Alleviating U.S. Dependence on OPEC

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Table of Contents

Executive Summary

The U.S. should place a priority on promoting domestic and regional oil and gas production, rather than increasing reliance on foreign sources. According to the International Energy Agency, each day, the world oil market produces 77.1 million barrels and consumes 75.6 million barrels. "The United States consumes 20 million barrels per day, of this amount two-thirds of oil consumed (62.1 percent) is imported."[1] The Organization of Petroleum Exporting Countries (OPEC) is a significant, unpredictable variable influencing both the supply and price of oil.

The failure of the United States to establish a long-term strategy that will guarantee America's independence is largely to blame for inflated energy prices. Policymakers must address the nation's dependence on foreign oil. Without attention to this matter, we continue to leave both national security and the economy at risk.

This paper will provide an overview of the current status of U.S. –OPEC relations, followed by an analysis of options and alternatives. In formulating a successful policy, we have taken into consideration the various criteria and obstacles that are inherent in the dilemma. We recommend a three-pronged approach, including conservation incentives, increasing domestic oil production, and increasing petroleum imports from Mexico.

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[1] Makin, John. "Oil's Effects," American Enterprise Institute for Public Policy Research. October 2000.

Chapter One—How should the U.S. lessen dependence on foreign oil, specifically from OPEC countries?

Energy drives the economy. "With the rapid growth of energy needs in the advanced industrialized states throughout the 1960's and early 1970's provided OPEC with the basis for extracting ever-increasing oil prices." Clearly, OPEC is aware of these facts, as it has efficiently capitalized upon the global demand for petroleum.

History tells us that those who possess oil possess the keys to their country and to leadership of the future. For instance, in 1942 Josef Stalin portrays one such ruler who understood that oil translates to power when he commanded his foreign minister at the time to: "…go to the Caucasus and destroy the oil industry. If you leave Hitler even one ton of oil, we shall shoot you."[2] Indeed, oil is power. In order for the U.S. to secure its future role as a superpower, to guard our natural security and stabilize our markets, we must lessen our dependence on foreign oil.

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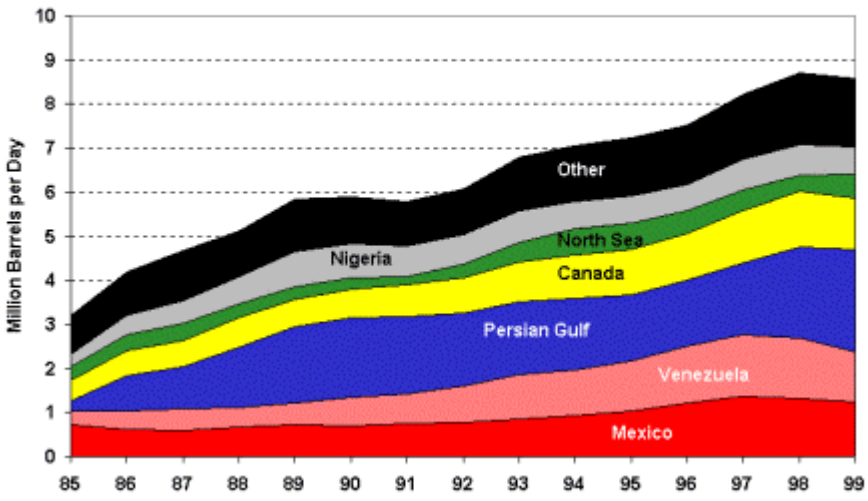
[2] Economides, Michael and Ronald Oligney. The Color of Oil. Texas: Round Oak Publishing Company, p. 75.



U.S. Crude Oil Imports By Source[3]

The Dilemma

Five leading exporters established the Organization of Petroleum Exporting Countries (OPEC) in 1960 after a long tussle with the international oil companies over the issues of price, revenue and control of the rate at which oil reserves were depleted.[4] The purpose of OPEC is to coordinate and unify petroleum policies of member countries; to devise ways to ensure stabilization of international oil prices in order to eliminate 'harmful and unnecessary' price and supply fluctuations."[5] The main objective of OPEC has been to exercise a determining influence over price through the control of production levels to generate high revenues for budgets to meet their development needs.[6] Since 1999, OPEC has succeeded in reining in production and boosting prices.

In previous years President Eisenhower signed a "protectionist Mandatory Oil Import Program (MOIP) over objections of Big Oil-separation of interest between

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[3] Source: U.S. Department of Energy

[4] Philips, Jeff. "OPEC: The oil cartel." June 20, 2000 BBC World News http://news.bbc.co.uk./hi/english/world/newsud_689000/689609.stm

[5] Britanica Encyclopedia, p.1208

[6] http://www.bbc.co.uk

major and independent producers, this began the antagonist era of industry-government relations."[7]

> MOIP limited imports of crude to nine percent of domestic demand and created import limits for crude products. National security was the apparent justification for the MOIP. A direct and ominous effect of MOIP was the formation of the Organization of Petroleum Exporting Countries (OPEC) in 1960. OPEC was created expressly to counter protectionist legislation in the United States. The implementation of MOIP was the turning point in the political balance of power in the industry. Major producers could not counter the political clout of the independents.[8]

An American oil dilemma emerged in the 1970's. Two significant events contributed to the rise of OPEC's power. First, the threat of the Arab Oil embargo caused an energy crisis of the 1970's. Shortages of commodities and manufactured goods were endemic thought the U.S. economy and caused widespread panic. Secondly, the Carter Administration implemented an increase in gas prices in order to promote conservation.

The effect was that import crude oil prices exploded after the 1973 Arab Oil Embargo and were the justification for leaving oil-price controls in effect. The resulting price squeeze sent domestic oil production into a free fall: "Price controls had the effect of suppressing supply just as national demand was being stimulated. The combination was a godsend for OPEC."[9] Domestic production continued to slide, and the door opened for OPEC imports to flood the market. In a nutshell, the United States had embargoed its own petroleum resources.

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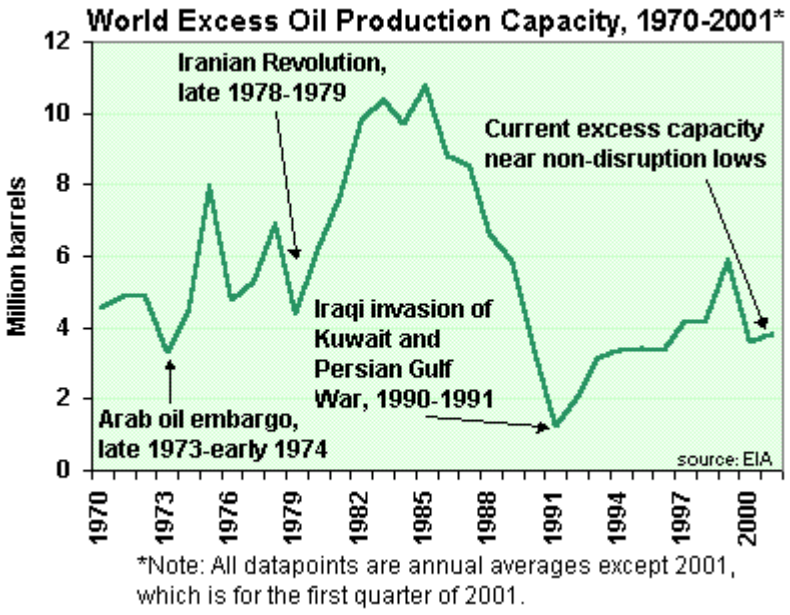
[7] Economides, Michael and Ronald Oligney. The Color of Oil: The History, the Money and the Politics of the World's Biggest Business. Round Oak Publishing Company: Texas, 2000, p. 102.

[8] Economides, Michael and Ronald Oligney. The Color of Oil: The History, the Money and the Politics of the World's Biggest Business. Round Oak Publishing Company: Texas, 2000, p. 126.

[9] Economides, Michael and Ronald Oligney. The Color of Oil: The History, the Money and the Politics of the World's Biggest Business. Round Oak Publishing Company: Texas, 2000, p129.



World Excess Oil Production Capacity, 1970-2001

Currently, the United States imports 56 percent of its oil.[10] Purchasing oil from volatile OPEC countries has resulted to substantial consequences. For example, Americans are unintentionally funding wars, adding to the wealth of dictators, and threatening U.S. national security. Some OPEC countries routinely violate human rights and are beginning to develop nuclear weaponry. OPEC countries situated in the Middle East often engage in war with other countries that disrupts the production of oil or incites embargoes for political reasons.

