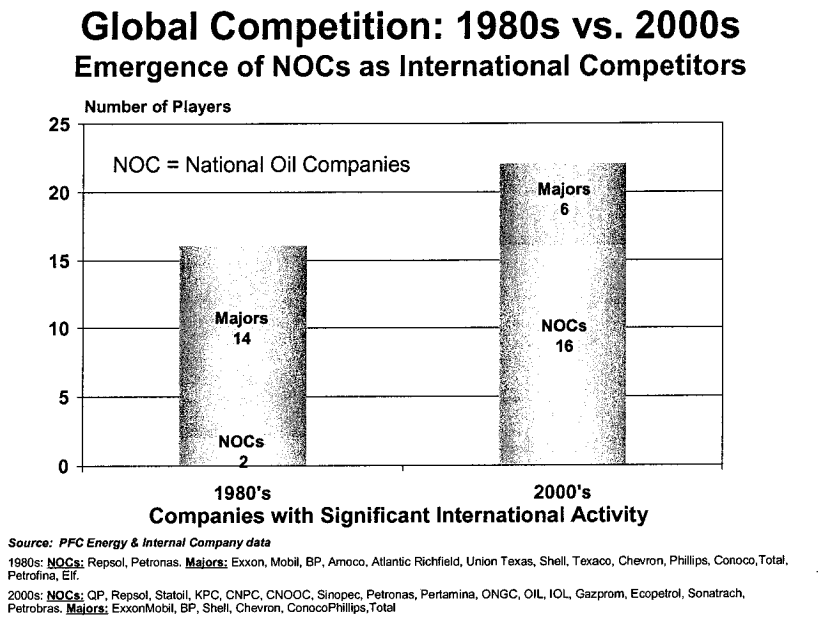
- Financial data included below indicates that oil and gas industry profitability is commensurate with that of other industries despite the current high point of an investment cycle.

***Consolidation driven by reduced resource access and need to improve efficiency***

I would like to share our general view on why the petroleum industry has been consolidating. First, it is important to point out that over the last decade there have been mergers in many industries. To some degree, the trend toward consolidation is driven by globalization, with mergers in mature markets giving companies from various industries sufficient scale and a lower cost structure that enables them to compete in a global arena. For petroleum companies, the global business environment has become particularly challenging as government-owned enterprises from both oil-producing and consuming nations have emerged as new global petroleum players, adding to competition in the marketplace. In fact, Figure 10 below shows that the emergence of national oil companies competing outside their borders has more than

offset the decline in the number of international oil companies due to mergers. Thus, the number of international competitors has increased since the 1980s.

*Figure 10*




*Source: PFC Energy & Internal Company data*

1980s: **NOCs:** Repsol, Petronas. **Majors:** Exxon, Mobil, BP, Amoco, Atlantic Richfield, Union Texas, Shell, Texaco, Chevron, Phillips, Conoco,Total, Petrofina, Elf.

2000s: **NOCs:** QP, Repsol, Statoil, KPC, CNPC, CNOOC, Sinopec, Petronas, Pertamina, ONGC, OIL, IOL, Gazprom, Ecopetrol, Sonatrach, Petrobras. **Majors:** ExxonMobil, BP, Shell, Chevron, ConocoPhillips,Total

The upstream segment of the petroleum business consists of exploration for and development and production (E&P) of crude oil and natural gas supplies. Access to crude oil and natural gas reserves is the principal challenge in the upstream segment of the petroleum industry today. In the United States, oil and gas production is declining, largely because many areas with the best remaining prospects for exploration and development are off limits due to state or federal drilling moratoriums. These access restrictions extend well beyond the most environmentally sensitive areas. This constrained access increasingly forces the U.S. energy industry to look for resources abroad, where resources often are controlled by national oil companies. Resource access – both domestic and international – has been steadily eroding since the 1960s. As shown in the previous Figure 6, international oil companies can directly access only 7 percent of the world's oil and gas reserves today, with only an additional 12 percent theoretically accessible through joint ventures with national oil companies.

Competition for the limited resources available – combined with rising foreign government taxes – make it difficult for publicly traded oil companies to access resources that offer the potential to earn acceptable returns to our shareholders. This has led to declining organic

reserve replacement rates for many international oil companies. Meanwhile, national oil companies from oil-producing and consuming nations, along with privately held Russian companies, are now competing globally and adding to the resource access challenge.

This constrained access at home and abroad has required international oil companies to undertake increasingly large and complex projects that host governments may not have the financial strength, skills or technology to undertake on their own, including in some developing countries that may not have the same rules of law and contract sanctity as most industrialized nations. At the same time, regime change has destabilized some jurisdictions and introduced risk at levels unforeseen at the time of the original investment. The expropriation of ConocoPhillips' assets in Venezuela is an example of such changes that highlights the enormous amount of risk companies are facing today, and the value of being a large and highly geographically diversified company.

The industry is also seeking opportunities in places that are more operationally challenging and thus expensive, such as prospects located in deep water, remote or arctic areas or unconventional oil projects that required downstream processing. A typical large ConocoPhillips exploration and development project requires several billion dollars of initial investment and may not generate revenues for over a decade from project sanction. A single large offshore platform in the Gulf of Mexico designed to operate in thousands of feet of water costs more than $1 billion to develop. A project to produce and deliver liquefied natural gas currently costs from $7 billion to $21 billion, depending on its size, location and complexity. The proposed Alaska natural gas pipeline is expected to cost $25 to $40 billion. Only large companies with substantial financial capacity and technical resources can effectively develop these projects, while sufficiently diversifying the number of projects and geographies to manage the risk. For U.S. companies to compete in today's environment of mega projects, they have been forced to consolidate to gain scale commensurate with the growing magnitude, complexity and risk of available opportunities. The forces demanding that oil and gas companies become larger and more diverse in order to compete will continue growing in the years ahead.

For the refining business, international competition and large required expenditures on environmental projects that generate little economic return have driven this industry as well to

strive for increased economies of scale and greater efficiency. The FTC has also observed that, "the United States has fewer refineries than it had 20 years ago, but the average size and efficiency of refineries have increased, along with the total output of refined products."[21]

***The U.S. petroleum industry is not highly concentrated***

Despite the consolidation that has taken place in the petroleum industry, it is still not highly concentrated today. The 2004 FTC report on mergers and structural changes in the industry concluded that "mergers of private oil companies have not significantly affected worldwide concentration in crude oil, and that concentration for most levels of the petroleum industry has remained low to moderate."[22] That conclusion was reiterated in FTC testimony to the U.S. Congress in 2006 that stated that "despite some increases over time, concentration for most levels of the United States petroleum industry has remained low to moderate."[23]

Exploration and production – There is a common misperception that the oil majors control a substantial portion of the world's oil and natural gas reserves. However, Figure 11 below shows that "Big Oil" is not so large compared to the national oil companies. In fact, the top six major companies (as defined in Figure 10) together hold only 4.5 percent of the world's oil and gas reserves.

Concentration in domestic crude oil production and ownership of crude oil reserves remained at very low levels between 1990 and 2002 as measured by the Herfindahl-Hirscchman Index (HHI), which equals the sum of the squared market shares of all market participants in the relevant product and geographic market. An HHI of 1,000 or less is considered to be unconcentrated. In 2002, domestic crude oil production had an HHI of 297, up only slightly from 284 in 1990.[24]

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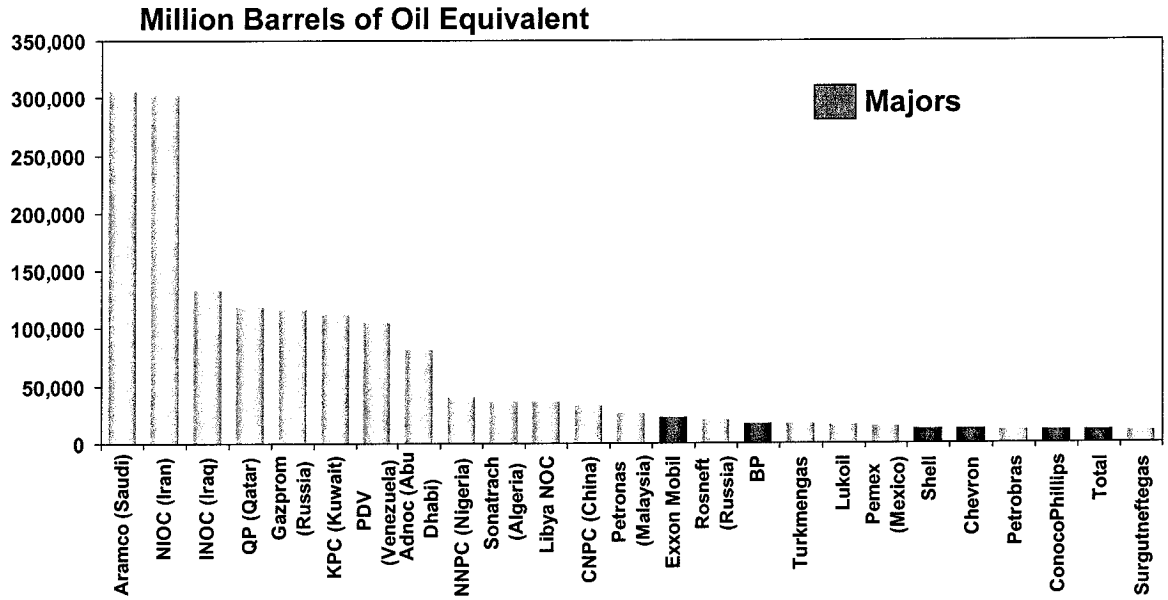
[21] Michael A. Salinger, "Petroleum Industry Consolidation: Prepared Statement of the Federal Trade Commission Before the Joint Economic Committee of the U.S. Congress," May 23, 2007, page 7
[22] William E. Kovacic, Commissioner, Federal Trade Commission, "Market Forces, Competitive Dynamics, and Gasoline Prices: FTC Initiatives to Protect Competitive Markets before the Subcommittee on Oversight and Investigations of the House Committee on Energy and Commerce, May 22, 2007, page 22 referring to Federal Trade Commission, "The Petroleum Industry: Mergers, Structural Change and Antitrust Enforcement," 2004
[23] William E. Kovacic, Commissioner, Federal Trade Commission, "Petroleum Industry Concentration," Prepared Statement to the Committee of the Judiciary, U.S. Senate, February 1, 2006, page 5
[24] Timothy J. Muris and Richard G. Parker, "A Dozen Facts You Should Know About Antitrust and the Oil Industry," June 2007, pages 11 and 13

*Figure 11*

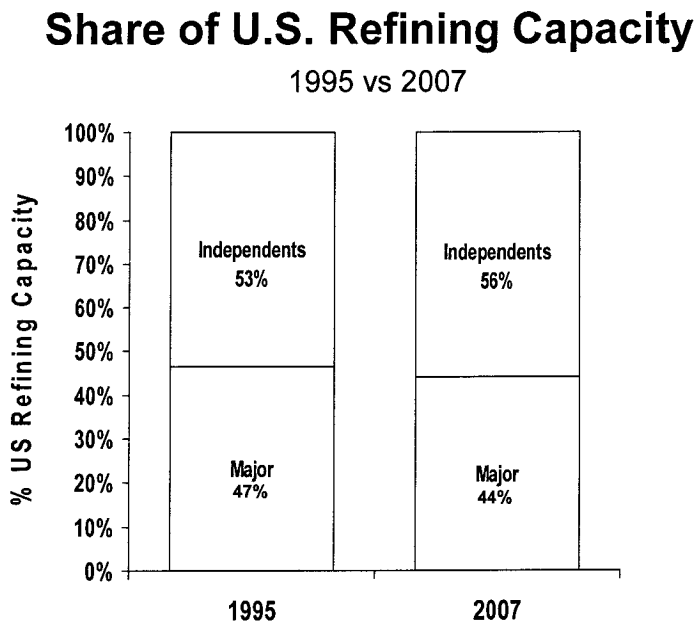
# Top 25 Oil, NGL and Natural Gas Reserves




Source: Energy Intelligence Group, Ranking the World's Oil Companies 2008

Refining – Ownership in the U.S. refining industry is also not concentrated. Valero, an independent refiner, has the largest share with 13 percent of capacity. Figure 12 below demonstrates that despite the mergers that have taken place over the last decade, ownership of refining capacity has shifted slightly away from the U.S. integrated majors to independents.

*Figure 12*




Source: Oil Gas Journal US Refining Survey Data as of Jan 1, 1996 and Jan 1, 2008. Total Refining capacity reported for year end '95 is 15.34 mmb/d; and year end 2007 is 17.44 mmb/d.

Joint Venture shares are included in the parent company shares for Exxon, Shell, and ConocoPhillips.

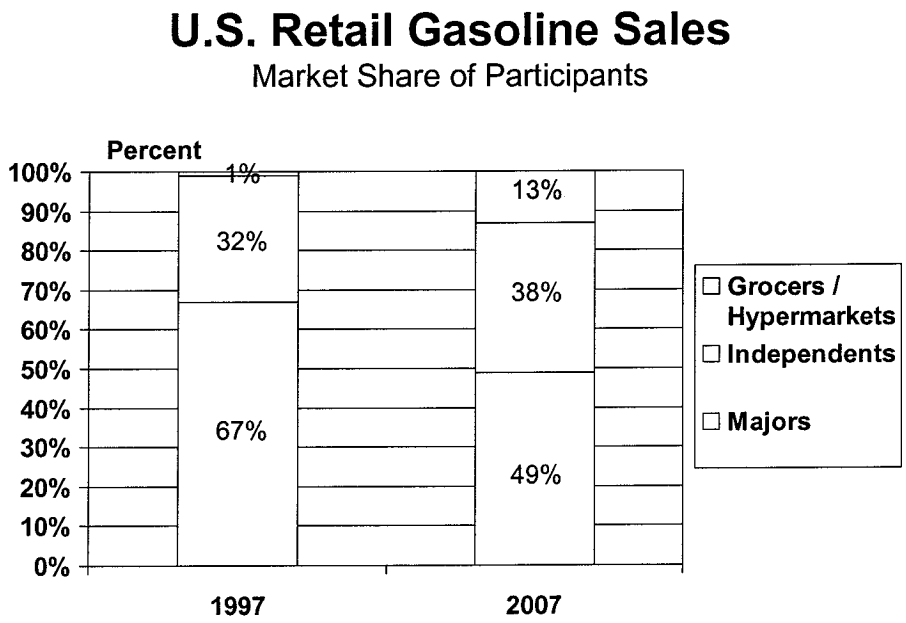
The U.S. refining industry is also not very concentrated compared to many other industries. The top four refining companies in the U.S. have a market share of 59.4 percent. The market share of the four largest companies is far more concentrated in these other industries:[25]

| | Percent |
|---|---|
| Carbonated soft drink | 94.8 |
| Carpet | 84.4 |
| Brewing | 84.2 |
| Light bulb | 77.3 |
| Automobile | 74.2 |
| Fast Food | 66.9 |
| Pharmaceuticals | 61.5 |

[25] Timothy J. Muris and Richard G. Parker, "A Dozen Facts You Should Know About Antitrust and the Oil Industry," June 2007, pages 17 and 18