The Energy Information Agency (EIA) estimates that the members of OPEC produced 39.6 percent of the total world oil supply (including crude oil, natural gas liquids, refinery gain, etc.) in 1999. Following OPEC's decisions to increase their crude oil production quotas on October 1 and October 31, OPEC's share of the world oil market reached about 41 percent by the end of 2000. While the supply of petroleum is indeterminate, U.S. demand for energy is constantly growing.

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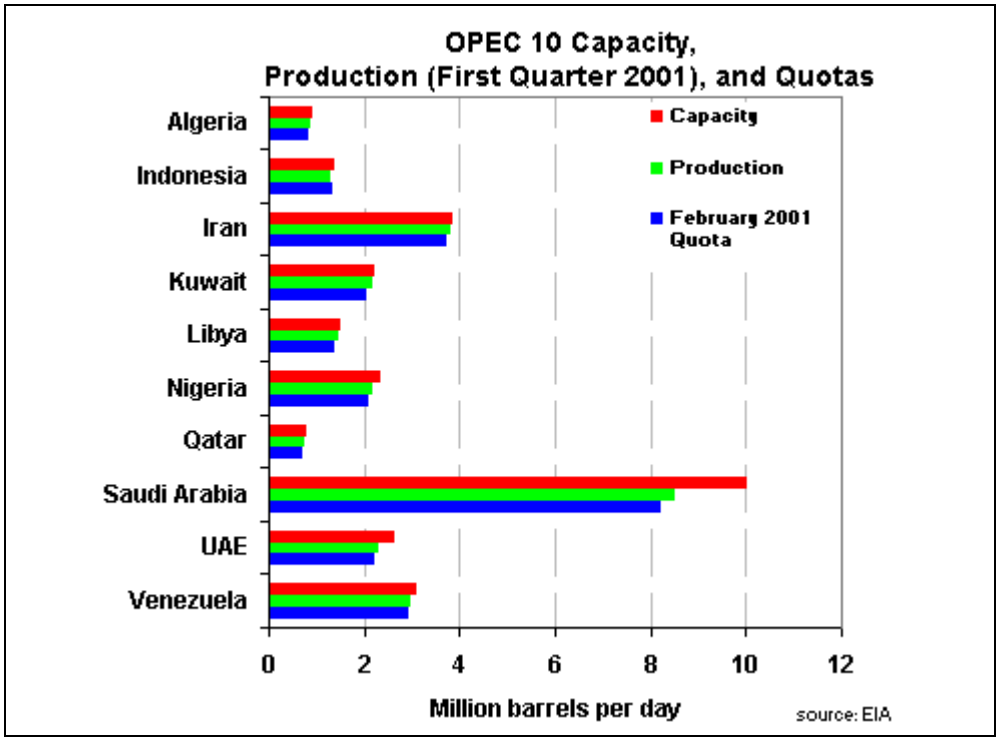
[10] Alavarez, Lizette. "Senate Republicans Propose Big Overhaul of Energy Policy." The New York Times. February 26, 2001, p. 1.



Overview of critical countries involved in U.S.-OPEC Relations

United States

The United States is the world's largest energy producer and consumer. "In the U.S., an average person consumes more than four times as much fuel as the rest of the world, and more than twice as much as in Europe."[11] However, it ranks eleventh worldwide in reserves of oil. The United States had 21 billion barrels of proved oil reserves as of January 1, 2000. These reserves are concentrated overwhelmingly in four states—Texas, Alaska, California, and Louisiana.[12]

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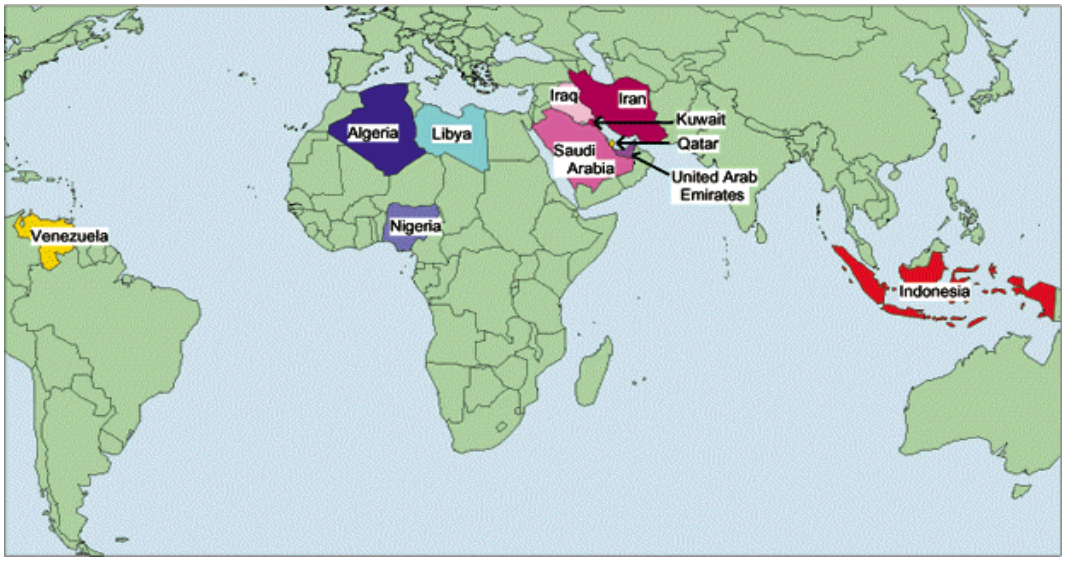
[11] http://www.bbc.co.uk

[12] http://www.eia.doe.gov.emeu/cabs/usa.html



Venezuela

The Venezuelan economy is based primarily on the production and exploitation of petroleum. Until 1970 it was the world's largest petroleum exporter. The modernization and diversification of its economy have been predicated upon the application of petroleum sector earnings to other economic sectors; "sowing the oil" has been Venezuela's slogan since the 1940's. With a population of 23.2 million, per capita Gross National Product is $3,020. Oil revenues supply 78% of the budget for the national economy.

Saudi Arabia

The economy of Saudi Arabia is dominated by petroleum and associated industries. In terms of oil reserves, it ranks first, with almost one-fourth of the world's known reserves. Saudi Arabia enjoys an abundance of capital because of the petroleum market. The per capita gross national product is $7,040, with a population of roughly 21 million people. Oil revenues supply 76% of the budget for the national economy.

Saudi Arabia is viewed as a potential market for natural gas exploration. "Saudi Arabia, which sits on the world's richest hydrocarbon reserves is now starting to soften its attitude towards foreign energy investment."[13] For big oil investors in

[13] Reed, Stanley. "A Saudi Offer Big Oil Can't Refuse." BusinessWeek. March 12, 2001, p. 56.

the United States the notion that Saudi Arabia is beginning to solicit bids to build infrastructure for natural gas and other projects is inviting. Saudi investors are betting that Exxon Mobil will be one of the main bidders. It would be in the best interest of the U.S. for at least one of its major oil producers to invest in the Saudis gas initiative because it would alleviate some of the future reliance on petroleum in the future, and would guard against the dependence of oil producing countries such as Iraq.

Mexico

Mexico has become one of the leading countries of interest in our fight for independence from OPEC. It is one of the largest producers of petroleum in the world, and has shown increasing support for US attempts to decrease imports from OPEC. Mexico has also implemented a policy that protects itself from OPEC price manipulation.

The ministry of energy has created a mechanism to insulate Mexico against the effects of an increase in the world price of natural gas. This policy, announced in January, creates a contract for selected companies to buy natural gas at a fixed price of US$4/mBtu for three years from, Petroleos Mexicanos (PEMEX), the state oil monopoly.

Iran

Iran is OPEC's second largest oil producer and holds 9% or 90 billion barrels of the world's oil reserves and 15% of its gas reserves. Additionally, Iran is a focal point for regional security issues. The vast majority of Iran's crude oil reserves are located in giant onshore fields in the Khuzestan region near the Iraqi border and Persian Gulf terminus. More than half of Iran's 40 producing fields contain over one billion barrels of oil.

Iran's economy, which is heavily reliant upon petroleum exports, was hit hard by record-low oil prices during 1998 and early 1999, but has begun to recover with the sharp rebound in oil prices over the past year. Besides persistent unemployment (over 15%) and inflation (30-35%), other problems faced by Iran's economy include a rapidly growing, young population with limited job prospects, and a lack of economic diversity (about half the state's budget and 80% of the country's hard currency earnings come from petroleum revenues).[14]

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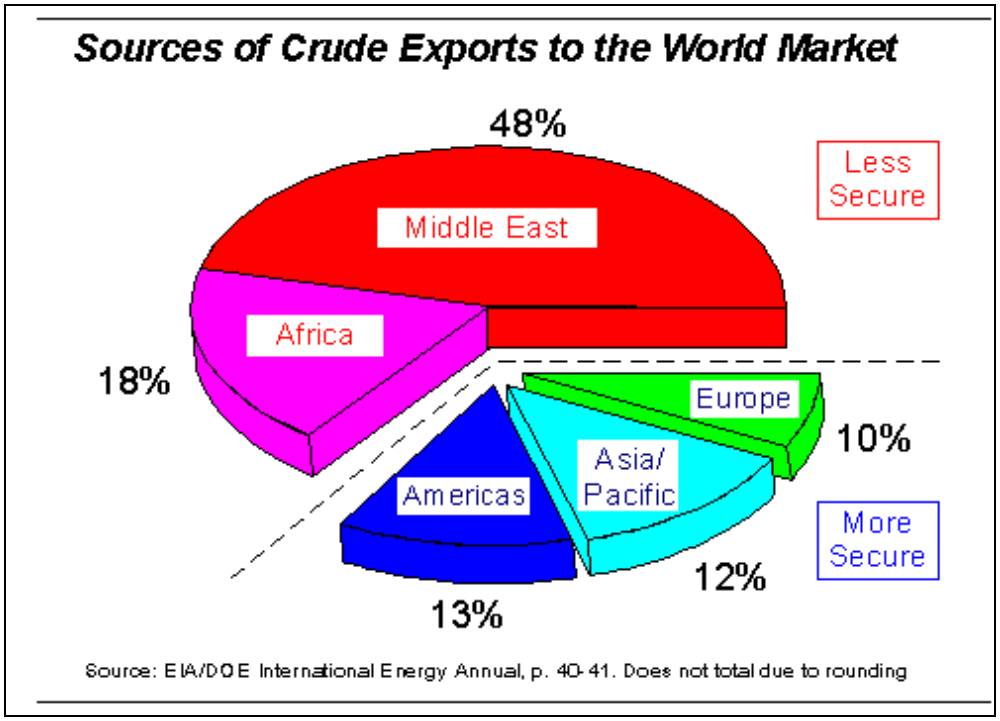
[14] http://www.eia.doe.gov.emeu/cabs/usa.html



The American view of OPEC

Today, the American economy is increasingly affected by the price of oil. Saudi Arabia, Kuwait, Oman, Qatar, United Arab Emirates, Bahrain, Iraq, and Iran possess 64% of the world's proven oil reserves. U.S. sentiments towards OPEC have become less amicable. In addition to a history of adversarial relations with OPEC, many American investors realize that investments become less profitable when oil prices rise.[15]

In the 1970's U.S. attitudes towards OPEC grew increasingly negative. Americans suffered through the 1973 embargo when Arab-Israeli conflict escalated. Middle Eastern OPEC countries boycotted the U.S. for siding with the Israelis.[16] Consumers were hit by exorbitant energy prices and had to endure long lines at the gas pump.

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[15] Charles Shwab analysts

[16] *OPEC Behavior and World Oil Prices*; James M. Griffin, David J. Teece; George Allen & Unwin; London, England; c. 1982 p.9

The price of petroleum for industrial, business and manufacturing also increased, upsetting producers. The price per gallon of gasoline rose anywhere from 5 to 8 times higher than the original amount. The media, society and legislators negatively portrayed OPEC and the oil producing countries.

After being elected, President Carter decided to embark on a holistic energy proposal designed to ease the pain of the embargo. However, his proposal did little to ease U.S. energy woes. The economy suffered and so did the American people.

With a reputation as a manipulative cartel that caused high oil prices, OPEC's popularity continued to decline in the 1980's. Thought not only as a price control mechanism but also an organization built on political bias, the Reagan Administration began to announce the exploitation of US resources as a campaign incentive. These incentives gained popular ground amongst American society.[17]

In the early 1990's the Bush administration decided to engage in operations Desert Shield and Desert Storm, which protected Kuwait from Iraq. A time of great prosperity for the U.S. economy followed. Clinton was sworn into office and the small recession of 1991 was over. In 1992 the world price of oil dropped to 16 dollars per barrel, and most countries, including the US, took advantage of the situation. The economy prospered. In 1998 the price of oil fell to a low 12.80 per barrel, adding fuel to the fire. Amidst high gains the tech market, The U.S. economy found itself in a favorable position.

Currently, the US is faced with broad questions concerning world oil policy and the influence of OPEC. All eyes are on the new Bush administration to solve, or at least beneficially manage the oil dilemma for the sake of the U.S. economy. In doing so, the administration must balance environmental concerns with the dangers of being overly dependent upon foreign oil.

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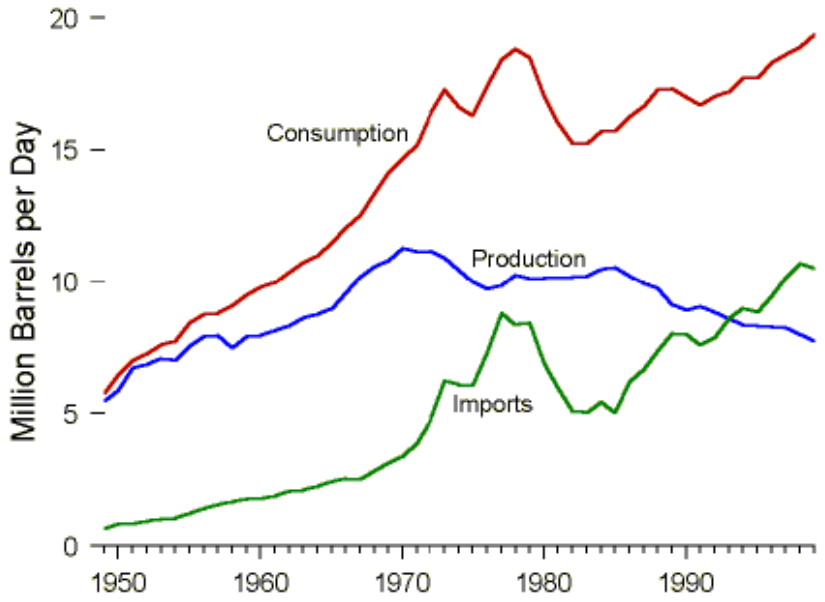
[17] *America's Right Turn from Nixon to Clinton,* Second Edition, William C. Berman, The John Hopkins University Press, c. 1998 p.55

Figure 11. Petroleum Production, Consumption, and Imports



Source: U.S. Department of Energy, January 2001

Chapter Two—Economic Analysis

The Effect of OPEC Pricing Upon the U.S. Economy

For many years the U.S. Economy has been heavily dependent on inexpensive oil. OPEC produces about 40% of the world's oil. The organization also holds over 70% of the world's proven oil reserves and has the highest total production capacity.[18]

As evidenced by the devastating affects of OPEC price manipulation in the 1970's, OPEC's hegemony on the U.S. economy is wide-ranging and substantial. At that time, the price of oil rose over twenty times what it was in the beginning of the decade. These fluctuations had a clear effect upon the US Economy.[19] The oil crisis in the 1970's taught us that OPEC is unpredictable and we must take steps to insulate ourselves from price manipulation.

When the US anticipates a price increase of oil in the world market, the stock market slows down and the U.S. economy slows down. The current price of oil that OPEC targets will either benefit the US Economy or hurt it. I f OPEC decides to cut production and the price of oil rises in the short-run, this will hurt the U.S. economy. On the other hand, if production quotas increase and Non-OPEC producers lag to fill the void where OPEC had cut quotas then the price of oil drops and the US economy will benefit.

These are all short-term effects. What is needed is a long-term policy that will encourage OPEC to pursue stable production quotas, thus alleviating the volatility of the price of oil. Generally, the US Economy also experiences volatility when the world price of oil rises.