Retail marketing – The share of the four largest companies in the retail gasoline industry stands at 62 percent, which is far less concentrated than other industries.[26] Ownership of retail operations by the major companies has declined considerably over the last decade as shown in Figure 13 below. Over the past decade, the majors companies' gasoline brand share has decreased from 67 percent to 49 percent. There have been many new entrants into the retail business. Over the past ten years, giant grocery store chains and hypermarkets have increased their share from 1 percent to 13 percent. Independents have also grown their share from 32 percent to 38 percent over the last decade. These figures refer to market shares of gasoline sales. Major integrated oil companies have much smaller participation in the ownership and operation of retail stores. According to the Association for Convenience and Petroleum Retailing, the major integrated oil companies own and operate fewer than 3% of all retail locations in the United States.[27]

*Figure 13*




Source: The NPD motor fuels index, The NPD group

[26] Timothy J. Muris and Richard G. Parker, "A Dozen Facts You Should Know About Antitrust and the Oil Industry," June 2007, pages 17 and 18

[27] Testimony of Bill Douglass on Behalf of The National Association of Convenience Stores Before the House Judiciary Committee, Anti-Trust Task Force, Hearing to Examine the Consumer Effects of Rising Gas Prices, May 7, 2008, page 2

### *The petroleum industry receives more scrutiny than other industries*

The petroleum industry receives closer scrutiny from antitrust authorities than other industries. An FTC review of merger investigations and enforcement actions from 1996 to 2005 concluded that the Commission brought more merger cases with lower levels of market concentration in the petroleum industry than any other industry.[28] During the period of oil industry mergers in the late 1990s, the FTC's Bureau of Competition spent almost one-fourth of its enforcement budget on investigations in the energy industry.[29]

In addition to merger reviews, the FTC also actively monitors wholesale and retail gasoline and diesel fuel prices. The agency regularly scrutinizes price movements in 20 major urban areas and approximately 360 cities across the country. The FTC has previously testified to the U.S. Congress that "in no other industry does the Commission so closely monitor prices."[30] The Commission's experience from its past investigations and from the current monitoring program indicates that unusual movements in gasoline prices typically have a business-related cause including movements in crude oil prices, supply outages (e.g., from refinery fires or pipeline disruptions), or changes in and/or transitions to new fuel requirements imposed by air quality standards.[31] States also have investigated gasoline and diesel fuel prices on a number of occasions. ConocoPhillips cooperates fully – both on a voluntary and a formal basis – with authorities and expends significant resources in providing information and other assistance to the authorities monitoring the petroleum industry.

### *ConocoPhillips' merger experience*

ConocoPhillips' mergers, acquisitions and joint ventures have benefited consumers by reducing cost and improving the efficiency of our business, and increasing supplies of petroleum products for American consumers. Fundamentally, the supply of petroleum products depends on the ability of U.S. companies to access crude oil and natural gas and to transform them into petroleum products for American consumers. The transactions

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[28] Michael A. Salinger, "Petroleum Industry Consolidation: Prepared Statement of the Federal Trade Commission Before the Joint Economic Committee of the U.S. Congress," May 23, 2007, page 3
[29] Ibid., page 8
[30] Ibid., page 16
[31] Ibid., page 17

undertaken by ConocoPhillips have been motivated by and have subsequently achieved increased access to crude oil and natural gas, and increased refining capacity to turn that crude oil into petroleum products. This increased supply has benefited – and can be expected to continue to benefit – American consumers through lower prices than would have otherwise been obtained and through greater energy security. These mergers and acquisitions also have strengthened the sustainability of the company's competitive position and long-term viability.

Given the size and importance of the merger of Conoco Inc. and Phillips Petroleum Company to our company's history, I would like to use this transaction as an example of how this merger has benefited U.S. consumers. This $36 billion merger of equals was completed on August 30, 2002. The rationale was to form a company of sufficient size and scale to address opportunities that could not be achieved by either company on a stand-alone basis. The merger was intended to develop a diversified growth portfolio and leverage the intellectual capital of the two companies. It also was intended to strengthen our financial position through diversifying earnings and cash flow, developing a stronger balance sheet and improving capital efficiency and the cost structure. We estimated cumulative cost and efficiency savings of approximately $1.9 billion in 2004 resulting from this merger.

In the Exploration and Production (E&P) segment of the business, our increased scale, financial strength and diversification have enabled ConocoPhillips to expand our investments in traditional core areas and to develop new legacy assets. The E&P business segment also benefited from the combination of the companies' complementary competencies. For example, by combining Phillips' liquefied natural gas (LNG) technical expertise with Conoco's extensive gas marketing experience, ConocoPhillips has become a more effective global gas player. These capabilities enabled us to compete successfully for participation in a major LNG project in Qatar (Qatargas III), which puts our company in a strong position to help expand imports of natural gas to American consumers over the coming years as the domestic supply declines.

In the refining and marketing (R&M) business segment, we benefited from lowering our cost structure, which was made possible by sharing technology and best practices, optimizing crude supply and improving management of intermediate refining feedstock across our entire refining system. Unit cost reductions have resulted from initiatives in the areas of energy

efficiency, operations optimization and maintenance. Additionally, the sharing of technological expertise and best practices has helped mitigate increases in the capital costs of projects.

The merger also resulted in increased efficiency in R&M operations. We have been able to improve reliability and increase clean refined product yields at our refineries by sharing technology and best practices across our refinery network. These include initiatives in preventative maintenance, reduced turnaround time, improved tuning and control of operating units and installation of improved technologies.

Since the merger, refinery utilization has improved from the low 90 percent range to the mid 90 percent range, which is equivalent to adding 100,000 barrel per day of refining capacity. In addition, since the merger we have increased the nameplate capacity of our U.S. refineries by approximately 2 percent, resulting in a further 50,000-barrel-per-day capacity increase.

Having multiple U.S. refineries that can be upgraded now enables us to bring additional crude oil from Canadian oil sands production into the United States. For example, in 2007 we formed a joint venture with EnCana, which created an integrated North American heavy oil business consisting of two 50/50 operating businesses that include two of their large oil sands projects and two of our U.S. refineries. The joint venture is presently working to expand the capabilities of the Wood River refinery in Illinois to handle additional volumes of crude oil from the Canadian oil sands. We are currently awaiting approval of permits to commence construction.

All across our post-merger refining system, we can point to numerous examples of higher crude-oil throughputs stemming from our enhanced ability to balance crude oil supplies among a larger number of refineries. For example, crude oil throughput at our Sweeny, Texas refinery was maintained at higher levels during the Venezuelan supply disruption in 2003 due to our ability to divert the specialized crude from three other ConocoPhillips refineries that could more easily adapt to alternative supplies. In several instances, we have been able to maximize our refining system throughput during Gulf of Mexico storms that delayed crude oil deliveries, including during the aftermath of Hurricane Katrina thanks to greater balancing options among waterborne cargoes, pipeline receipts and inventories.

We also have produced greater volumes of clean products since the merger through our ability to balance intermediate and blendstock inventories among refineries. For example, we increased the supply of imported gasoline and gasoline blendstocks from Conoco's Humber refinery in England through Phillips' Bayway and Trainer refineries on the U.S. East Coast. We also move premium gasoline blendstocks (e.g., alkylate, toluene) from our East Coast refineries to our West Coast refineries to increase the supply of CARB gasoline and to enhance octane. In addition, when we plan refinery turnarounds, we can process intermediate products (not yet upgraded to a finished product due to capacity lost in turnaround) at other plants. Even in the case of unplanned downtime, we are able to transfer intermediate products between facilities to enable crude rates to be maintained and to utilize stocks from other facilities to maintain supply to consumers.

We also have realized significant efficiency gains in operations of U.S. pipelines and terminals since the merger. For example, we improved access for Canadian crude oil on the Spearhead pipeline and improved crude oil import capability on the West Coast.

Divestitures stemming from the merger also moved refining capacity into the hands of new industry participants. Although we believed it was unwarranted, in response to an FTC mandate before the merger was closed, our Woods Cross refinery in Utah was sold to Holly Corporation, and our Denver refinery in Colorado was sold to Suncor. In both cases, the new owners have invested capital in order to maintain output and to make new clean fuels at these refineries.