When the world price of oil rises above competitive market prices the American economy tends to slow down production. Production, and more specifically GDP, decreases when energy prices rise. For instance, when Wall Street analysts anticipate something that would cause a rise in the price of heating oil, such as a harsh winter, stocks devalue.

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[18] www.eia.doe.gov, *OPEC Fact Sheet*, June 2000

[19] *OPEC Behavior and World Oil Prices*; James M. Griffin, David J. Teece; George Allen & Unwin; London, England; c. 1982

The American economy is currently going through structural changes, with unpredictable potential impacts.[20] We have not yet unveiled what type of new infrastructure we have created for the economy. The U.S. economy is an expanding technological industry in a growing innovative environment. This makes it difficult to predict how much impact the increasing price of oil will have on the new economy. It may be a more profound impact than ever before. This makes the necessity of a sound energy policy even more urgent.

OPEC quotas affect the U.S. Economy in different ways. The most important sectors of the US Economy that are affected by OPEC are motor gasoline, crude oil (petroleum) for business use, heating oil, and oil demand in general. With motor gasoline, the prices at the pump are predicted to stay at the same level and only increase in the Spring 2001 driving season.[21]

But by the summer of 2001, uncertainties in the level of reserve gasoline will most likely affect the price of gas. "Analysis shows that high oil prices will cost the average family of four more than $1,300, decrease consumer spending by nearly $80 billion, and cost almost 500,000 jobs."[22] If prices rise, consumers will most likely react by conserving.

For example when a family plans a trip, they calculate the price of gas into their expenses. If the amount of money that will be spent on gasoline becomes too high, the family will decide that the amount of money spent on gasoline is not worth the satisfaction of going on the trip at that particular point in time. Our hypothetical family will decide to take that trip another time, when the cost of gas is lower. Consumption is reduced, and a void in the economy will emerge as a result.

Over the past few years, the US economy has been growing at a steady pace. It has been benefiting from anti-inflationary lifts from falling oil prices. The Department of Energy and the Energy Information Agency (EIA) predict that the average price of $25 per barrel from OPEC that exists now will remain stable, increasing only $3per barrel.[23]

Another way that OPEC affects the U.S. economy is through politically motivated embargos. Middle Eastern OPEC countries such as Iran and Iraq hold hostile

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[20] "Hudson Reflections, The Good Times Keep Rolling"; Hudson Institute, Irwin Stelzer, Senior Fellow 02/21/01

[21] www.eia.doe.gov, *Short-Term Energy Outlook,* February 6, 2001

[22] Wilson, Mark and Angela Antonelli. "Tapping Oil Reserves Won't Solve America's Risky Energy Dependency." The Heritage Foundation Executive Memorandum. September 27, 2000.

[23] www.eia.doe.gov, *Short-Term Energy Outlook,* February 6, 2001

views towards the United States and its close allies. Relations could be further strained if current conflicts in the Middle East escalated. Another embargo would disrupt the American growth, and probably the world economy.

OPEC members have decided to calculate their recent quota cuts using the subsidy from un-official OPEC member Iraq. Iraq is predicted to fulfill much of the demand for crude oil for the year 2001-2002, forcing the world price of oil lower. Sound economic policy would insulate the economy from OPEC price and production quotas in order to stabilize the economy in the long run.

Higher oil prices slow economic growth.[24] Past monetary policy has even included the Federal Reserve Board (Fed) looking toward the increase in the price of oil as a way to slow a runaway economy. The slowdown is due to higher production costs, which cause firms and businesses to cease production. The combination of stagnation (slow economic growth) and inflation create a doubly dangerous situation dubbed "stagflation."[25]

The Fed will usually raise interest rates if it feels that stagflation could be exacerbated without action. For example, after the 1973 oil embargo, authorities waited approximately six months to raise interest rates. At first it was hoped that the economy would ride out the economic shock on its own, but eventually the Fed was forced to make the move because inflation kept rising.

The lagging effect of demand prevents the price of oil from rising. Many analysts attribute this phenomenon to the tendency of producers to become more energy efficient. In addition, the lagging effect comes in to play when the price elasticity of oil decreases. As the price of oil becomes more elastic producers cut growth. As a general rule, the U.S. Economy will stagnate as the world oil market does.

OPEC directly influences the U.S. and world economies in a complex way. While many of the contributing factors have been discussed above, other, less obvious factors exist. OPEC makes policy by mandating three processes: tax system changes, production controls and nationalization of concessions.[26]

In the 1960's OPEC decided to base taxes on the export of oil on a so called "tax reference price". This allowed OPEC to deem production profitable at times when market prices became too low. The tax reference price was criticized by oil

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[24] *Energy Economics*; Helmut A. Merklein, W. Carey Hardy; Gulf Publishing Company- Book Division; Houston Texas; c. 1977 p. 54

[25] *Energy Economics*; Helmut A. Merklein, W. Carey Hardy; Gulf Publishing Company- Book Division; Houston Texas; c. 1977

[26] *OPEC Behavior and World Oil Prices*; James M. Griffin, David J. Teece; George Allen & Unwin; London, England; c. 1982 (introduction)

producing counties, including the U.S., so OPEC abandoned it and imposed excise taxes instead. Excise taxes are relatively unaffected by world oil markets and allow OPEC to offset costs incurred in increasing demand for oil by transferring them to the U.S.

At times of slow demand, pricing becomes even more important for OPEC. At that time, the imposition of excise taxes, production quotas, and nationalization of concessions become even more integral to profitability. In creating these policies, OPEC was heavily influenced by the Center for Global Energy Studies (CGES), a Saudi Arabian think tank based in London. The CGES based its assertions on five factors: (1) reserve base size, (2) backstop fuel, (3) discount rates, (4) demand, and (5) world economic growth rates.

In order to add a scarcity premium on to the target price of oil, OPEC must form an expectation on the magnitude of the underlying oil reserve base. In other words, in order to justify a scarcity premium, OPEC must state how much oil is left in reserve in OPEC countries.

The second element that OPEC must take into account to control the price of world oil is the amount of backstop fuel. Backstop fuel consists of crude oil from tar sands, oil shale, and coal. They must also consider the fact that reserves of these fuels become elastic, and that these fuels are nonrenewable.

Discount rates are also important. The market rate of interest becomes the appropriate discount rate. This is helpful in forecasting the real price of oil. The long run price elasticity of oil is hard to predict because the short run demand for oil is generally inelastic. OPEC tends to calculate the long run elasticity on the demand for oil as inelastic, even though it may not be.

Chapter Three—Policy Options

There are a number of possible scenarios for the direction of U.S.-OPEC interactions. The relationship could continue in the same direction as it has in the past. This would mean continued dependence upon foreign petroleum and U.S. vulnerability to disruptions in the supply of foreign petroleum, such as embargos precipitated by global events. As in the 1970's, conflicts in the Middle East could escalate, inciting another oil embargo. This would almost surely cause a recession in the U.S. economy.

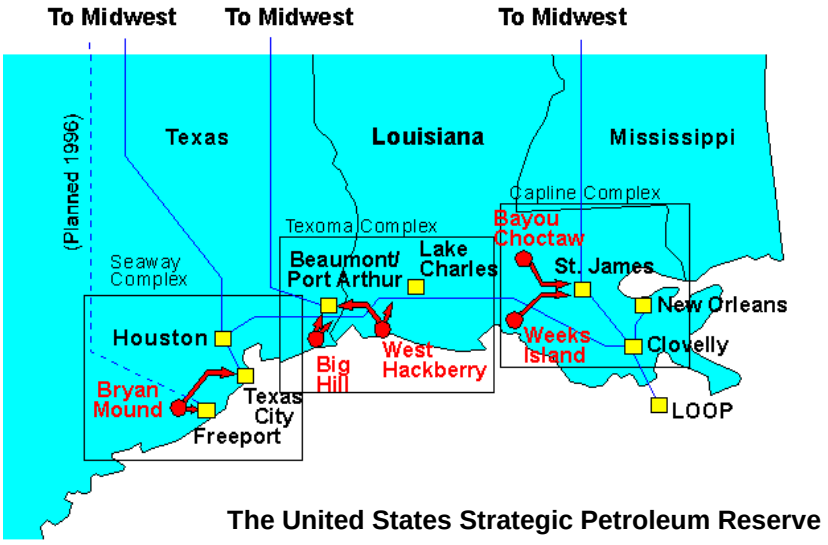
Another option is for the United States to begin to wean itself off of imported oil. In the immediate future, the SPR could be used to countervail unwanted fluctuations in the price of crude oil. Domestic exploration and extraction would have the effect of reducing dependence upon foreign sources of petroleum absolutely, in both the near and far futures. Finally, increasing domestic production of petroleum would be augmented by a long-term strategy of fuel conservation.

Decreasing dependence upon OPEC can be accomplished in three ways. First, the U.S. could increase domestic oil production. Next, we could import oil from more stable regions, such as from the Americas. Finally, we could decrease dependence on oil outright.

Option One: Continued reliance upon OPEC (and the SPR)

The U.S. could maintain the status quo. This course of action is advantageous because it does not entail additional effort or taxpayer monies. Supporters would insist that policymakers have already addressed the dangers of relying on petroleum, pointing to the nation's Strategic Petroleum Reserve (SPR).

There are 590 million barrels of crude oil in the SPR. The reserve was created to keep the United States operating if sources of oil were unavailable. The Reserve is located in underground salt caverns in the Southern United States, on the coast of the Gulf of Mexico.



In 1975, congress passed the Energy Policy and Conservation Act (EPCA), which formed the SPR. The EPCA allows the president to release some of the reserves if he deems that it is "required by a severe energy supply interruption or by obligations of the united states."[27]

Under the original provisions of the EPCA, a "severe energy supply interruption" is one that is (1) "is, or is likely to be, of significant scope or duration, and of an emergency nature;" (2) "may cause major adverse impact o n national safety or the national economy;" and (3) "results, or is likely to result, from an interruption in the supply of imported petroleum products, or from sabotage or an act of God."[28]

The need for the SPR has been highlighted by a number of major disruptions in the global petroleum supply. In 1973, Middle Eastern countries initiated a boycott against the U.S. as punishment for backing Israel in the war. In 1979, the Islamic Revolution in Iran, along with the ensuing war with Iraq disrupted prices. Finally, Iraq's 1990 invasion of Kuwait produced similar results. This trend promises to continue in the future, as the Middle East remains a global hot spot for conflict and strife, which underscores the need for precautions such as the SPR in the future.

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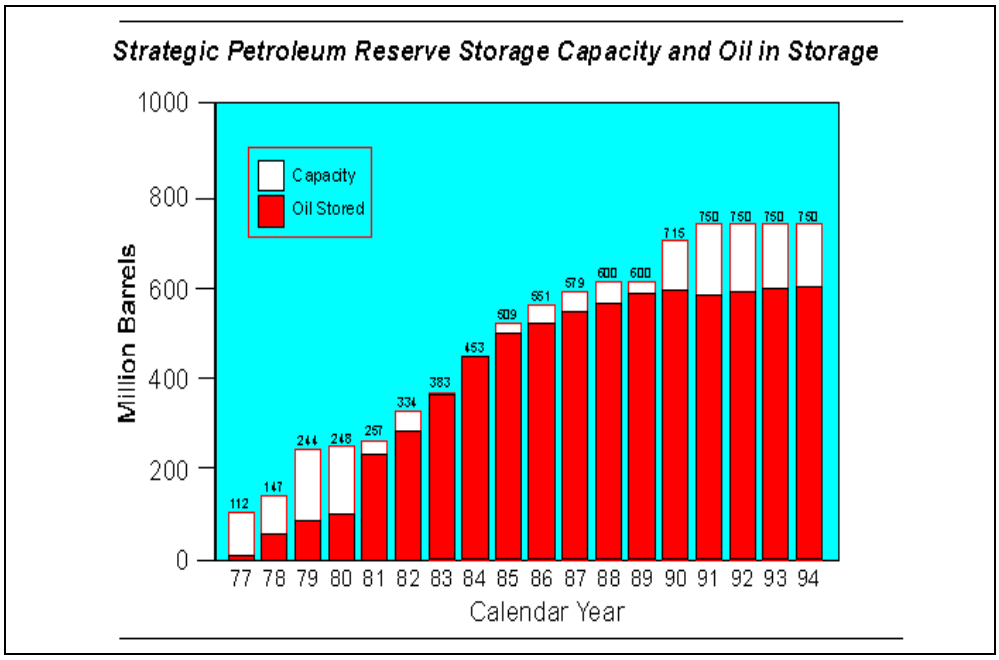
[27] http://www.unescap.org/enrd/energy/compend/ceccpart4chapter11.htm

[28] Id

In 1990, upon renewal of the EPCA, congress added provisions that allow for a limited withdrawal of 30 million barrels in response to oil shortages, foreign or domestic. Currently, the reserve is governed by the 1992 standard, which allows draw down in case of a significant supply reduction coupled with a severe price increase likely to cause major adverse impact upon the economy. Last year, then president Clinton released some of the contents of the reserve in order to offset high price of heating oil in New England.

Thus, the SPR could be used in a compensatory capacity. The president could, for example, use the reserve to keep the price of petroleum stable by releasing oil from it whenever OPEC cut production. The reserve could easily be expanded by act of congress. This option has the added advantage that the SPR is an environmentally friendly solution, as techniques and infrastructure with little to no environmental impact already exist.



However, this policy would be short sighted and costly. And, ultimately, the strategy would fail because foreign producers could simply cut production enough to drain the reserve, and then make up for lost profits by increasing the price in the long run. Or, even worse, enemies of the United States could view an empty SPR as an opportune time to strike. Thus, the use of the SPR should be reserved for its intended purpose: emergency situations.

Option Two: Conservation

The 1973 Yom Kippur War and resultant Arab oil embargo pushed the price of foreign oil to nearly double its original price. The United States seemed to be at the mercy of the Middle East. By the time President Carter stepped into office the price of oil rose from six to twelve dollars a barrel and U.S. dependence on foreign oil went up by 15%.[29]

The legislature urged the President to take steps to mitigate our dependence upon foreign oil. Fierce winters in 1976 and 1977 led to natural gas shortages in many states and shut down schools and business. The country was in need of a solution to the energy crisis.

In constructing an energy policy, one of the main elements that the Carter administration focused on was conservation. The components of Carter's plan were: centralization of federal energy planning, higher prices for oil and natural gas and other incentives for energy conservation, an expansion of federal regulatory authority over all energy producers suppliers and consumers, and an increase in federal expenditures for alternative energy research and development.

Environmentalists pressed for cleaner fuels, such as natural gas. Natural gas produces the same energy output as oil and coal, with only half of the carbon emissions of its counterparts.[30] The major natural gas reserves lie in the offshore of the Gulf of Mexico, provinces of Canada, and Alaska.

There is also some momentum toward natural gas in the U.S. market. Studies indicate that with deregulation, most of the newer power plants will be gas-fired, which will be cheaper and cut into market shares for coal and nuclear power.[31] Underdeveloped gas markets are coming to fruition in countries such as Saudi Arabia, Oman, and Venezuela. If the U.S. hopes to maintain its dominance in this market, it will have to take action soon.

However, petroleum is indisputably the most important source of energy in the world. The United States is an energy-hungry country; it has only 4.6% of the world's population, but consumes 25% of its energy. While alternatives like natural gas, and non-fossil fuel technologies such as, nuclear, solar or

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[29] *OPEC Behavior and World Oil Prices*; James M. Griffin, David J. Teece; George Allen & Unwin; London, England; c. 1982

[30] Economides, Michael and Ronald Oligney. The Color of Oil. Texas: Round Oak Publishing Company, p. 152.