## Industry Profits: Addressing Common Misperceptions

There are many common misperceptions about industry profits that I would like to clear up. This section of my testimony makes the following major points:

- Costs of operations and supply expansion have increased along with rising oil prices. In fact, these cost increases have substantially raised industry reserve replacement costs.

- The large absolute size of earnings by major oil companies mostly reflects the enormous size of required investments in major projects.

- Petroleum industry profitability is similar to the profitability of other industries, with the exception that refining industry profitability has been historically weak.

- The petroleum industry is reinvesting in new supplies.

***Costs catch up with prices***

Oil and natural gas industry earnings are highly cyclical, as is the case with other commodity industries. Although the industry's profits have increased in recent years, along with the overall strengthening of underlying commodity prices, costs have escalated rapidly and are still rising. In fact, Morgan Stanley estimates that the returns on capital employed earned by the exploration and production operations of integrated oil companies actually peaked in 2005, and have since declined.[32] I previously mentioned that Goldman Sachs estimates that marginal reserve replacement costs today are approaching $90 per barrel. Morgan Stanley also estimates that from 2008 to 2012, new upstream investments will require crude oil prices of nearly $85 per barrel (West Texas Intermediate) to be profitable at the industry's cost of capital, and that given continuing cost increases, crude oil prices by 2012 of approximately $90 - $100 per barrel will be needed to justify investment.[33] Thus, today's higher prices actually reflect higher reserve replacement costs.

***Large earnings reflect scale of investment***

There is a common misperception that the absolute dollar amount of major oil company earnings is indicative of the industry's profitability. Rather, its earnings reflect the industry's enormous scale and the capital investment needed to replenish depleting supplies and to grow. I have already talked about the high cost of the mega projects that the majors are developing. A single large offshore platform in the Gulf of Mexico designed to operate in thousands of feet of water costs more than $1 billion to develop. Our earnings need to be large in absolute

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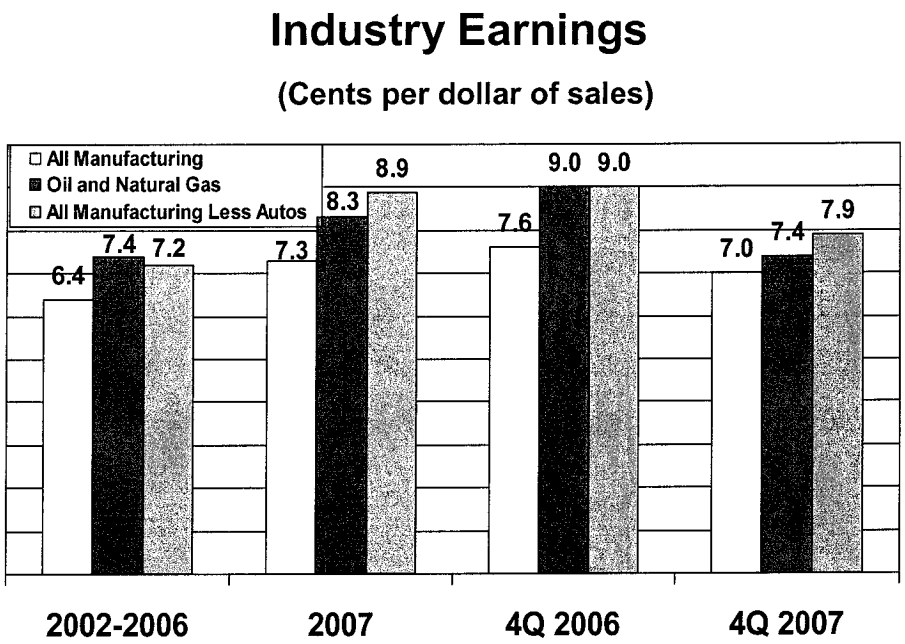
[32] Morgan Stanley Research, "Integrated Oil," March 14, 2008, Exhibit 18, page 12
[33] Morgan Stanley Research, "Integrated Oil," March 14, 2008, page 12

terms to support the scale of investment required. For example, ConocoPhillips earned nearly $12 billion in 2007, but spent close to $13 billion in capital expenditures and investments.

***Petroleum industry profitability is similar to other industries***

There is also a common misperception that energy industry earnings and returns on investment are higher than those of other industries. Figure 14 below shows that the industry's earnings are comparable to those of other manufacturing industries.

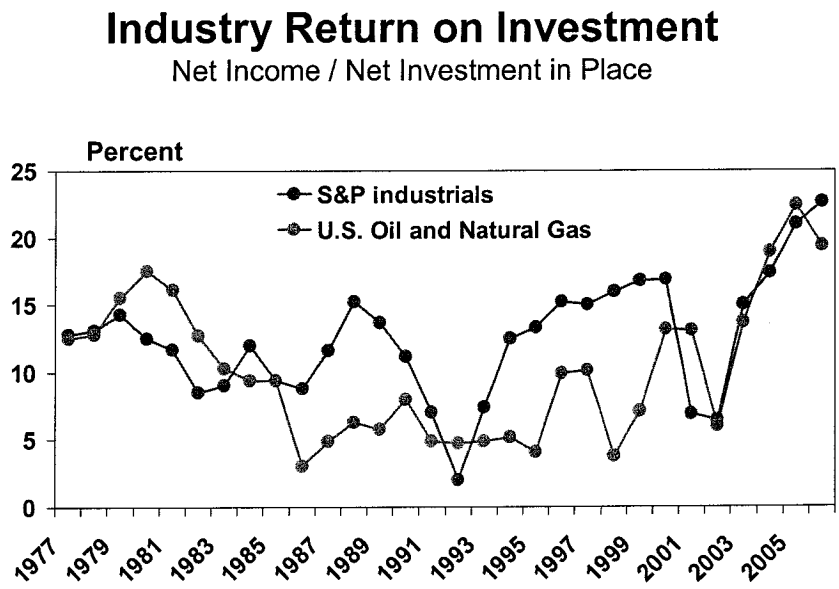
*Figure 14*




Source: U.S. Census Bureau for U.S. manufacturing and Oil Daily of the oil and gas industry

Figure 15 below, based on U.S. Department of Energy data, shows that the return on investment for the oil and natural gas industry is currently comparable to average returns for the S&P industrials, after lagging those returns for many years.

*Figure 15*



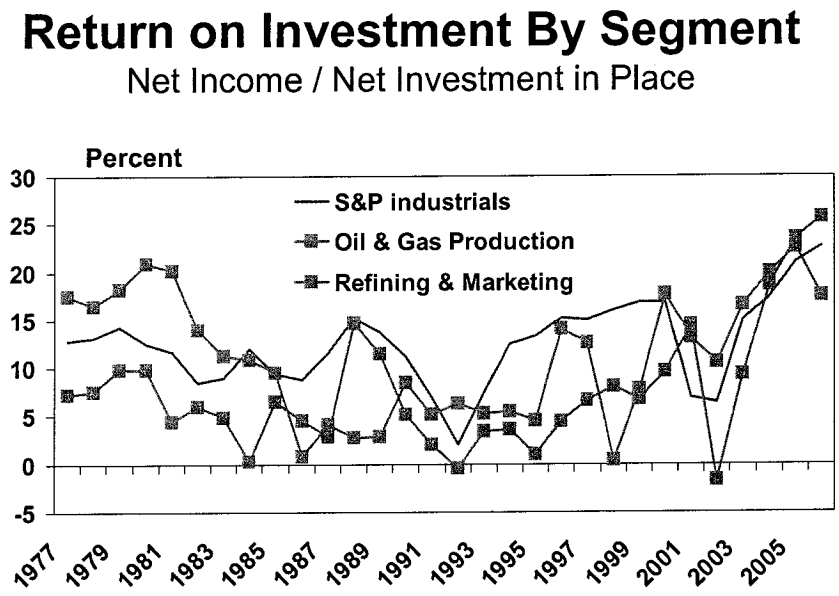

Source: U.S. Department of Energy, Energy Information Administration, Performance Profiles of Major Energy Producers, various issues and 2006 S&P figure compiled by PWC from Compustat data