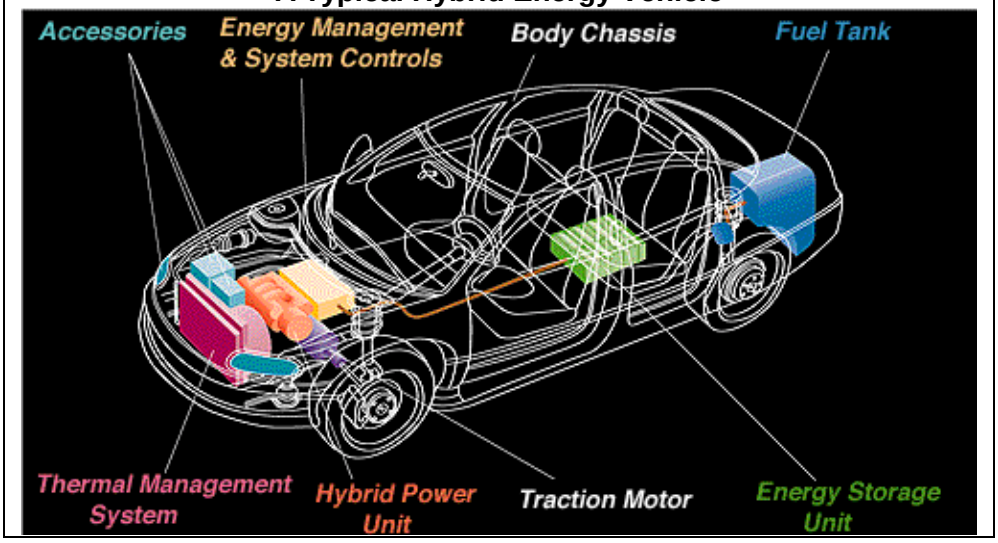
[31] Ibid at p. 153.

hydroelectric power exist, their usage is not expected to increase considerably. Thus, petroleum will continue to be the key source of energy, at least through the next century.

The best hope for a conservation effort in the new millennium would entail using alternative technology automobiles, such as Hybrid Energy Vehicles (HEVs), to reduce fuel consumption. Incentives could be targeted at manufacturers, as an alternative to charging consumers, because of the unpopularity of a gas tax. In order to provide manufacturers and consumers the most choice and to encourage innovation and competition, the legislation should be drafted as broadly as possible. This would allow the impact of the policy to extend to America's commercial vehicle fleet, a large consumer of fuel that should not be overlooked.

There are many alternatives to petroleum to fuel automobiles. These include methanol, ethanol, electric, natural gas (compressed or liquid), hydrogen, propane, P-Series (or methyltetrahydrofuran), and solar power. Currently, the most promising alternative is the hybrid energy vehicle (HEV). HEVs are vehicles that use two sources of power. These vehicles are commonly hybrids of gas and electric. Several automobile manufactures already offer HEVs. Honda's HEV, the Insight, was the first HEV to hit the American market. In addition, Toyota currently offers the Prius.

A Typical Hybrid Energy Vehicle



However, no American carmaker has as of yet offered competing units. (Implications-Policy solutions may include options to help American companies.) HEV cars in the works include: Nissan Tino, Mitsubishi HV, GM Precept,

Chevrolet Triax, Ford Prodigy, Ford Escape HEV, Fiat Multilpla, and Daimler Chrysler's ESX3, and Citadel.

A possible source of funding for funding these incentives is by imposing a gas tax. The benefits of such a tax must be balanced against the negative public opinion it will generate. Indeed, the current administration would be hostile to such a tax, as it would be viewed as detrimental to the economy. In making recommendations, we must consider the energy policy of the current administration, which is provided below.

Tenets of the Bush Administration on Conservation and Energy[32]

- **Economic prosperity and environmental protection must advance together. Prosperity gives our society the wherewithal to advance environmental protection, and a thriving natural environment enhances the quality of life that makes prosperity worthwhile. Scare tactics and scapegoating of legitimate economic interests undermine support for environmental causes and, what is worse, can discredit actual threats to health and safety.**
- **Environmental regulations should be based upon the best science, peer-reviewed, and available for public consideration.**
- **We support the federal, local, state, and tribal responsibilities for environmental protection. We believe the government's main role should be to provide market-based incentives to innovate and develop the new technologies for Americans to meet — and exceed — environmental standards.**
- **We condemn the current administration's policy of resorting to confrontation first. Instead we should work cooperatively to ensure that our environmental policy meets the particular needs of geographic regions and localities.**
- **Environmental policy should focus on achieving results — cleaner air, water, and lands — not crafting bureaucratic processes. Where environmental standards are violated, the government should take consistent enforcement.**

National Security Energy Act

- **Increase domestic supplies of coal, oil, and natural gas. Our country does have ample energy resources waiting to be developed, and there is simply no substitute for an increase in their domestic production.**
- **Improve federal oil and gas lease permit processing and management, including coal bed methane.**
- **Provide tax incentives for production.**
- **Promote environmentally responsible exploration and development of oil and gas reserves on federally owned land, including the Coastal Plain of Alaska's Arctic National Wildlife Refuge.**

[32] The Bush Campaign Proposal on Energy and Conservation, May 2000.

- **Offer a degree of price certainty to keep small domestic stripper producers in operation.**
- **Advance clean coal technology.**
- **Expand the tax credit for renewable energy sources to include wind and open-loop biomass facilities, and electricity produced from steel cogeneration.**
- **Maintain the ethanol tax credit.**

Option Three: Alternative Sources of Petroleum

Domestic

This obvious advantage of producing our own oil is independence from foreign powers. Advocates of increasing domestic production argue that national security is more important than the slight environmental impact that drilling will cause. In addition, a strong infrastructure (like the Alaskan Pipeline, for example) already exists.

"Petroleum is the lifeblood of current and emerging world economies. Its use will grow, both in developed and developing nations."[33] However, the benefits of increasing domestic production should be balanced against environmental costs. Exploitation of resources, like reserves off the coast of California and Alaska, are not widely popular, but they should not be overlooked as alternatives. The strong environmental movement in the U.S. has sought to block increases in the domestic production of petroleum.

The term environmentalism, often couched in superficial imagery, has taken politicians and the public for a tumultuous ride. The environmental movement has digressed into a campaign of moralistic and radical movements to "save the planet". The fundamentalist ideology of environmentalism opposes all industries and industrial development, even though the very technology they resist may provide the most realistic ways of curbing the energy crises at hand.

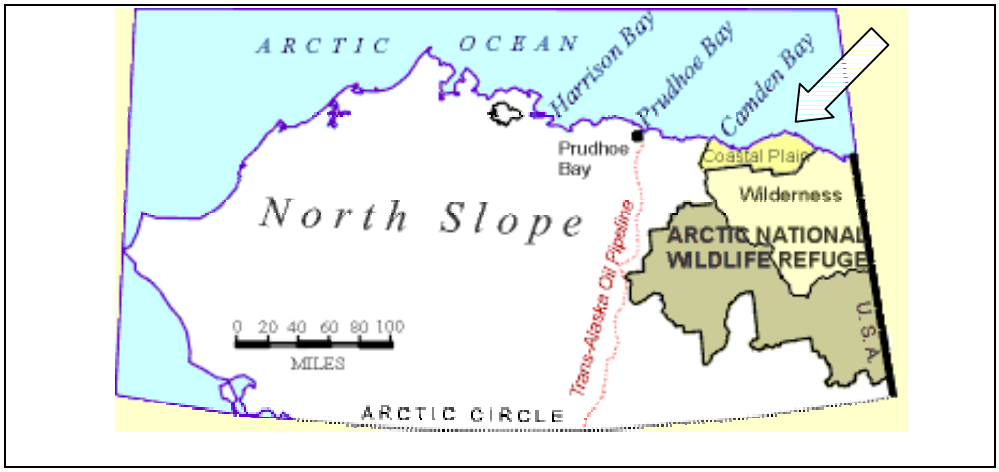
Environmental concerns are not at the heart of the matter. In fact, the previous administrations have all but ignored the two sources that produce virtually all of the nation's emission-free power: nuclear and hydro. These sources provide 30 percent of the country's electricity. However, because of cumbersome federal regulations involving licensing of hydro and nuclear operations, the U.S. faces

[33] Economides, Michael and Ronald Oligney. The Color of Oil. Round Oak Publishing: Texas, 2000, p.148.

the prospect of increasing emissions and polluting the air. Meanwhile, nuclear plants are choking on waste because of the Clinton administration's failure to remove legislation to store it at a safe, permanent repository.

Alaska

There is already a national debate over allowing exploration on the coastal plain of the Arctic National Wildlife Refuge (ANWR). Government geological surveys estimate that ANWR could produce from 9 to 16 billion bbl. While the low-end figure will have less impact on prices in the long run, the high-end estimate would have a more significant impact; it could equal 10 % of consumption for six years.