***The refining segment has historically had weak returns***

Figure 16 below compares returns on investment for the S&P 500 industrial companies against those of U.S. oil and natural gas production and for U.S. refining and marketing. It reveals that the refining and marketing segment had relatively weaker returns for all years except for 2005 and 2006, and actually had negative returns in several years, most recently in 2002. This chart ends in 2006, which was an exceptionally attractive year for refining. Subsequent data from other sources indicate that industry profitability moved back towards more typical (lower) levels after 2006. Further, the Congressional Research Service indicated that downstream net income for integrated majors as well as independent refiners and marketers in 2007 declined by about 4-5 percent versus 2006. In the fourth quarter of 2007, net income for independent refiners and marketers declined 67 percent versus the fourth quarter of 2006.[34]

[34] Congressional Research Service, "Oil Industry Profit Review 2007," April 4, 2008, pages 4, 6 and 7

*Figure 16*




Source: U.S. Census Bureau for manufacturing data and Oil Daily for oil

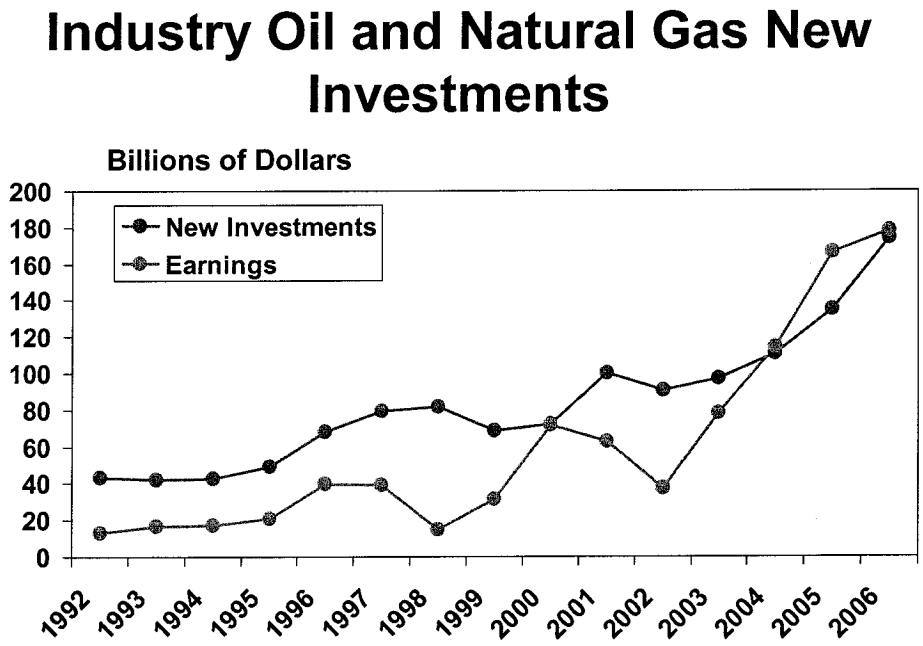
Historical returns for the refining industry have been weak because the industry is highly capital intensive and is required to invest substantial amounts of capital to meet environmental mandates for which there is often no financial return. Historically, the industry has continuously added incremental capacity that, except for a brief period in recent years, has kept pace with demand growth.

Refining margins are also highly cyclical. During periods when there is a price signal that justifies new investments, the entire industry tends to invest heavily and overshoot the new capacity needed to satisfy demand. Given the relatively slow rate of demand growth, it then takes many years to utilize the surplus capacity. Thus, the industry experiences long periods of very weak margins interrupted periodically by a few years of higher profitability that attracts new investment. I have already discussed how much capacity the International Energy Agency reports is presently being added.

*The petroleum industry is reinvesting in new supply*

Another common misperception is that the oil and natural gas industry is not reinvesting its earnings to develop new supplies. Figure 17 below shows that investments have increased along with earnings. For example, 2006 investments of more than $174 billion increased by 29 percent over 2005. Between 1992 and 2006, the U.S. oil industry invested more than $1.25 trillion into a variety of long-term energy initiatives, compared to net income of $900 billion. Some also express concerns over the industry's rate of stock repurchases. However, according to U.S. Department of Energy data, for the last 11 years, the industry spent only 21 percent of net income on stock repurchases, compared to the S&P industrials repurchase rate of 52 percent.[35] Despite the relatively low stock repurchase rate, the oil and gas industry would likely reinvest at even higher rates if governments made more resources available for development.

*Figure 17*




Source: Ernst & Young

[35] American Petroleum Institute, "The Truth About Oil and Gasoline: An API Primer," May 9, 2008, page 13

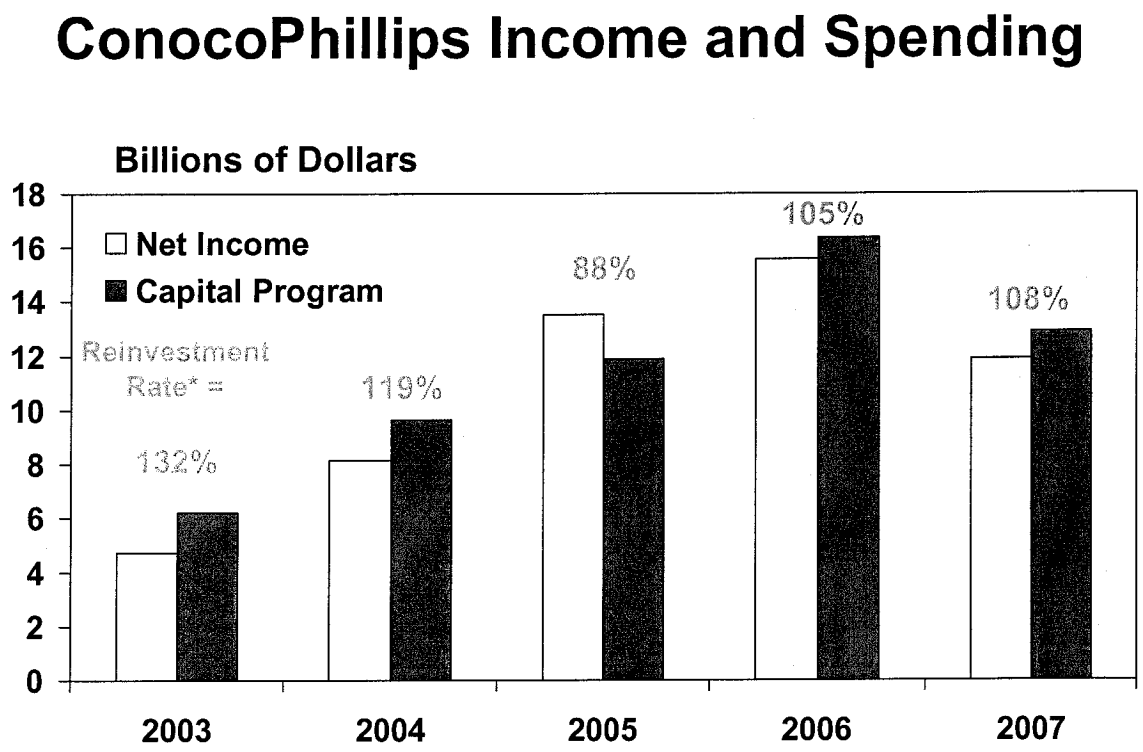
## ConocoPhillips' Activities to Increase Supplies

ConocoPhillips is making substantial investments to add new oil and natural gas supplies, and thus help to ease upward pressure on consumer prices.

### *Reinvestment Rates*

ConocoPhillips' reinvestments to develop new supplies have typically exceeded its earnings. Figure 18 below shows that between 2003 and 2007 the company's reinvestment rate as a percent of net income averaged 106 percent. In addition, capital spending increased nearly 150 percent between 2003 and our projected 2008 spending level of about $15 billion.

*Figure 18*




* Reinvestment rate as a percent of net income
Source: ConocoPhillips' SEC filings

*Upstream investment and exploration*

ConocoPhillips has significant investments planned to develop oil and natural gas resources in North America. In 2008, we will spend more than $6 billion in North America, with two-thirds of that amount earmarked for the United States.

North America is a key focus area for ConocoPhillips. For exploration, we predominantly operate in large resource plays onshore and the deepwater trend in the Gulf of Mexico offshore. In the Arctic, we have exploration acreage in the Chukchi Sea, Mackenzie Beaufort Sea and Canadian arctic islands. In fact, we are planning on spending more than $890 million this year alone for our high bids in Gulf of Mexico and Chukchi Sea lease sales.

Heavy oil – The Canadian oil sands are projected to become an increasingly important source of oil for the United States, particularly considering recent declines in heavy oil production in Mexico, Venezuela and California. The Canadian oil sands are projected to potentially provide nearly 20 percent of U.S. oil supplies by 2020.[36]

ConocoPhillips has a leading land position in the Canadian Athabasca oil sands and is actively investing to produce this oil, transport it to and refine it at our U.S. refineries, including our EnCana joint venture refineries. We have access to over 15 billion barrels of net potential oil resources, and plans are in place to increase our net production to about 400,000 barrels per day over the next decade. In 2008 alone, we are spending $900 million in development capital on the Canadian oil sands. ConocoPhillips is also spending significantly on technology to improve heavy oil output and reduce the resulting environmental and carbon footprint of the steam-assisted gravity drainage (SAGD) extraction process that is increasingly used to produce the heavy oil.

ConocoPhillips also has a 50 percent interest in the planned 2,148-mile Keystone oil pipeline, which will transport additional Canadian crude oil to the United States. The pipeline will have an initial nominal capacity of 435,000 barrels per day in late 2009 and will be expanded to a nominal capacity of 590,000 barrels per day in late 2010.

[36] Purvin and Gertz (18.5%)

We are working to expand the Wood River refinery in Illinois to enable it to utilize additional volumes from the Canadian oil sands. This expansion will increase Wood River's heavy oil inputs by 54,000 barrels per day and increase the yield of total clean-fuel refined products by 80,000 barrels per day. This proposed expansion has been delayed by a pending appeal of a permit that was previously granted for the project by the Illinois Environmental Protection Agency.

Natural gas – ConocoPhillips was one of the leading natural gas producers in the United States in 2007, producing about 2.3 billion cubic feet per day. ConocoPhillips has a significant domestic natural gas resource base (about 12.6 trillion cubic feet of proved gas reserves), and is actively adding acreage in large resource plays and exploring for additional supplies. For example, we plan to drill more than 200 exploration wells onshore in North America during 2008.

We are also investing to improve our natural gas delivery capabilities. We have a 25 percent ownership position in the Rockies Express pipeline, which is being built to move trapped natural gas from the Rocky Mountains region to Midwest and East Coast markets. We also have invested in liquefied natural gas (LNG) regasification facilities on the Gulf Coast in order to provide a potential outlet for LNG supplies we are developing around the world.

Arctic – ConocoPhillips is Alaska's largest oil and natural gas producer, with production of nearly 300,000 barrels of oil equivalent per day in 2007.

Alaska holds significant stranded natural gas resources, which if connected to the lower 48 states, would increase commercially proven U.S. gas reserves by about 17 percent. ConocoPhillips has long urged progress on the proposed 4 billion cubic feet per day Alaska natural gas pipeline, and we applaud Congress for your bipartisan efforts in passing the needed "Enabling Legislation" to progress this project. We are moving forward on planning the pipeline and are continuing our dialogue to deliver a project acceptable to all stakeholders. In order for this project to advance, it will ultimately need close cooperation between all resource owners, the State of Alaska and the Canadian and U.S. federal governments.

ConocoPhillips is also working with our partners, native groups and the Canadian federal government to move the 763-mile Mackenzie Delta gas pipeline project forward. The 1.2 billion cubic feet per day pipeline project would connect northern onshore gas fields with North American markets and provide consumers additional supplies of much needed natural gas.

***Refining, marketing and transportation***

In 2008, ConocoPhillips plans to invest $2.8 billion in our global refining, marketing and transportation operations. Of that amount, 74 percent will be invested in the United States and 69 percent will be invested in global refining.

Over the next five years (2008-2012), we plan to invest $7.0 - $7.5 billion in our base refining, marketing and transportation business, with 80 percent of that allocated for investments to improve reliability and safety, expand clean fuels production and reduce emissions. The other 20 percent will be for projects that reduce costs and improve efficiency. The large scale of ongoing capital requirements for safety and reliability and to meet all regulatory requirements makes it challenging for the refining industry to achieve attractive returns on capital.

We also plan to spend $6.5 - $7.0 billion over the next five years (2008-2012) on strategic investments, which are primarily refinery projects that increase crude oil refining capacity, raise clean product yields, or enhance the ability to utilize low-cost (and thus more difficult to refine) crude supply.

We are also targeting a 10 percent reduction in the energy intensity index of our U.S. refining system by 2012, as part of a voluntary commitment through the American Petroleum Institute to reduce carbon dioxide emissions in the U.S. refining sector. This reduction also makes good business sense because, as a large consumer of energy, the refining industry has been adversely impacted by higher energy prices in recent years.

*Alternative and unconventional fuels*

Renewable energy – ConocoPhillips is already a large blender of conventional ethanol in the United States. As the nation's second-largest refiner and fuels producer, during 2007 our marketers in the United States sold about 425 million gallons of ethanol, equivalent to a nationwide blend rate of 4.7 percent. About 55 percent of our gasoline sales contain ethanol. Additionally, we are rapidly expanding our U.S. ethanol blending capabilities. We have expanded capability for blending ethanol to 120 terminals this year (including proprietary and third party terminals) and are evaluating additional expansions. We are selectively adding biodiesel blending capabilities, although this fuel is currently priced higher than petroleum-based diesel fuel, and the economics of blending are challenged.

E-85 fuel is being test marketed under our branded canopy in a number of states with over 2,500 potential sites, provided the marketer meets certain image, safety and fuel-quality guidelines. Thus far, the consumer response to E-85 has been disappointing. Many retailers who have installed E-85 dispensers report insufficient consumer demand to justify the expense of the conversion. The problem is that only 3 percent of the U.S. passenger vehicle fleet possesses flexible fuel capability today and consumers who own these vehicles are often unaware of it. In addition, consumers are concerned about the roughly 25-percent reduction in gas mileage sustained from using E-85 versus conventional gasoline.

Biodiesel is also being test marketed under our branded canopy, with under-the-canopy sales of unbranded B11 in Illinois and of branded B5 in certain farm states, again provided that the marketer meets specific image, safety and fuel-quality guidelines. Over 800 branded sites could potentially pilot market biodiesel in certain states.

The company is also engaged in the development and production of new biofuels that have a better environmental footprint than existing sources. We currently produce renewable diesel fuel at our Whitegate refinery in Ireland using vegetable oils as a feedstock, and are test manufacturing the process at the Borger refinery (a joint venture with EnCana) in Texas as part of our arrangement with Tyson Foods to utilize by-product animal fat as a feedstock. The technology is performing well, but the economics are threatened by rising raw material costs

and the prospective loss of federal tax credits that are available to competing biomass-based diesel fuels.

ConocoPhillips conducts or funds internal and external research on new biomass fuels and has a joint development agreement with Archer Daniels Midland to develop fuels from agricultural waste. We have a major relationship with Iowa State University to research all phases of biofuels, and are a founding member of the Colorado Center for Biorefining and Biofuels, a cooperative research and educational center devoted to the conversion of biomass to fuels and other products.