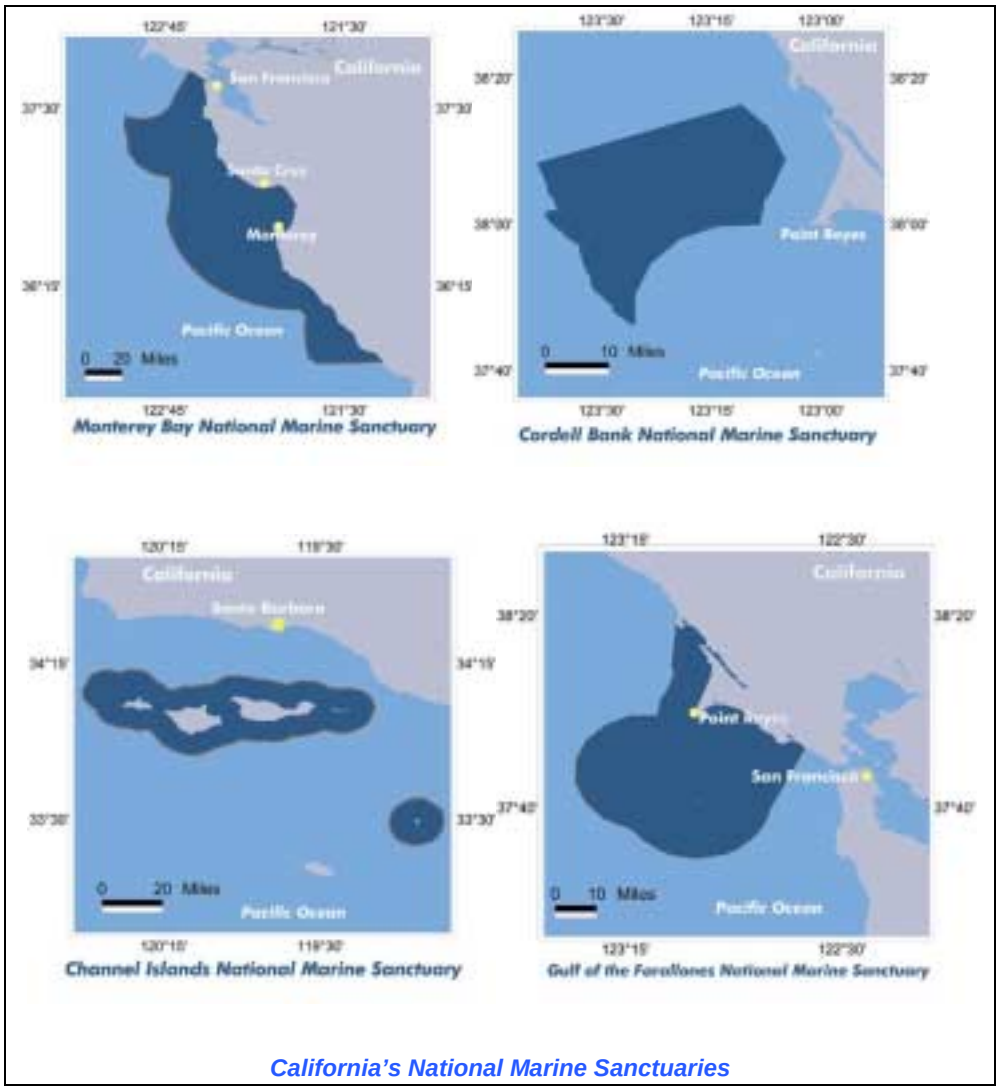


Addressing environmentalist concerns will be key to gaining support for this measure. Publicizing the efforts of the industry's success in environmentally friendly methods to counter the negative publicity generated by past mishaps (such as the collision of the Exxon Valdez) will be key. For example, the industry has developed lateral drilling techniques to diminish the surface presence and raised pipelines to 5ft above ground so animals can pass freely. The oil industry has also adopted strict environmental standards. Environmentalists have long criticized the effectiveness of self-regulating, so greater government involvement, such as an EPA task force to monitor activities in ANWR, could help in reaching a compromise.

California

There are four National Marine Sanctuaries off of the California: Monterey Bay, Channel Islands, Cordell Bank, and Gulf of the Farallones. There has been a

moratorium on drilling off the California coast since 1991. However, the ban does not affect some 40 oil leases, which were previously executed. Last year, in hopes of thwarting plans for future drilling, the California Coastal Commission and the State of California sued the U.S. Department of Interior.

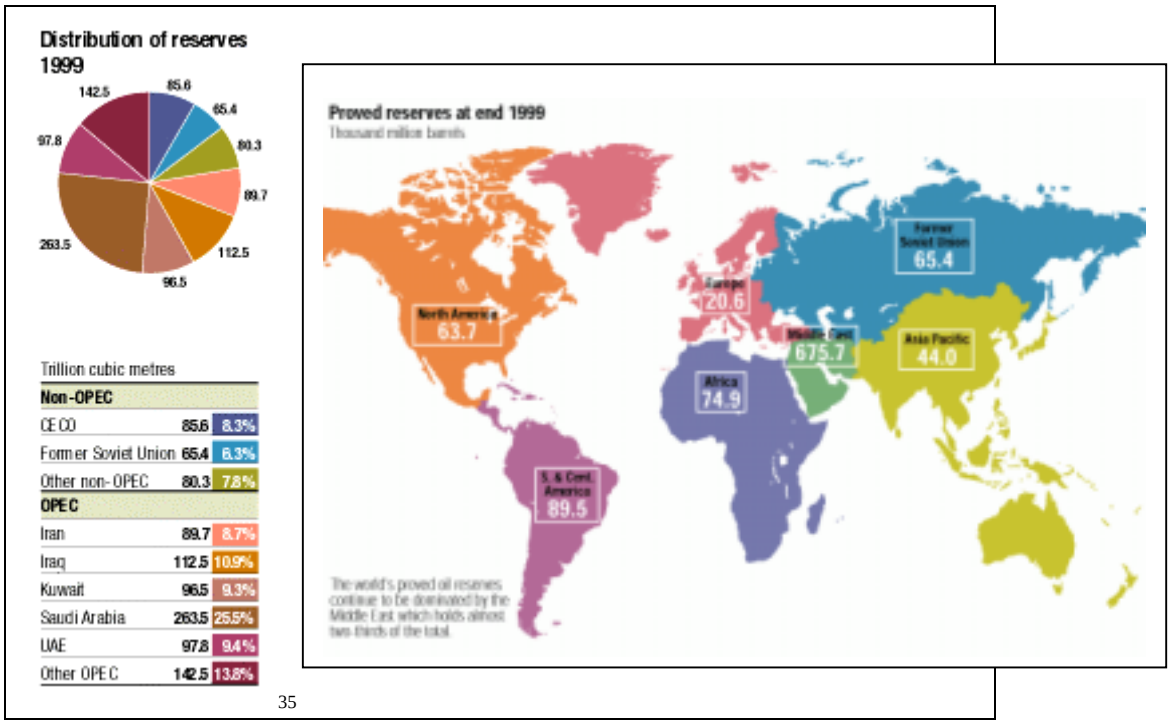


California's National Marine Sanctuaries

International

Collectively, non-OPEC countries contain less than one quarter of the world's proven oil reserves, but produce nearly 58% of the world's crude oil.[34] Non-OPEC countries posses most of the world's capacity for refining crude oil into petroleum products such as gasoline and heating oil. This provides an opportunity for America to shop the international petroleum market.

If the U.S. invests more money in countries that have proven reserves, it may be able to lessen dependence on oil from OPEC and safeguard itself from an oil shortage at a time of crisis or economic disruption. The U.S. could invest in domestic production capacity, as well as production and refining facilities abroad. Currently, non-OPEC production is concentrated in seven countries including Canada, UK Mexico, Norway, China, Russia and the US.



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Mexico

Currently, the Bush administration has called for an expansion in imports of petroleum from Mexico.[36] The administration calls for more privatization of the

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[34] www.eia.doe.gov, *Non-OPEC Fact Sheet*, June 2000

[35] Statistical Review of World Energy, June 2000; bp.com / worldenergy / oil / main

oil reserves in Mexico and more investment by U.S. oil producing companies. This makes sense because aside from the fact that Mexico is one of our closest neighbors, we have a bilateral trade pact that would facilitate the export of oil, creating a relatively safe investment opportunity.

In a recent study, the British Petroleum Statistical Review, Mexico has 28.4 million barrels of proven oil reserves as of 1999. Contracts with Mexico for the importation of oil to the U.S. have been on the rise since 1994.[37] This capacity has been furthered with the implementation of the North American Free Trade Agreement (NAFTA). NAFTA has pierced through many jurisdictional barriers, allowing Americans to enjoy the importation of Mexican petroleum.