Further, ConocoPhillips has created an internal group dedicated to evaluating opportunities to invest in solar, wind and geothermal power projects.

Alternative automotive technology – ConocoPhillips has participated in the FreedomCAR and Fuel Partnership with the U.S. Department of Energy, automobile manufacturers and other fuel providers since 2003. We are also working to facilitate wider use of electric vehicles by developing high-performance materials for lithium-ion batteries, a critical component in these vehicles.

Gasification – ConocoPhillips' E-Gas™ technology is a leading, commercially proven gasification technique. We are developing projects based on this technology and licensing it to others to utilize in producing synthetic natural gas, electrical power and a variety of chemicals. Our two major E-Gas™ equity gasification projects could be on line by 2014, at total expected gross capital costs of up to $7 billion.

Heavy oil and unconventional oil and natural gas – ConocoPhillips is presently undertaking significant research to improve the recovery of heavy oil and unconventional oil, such as oil shale, and improve energy efficiency throughout the production, transportation and processing value chain. We are also undertaking research and development focused on reducing their environmental footprint in terms of greenhouse gas emissions, water and land use.

Other focus areas for our research and development efforts include improving recovery of challenged natural gas and developing methods to commercially produce methane hydrates.

Carbon dioxide capture and storage and water usage – ConocoPhillips believes that development of carbon capture and storage (CCS) technology is essential, in that, it will improve the environmental sustainability and acceptability of available fossil fuel resources. The company funds internal research as well as university research programs in the United States, Canada, Australia, Norway and the United Kingdom that are investigating CCS technology and how it can be customized to meet our industry's needs and the needs of our specific sites. We are in the planning phases for selecting several possible CCS sites in the United States and other countries.

ConocoPhillips believes that reducing the footprint of energy production operations on water resources will help improve the sustainability of both conventional and alternative energy sources. We are measuring our freshwater usage and developing detailed water assessments of selected business units, bringing greater focus to water management as a fundamental component of business planning. In addition to technology work underway in our existing Oklahoma laboratories, we recently announced the establishment of the Qatar Water Sustainability Center, with the long-term vision that it will become a corporate center of excellence for water-related technologies.

## Path To A Sound Energy Policy

ConocoPhillips believes there are several concrete steps that Congress can take to enhance the nation's energy security. We want to first emphasize that despite the current tight market, the world is not short of energy supplies. Rather, it lacks sufficient political will to develop the vast fossil fuel and alternative resources that are available. Additionally, it is vital to point out that there is no "silver bullet" that would quickly and inexpensively replace fossil fuels and create energy security. Instead, the United States must bring all economic sources of energy to the marketplace, while promoting energy conservation and addressing environmental concerns. Doing so will require a national commitment and strong political leadership, as well as sound insight into the realities of the energy market.

ConocoPhillips believes a sound U.S. energy policy must incorporate the six actions explained below:

- Encouraging conventional supplies,
- Optimizing biofuels production,
- Encouraging alternative and unconventional sources,
- Lowering the carbon intensity of energy supplies,
- Improving energy efficiency, and
- Encouraging technology innovation

All of these policies are designed to reduce demand and increase conventional and alternative supplies, which are the only effective ways to reduce energy prices and increase energy security. We believe it is equally important for policymakers to refrain from adopting policies that will either increase demand or reduce supply, such as removing important price signals during supply disruptions or raising taxes on the energy companies that need high cash flow to reinvest in new, higher-cost supplies.

***Encouraging conventional supplies***

U.S. reserves could be increased by suspending federal drilling moratoria on non-sensitive lands and offshore areas that are currently off limits but doing so under strict environmental regulations. All together, these areas are estimated to hold 80 billion barrels of recoverable oil and natural gas equivalent – enough to double current U.S. reserves.

Congress should also facilitate the building of the critical infrastructure needed to deliver energy supplies to the public. The United States needs more ethanol unloading and blending terminals, more pipelines, power transmission lines, and more refinery expansions. But duplicate and overlapping federal and state laws, and overly long and difficult regulatory

processes, discourage or delay such infrastructure additions, particularly for refineries. Where infrastructure is clearly needed to serve the national interest, Congress should expedite federal and state permitting processes to ensure a balance between federal, state and local and special interests.

A related issue is the proliferation of different types of gasoline. State mandates require production of 16 localized "boutique" blends for particular markets, multiplied by three different octane grades and by different winter and summer blends. Also, some states now require boutique biofuels blends. The result is a profusion of different fuels, each with its own specifications. These boutique blends raise gasoline prices for consumers, and prevent the transfer of fuels from one region to another in the event of logistical or operational challenges. This causes shortages and price spikes. Congress could alleviate these problems by setting uniform national fuel requirements.

***Optimizing biofuels production***

Moving to biofuels, the Energy Independence and Security Act of 2007 mandates the use of 36 billion gallons by 2022. While this is a laudable objective, some improvements to that statute are needed.

First, the creation of different "silos" or categories of biofuels reduces flexibility in complying with the mandate, which is likely to cause inefficiency and increase costs. The Act also presumes to know what the best technologies will be 14 years from now. Congress should not attempt to pick "winning" technologies. Instead, a more sound approach would be to enact incentives or mandates that are both technology-neutral and fuel-neutral. For example, it is not reasonable for biodiesel to qualify for tax support, while renewable diesel fuel does not. As long as both processes use renewable feedstock, support should be neutral and treatment equal.

A second concern is mandating a level of biofuels use exceeding 15 billion gallons. Such concentrations will exceed the capability of both the vehicle fleet to consume the fuel and the supply infrastructure to deliver the fuel. Also, advanced biofuels that do not use potential food sources as a feedstock cannot be produced commercially today. The Environmental Protection

Agency has the ability to waive high mandated volumes if technology and production have not advanced sufficiently. However, such waivers are made known only a few months before the start of a compliance year, which does not allow fuel providers sufficient time to plan optimized and efficient compliance activities.

A third concern is the current 54-cent-per-gallon tariff on imported ethanol, which penalizes lower-cost and less carbon-intensive imports, such as from Brazil. This tariff should be phased out or eliminated.

Finally, ConocoPhillips is quite concerned about the potential for governments to layer on overlapping policies. For example, we hear that policies are being considered to add a national low-carbon fuel standard on top of a low-carbon renewable fuel standard. The overlap between these programs would further confound the overlap of state programs previously discussed. If the United States continues to overly constrain its production and supply systems, the result will likely be higher fuel costs and possibly even supply outages.

***Encouraging alternative and unconventional sources***

While alternative and unconventional energy sources will be essential in the future, it is important to recognize that new technologies take time to commercialize and usually cost more than conventional supplies. Here, Congress is at risk of too strongly favoring politically expedient energy sources. The market should determine the best technologies in order to avoid over-reliance on old technologies or uneconomical energy sources.

***Lowering the carbon intensity of energy supplies***

We would encourage future Congressional policies to focus on lowering the carbon intensity of U.S. energy supplies, and work to encourage the global community to join in this effort.

Congress could take action to reduce our nation's carbon footprint by creating a mandatory framework that would lower our greenhouse gas emissions, and set a price for carbon avoidance. This could be done by either a tax or a cap-and-trade system.

Incentives should be offered for development of carbon capture and storage, as well as establishing a national legal and regulatory framework for liability and permitting. And the government should provide access to federal lands that offer the potential for underground carbon storage.

Next, Congress should encourage greater use of renewable sources – such as solar and wind power – by extending their investment tax credits by five years at a time. This would help provide the financial certainty needed for investment. Development of these renewables benefits the public at large and should be paid for with public funding, not by imposing discriminatory tax provisions on three or four American companies, as is being considered.

Congress should also encourage greater use of nuclear power. To do so, the federal government should fulfill its commitment to dispose of waste generated by nuclear power plants. It should also sponsor research into advanced technology that uses the fuel more completely – while reducing waste volumes and half-life – and lowering proliferation risks.

***Improving energy efficiency***

The Energy Independence and Security Act of 2007 did much to improve fuel efficiency standards for light-duty vehicles and appliances, and ConocoPhillips commends Congress for this bold action. We also encourage governments to take action to slow the rate of growth in peak electricity use, which would otherwise increase natural gas demand in the United States. The government could help reduce peak electricity demand by enacting regulatory and fiscal incentives that encourage utilities to reduce electricity demand by offering more transparent real-time pricing that shows consumers the cost of power as they use it.

***Encouraging technology innovation***

It is also vital that Congress encourage investment in new technologies in all areas of energy conservation and development. Both the public and private sectors should increase spending on energy research and development. Government technology investments should be made in a transparent and market-based manner, with incentives going to the best ideas.

The government could further drive technological innovation through greater support of education. With half of the energy industry's technical work force expected to reach retirement eligibility in the next 10 years, there is growing need for more university students majoring in engineering, geology, geophysics and the other technical disciplines.

***Policies to avoid***

Avoiding policies that will reduce energy security is as important as implementing good policies. We highly recommend avoiding the following policies that we believe will make consumers worse off than they are today.

Petroleum price-gouging legislation – ConocoPhillips does not condone or tolerate taking advantage of consumers in times of crisis. However, we do not support price gouging legislation because it will exacerbate shortages during supply disruptions and consumers will be worse off.

Price gouging is a difficult concept to define. Many state statutes and regulations that attempt to address price gouging utilize definitions that either are difficult to apply or fail to give clear guidance as to what constitutes "price gouging." This makes it difficult for businesses to comply and governments to enforce. More importantly, price gouging legislation tends to function like price controls, which distort market price signals that act to efficiently allocate fuel. During supply disruptions, the rising price sends an important signal to consumers to conserve and suppliers to move more refined product into the impacted area. In this manner, the balance between supply and demand is restored. Without this price mechanism, panic stockpiling would increase demand and additional supplies would not be forthcoming. The shortage would be exacerbated. That is exactly what we saw in the early 1970s when price controls caused long lines at gasoline stations. According to the American Council for Capital Formation, if price controls were in effect following Hurricanes Katrina and Rita, it would have added an extra $1.9 billion in economic losses due to supply shortages.[37]

[37] Dr. Margo Thorning, "U.S. Gasoline Supplies: What Should Congress Do?" American Council for Capital Formation, June 13, 2007, page 2

Markets are working. Repeated investigations, including those associated with hurricanes Katrina and Rita, have consistently found that petroleum markets operate competitively. The FTC concluded in their investigation of post-Katrina gasoline price increases "in light of the amount of crude oil production and refining capacity knocked out by Katrina and Rita, the sizes of the post-hurricane price increases were approximately what would be predicted by the standard supply and demand paradigm that presumes a market is performing competitively."[38] The FTC also concluded that "evidence gathered during our investigation indicated that the conduct of firms in response to the supply shocks caused by the hurricanes was consistent with competition. After both hurricanes, companies with unaffected assets diverted supplies to high-priced areas. This is what we would expect in competitive markets. Refiners deferred scheduled maintenance in order to keep refineries operating. Imports increased and companies drew down existing inventories to help meet the shortfall in supply."[39] The industry's supply response after these hurricanes that temporarily shut down nearly 30% of total U.S. refining capacity was so effective that the average retail gasoline price returned to pre-hurricane levels within one month of the landfall of Hurricane Rita.

Tax increases on the oil industry – H.R. 5351 contains a number of tax incentives for alternative fuel and conservation programs that would be paid for by the oil industry. Specifically, this bill repeals the Section 199 domestic manufacturing deduction for the major integrated oil companies. It would discriminatorily deny our company the benefit of a tax deduction that is available to every other industry. It would discourage new domestic oil and natural gas investments by making those comparatively costly energy projects even less economically competitive with competing foreign investments. The Section 199 deduction encourages more oil and natural gas production in this country and in doing so, preserves high-paying U.S. jobs, which was intended by its enactment.

H.R. 5351 would also further restrict our industry's use of foreign tax credits, which would negatively impact our ability to compete for the energy resources that American consumers

[38] Federal Trade Commission, "Investigation of Gasoline Price Manipulation and Post-Katrina Gasoline Price Increases," Spring 2006, page 17
[39] Ibid., page 17

need. The foreign tax credit has been characterized by some as a "tax break" for our industry. It is not. It simply eliminates double taxation.

We are also concerned about proposals for windfall profits taxes on the oil industry. We are concerned that any tax increases on the industry would reduce our ability to invest in new supplies, which is already challenged by constrained resource access and high cost inflation. Tax increases reduce the cash available for spending on new supplies and reduce the value of growing or even maintaining high cost, marginal production, which is typical of mature oil basins in the United States. This would further tighten the energy market and increase oil imports – the opposite of Congress' intent. This nation already learned this lesson from the windfall profits tax imposed on the domestic oil industry between 1980 and 1988. According to the Congressional Research Service, this tax reduced domestic oil production by as much as 6 percent and increased oil imports by as much as 16 percent.[40] In addition, much of what is perceived as a windfall today is actually the substantially higher cost structure of the industry.

These tax proposals also ignore the fact that our industry already pays more than our fair share of taxes. In a recent survey of 80 diverse American companies, ConocoPhillips' effective tax rate between 2004 and 2006 of 43.6 percent was the highest, about 14 percent higher than the average.[41] Income taxes paid by domestic energy producers have already increased by 460 percent between 2002 and 2005.[42] Income taxes are only one of the ways we contribute to government revenues. We also pay royalties, production and excise taxes, and lease bonuses, the latter of which are paid whether you discover hydrocarbons or have a dry hole. When you take all these other forms of government payment into account, our effective tax rates are much higher. For example, our incremental fiscal-take rate[43] in Alaska is about 90 percent at current oil prices.

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[40] U.S. Congressional Research Service, "The Windfall Profits Tax on Crude Oil: Overview of the Issues," September 12, 1990, page 2

[41] Martin A. Sullivan, "Reported Corporate Effective Tax Rates Down Since Late 1990s," Tax Notes, February 25, 2008

[42] U.S. Department of Energy, Energy Information Administration, "Performance Profiles of Major Energy Producers 2006," Table B12 ($14.5 billion in 2002 to $81.5 billion in 2006)

[43] The amount of an incremental dollar in revenue that is paid to the government (state and federal) in the form of production taxes, royalties, federal and state income taxes and any other taxes; incremental rate in Alaska is 90% at $115/bbl oil price

## Conclusion

Improving energy security and reducing the risk of climate change are formidable challenges. As one of America's leading energy suppliers, ConocoPhillips intends to be part of the solution to both problems. We encourage an atmosphere of cooperation between the U.S. Congress and the energy industry and we are eager to engage with you in finding solutions for meeting this country's energy needs.

Unfortunately, at a time when the world needs more energy, rising worldwide resource nationalism in other countries and limited access to resources here at home are impeding our crucial efforts to replace current production with new reserves. In other countries, governments work closely with their domestic energy industry to assure access to resources and to build critical energy infrastructure. In the United States, government regulations have made it increasingly difficult to develop new sources of supply and build new energy infrastructure. The threats made by some to increase taxes on an industry that already has very high tax rates will, if carried out, further reduce our ability to expand supply.

The United States has much to gain from a healthy U.S. energy industry that can compete domestically and globally to expand the energy supply available to the United States. Actions taken to weaken the U.S. energy industry will accelerate the shift in control of resources into the hands of national and foreign oil companies at our expense. China, India, the European Union and other nations are deeply engaged in helping their energy industries capture resources to meet the future energy needs of their constituents. We must work together to ensure that our nation's energy needs are met.

Again, Mr. Chairman, thank you for inviting ConocoPhillips to participate in today's hearing. We look forward to working with this important Committee in the days ahead.