Oil: Proved reserves[38]				
	At end 1979	**At end 1989**	**At end 1998**	**At end 1999**
	Thousand	Thousand	Thousand	Thousand
	Million	Million	Million	Million
	Barrels	Barrels	Barrels	Barrels
USA	33.7	33.6	30.1	28.6
Canada	8.1	8.4	6.8	6.8
Mexico	31.3	56.4	47.8	28.4
Total North America	73.0	98.4	84.7	63.7

Because Mexico has large proven reserves, and the U.S. has such a high demand for petroleum, we should be able to facilitate a mutually beneficial relationship. In Mexico, privatization of the nationalized petroleum industry may be a challenge, but the current administration has promised to help Americans with their energy crisis. PEMEX has long been the existing monopoly, and the Mexican Constitution stipulates that natural resources such as oil and gas must remain nationalized.

In hopes of liberalizing a sector of this monopoly and amending the constitution, newly elected Mexican President V. Fox has appointed four of Mexico's wealthiest businessmen to the PEMEX board. The U.S. government in this instance can opt to invest in Mexico's energy sector via NAFTA negotiations. If so, NAFTA will be renegotiated in the year 2007. This could serve as an

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[36] "Bush Is Due to Visit Mexico in Search of Oil and Power"; February 13, 2001; By TIM WEINER; NY Times

[37] *Oil in the New World*; Kate Gillespie and Clement Moore Henry; University Press of Florida; Gainesville, FL; c. 1995 p.279

[38] Statistical Review of World Energy, June 2000; bp.com / worldenergy / oil /

opportunity for the US to propose plans for a more integrated energy trade and regional self-sufficiency strategy.

The precursors for establishing a regional trade agreement with Mexico already exist within the political and economic framework of the Mexico-U.S. NAFTA partnership. These policies are a benchmark for the development of "geographical linkages for self-sustenance." An investment in Mexico would mitigate the impact of aggressive policies by the Middle East and its destabilizing surprises.

Russia

Another option is to lead the efforts in political stabilization and encouragement of foreign investment by allies in the forgotten petroleum industry of the former Soviet Union. A policy on Russia does not necessarily have to include direct action. Instead, a successful strategy could call for diplomatic strategies to improve foreign investment in the former Soviet Union.

However, not all foreign investment is desirable. Recent reports reveal that Russian Federation has close ties to the Iranian government. If the U.S. fails to invest in Russian infrastructure or refinery capacities, there is a chance that OPEC will. This would give OPEC an even larger and more powerful cartel.

Gary Conine, Associate Professor and former director of University of Houston's Russian Petroleum Legislation Project urges that in order for the US to tap into the Russian oil market would be through capital investment and technology.[39] Russian petroleum could be taped into by primarily England who is our nearest ally, and is quite reputable in the oil industry. In an effort to extract oil from Russia, British Petroleum has acquired Sidanko, a Russian oil Company.[40]

Russian President Vladimir Putin has announced that he will facilitate the efforts of foreign investment within the Russian Petroleum industry, but many foreign investors fear the risk involved in such a proposition. For example the Post-Soviet Oil Industry suffered from low productivity, outdated technology, environmental despoiling, and other health hazards. There are also dangers associated with Russia's old communist ideology and rigid authority over the oil industry.[41]

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[39] *Oil in the New World*; Kate Gillespie and Clement Moore Henry; University Press of Florida; Gainesville, FL; c. 1995 p.28

[40] "Russia on the Up", Corporate Finance, London; November 2000, Simon Pirani

[41] *Oil in the New World*; Kate Gillespie and Clement Moore Henry; University Press of Florida; Gainesville, FL; c. 1995 p.281

Chapter Four—Recommendations & Implementation

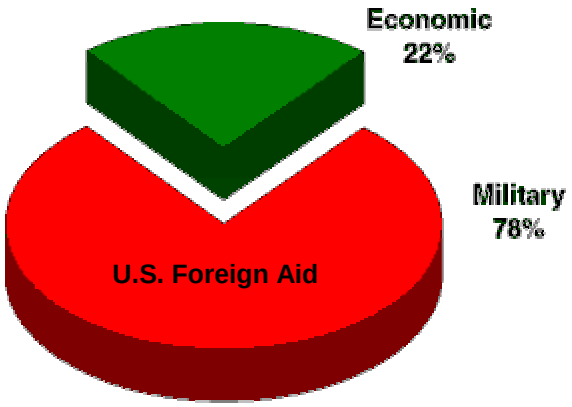
A single successful solution that reduces America's dependence on OPEC is unlikely. However, it is possible to select from the menu of options presented in the previous chapter, a combination of solutions that will greatly decrease the United States' vulnerability to manipulations by the OPEC cartel. This chapter will present these recommendations. First, however, we must answer the question, "What constitutes a successful approach?"

Key Attributes of a Successful Approach

A successful approach to reducing America's dependence will satisfy the following criteria:

Foreign Relations

Policies must not appear to be an overt attempt directed at reducing imports from any one region. To ensure continued amicable relations, reducing the deficit and increasing the GNP should be emphasized in executing the reduction in exports.



The United States has had a presence in the Middle East, with the aim of ensuring access to the region's petroleum. U.S. policy has been characterized as one of "dual containment," attempting to keep Iran and Iraq from expanding at the expense of their neighbors. American efforts have been linked to the fall of

the Shah in pre-revolutionary Iran, and the U.S. spearheaded a multi-national coalition to expel Iraq from Kuwait in operation Desert Storm. The policies are expensive, but have been justified by the threat of destabilization of the world petroleum market.

Economic Stability and Political Feasibility

A solution must take the American economy into account. It must not only aim to prevent, or insulate us from, recessions, but also to bolster the economy. In order to garner bi-partisan political support, policies must be practical and workable.

National Security

U.S. strategy should consider the security needs of the United States, allowing for us to maintain independence from foreign powers and preserve our Sovereignty. OPEC could threaten national security in two ways: (1) not having enough fuel to wage a war, and (2) a major disruption in the economy caused by a sharp increase in the cost of petroleum. To guard against the first threat, the United States Strategic Petroleum Reserve (SPR) should be maintained at full capacity. The US can hedge against the second scenario by procuring oil from more stable regions and from countries that we are more closely allied with.

Environmental Concerns

Policies must strike a balance between minimizing environmental impact and ensuring national security. The two areas of the United States have the most potential for increasing production are California and Alaska. Environmental groups present considerable opposition to exploration in both states. However, existing law does not necessarily prohibit drilling.

Recommendations

As a result of applying the criteria to the options presented in Chapter Three, we now recommend the following approaches to reducing the United States' dependence on OPEC oil imports.

Conservation: Using HEVs

In a recent Gallup poll 56% of Americans stated that they were convinced that spiraling energy costs are the main cause them financial problems.[42] As the utility bills stack up and the gas prices soar, so will pressure on Capitol Hill. For the first time in over a decade, Washington will be forced to create policies that must combat the energy crises of today and in the future.

In order to alleviate the current dilemma of high gas prices, with regards to lessening dependence on OPEC, the United States must implement innovative conservation policies that will cater to the increasing demand for oil. In a joint effort between the Department of Energy, Congress, car manufacturers, and local municipalities, the U.S. can decrease the demand for oil by giving incentives to consumers to drive a hybrid energy vehicle (HEV) that is cheap, desirable, and efficient.

First, Congress and the Department of Energy (DOE) should implement a policy that would subsidize consumer loans to purchase hybrid energy vehicles (HEVs). A series of statutes encouraging priority parking for HEVs, mandating government use of HEVs, passing a gas tax, creating incentives for automobile manufacturers to develop alternative technologies, and educating the public should also be drafted.

Consumers do not purchase alternative technology vehicles because they are too costly, and somewhat unavailable. Furthermore there are no incentives for the consumer and our consumption driven society to own such vehicles. Hence, in an effort to conserve fuel, Congress, the Department of Energy and automobile manufacturers should take the following steps over the course of the next ten years.

First, congress should create a subsidized loan for consumers who wish to purchase any HEV vehicle from January 2002 to 2012. The Federal Government would subsidize this loan, reducing interest on loans for consumers who purchase or lease an HEV. Also, statutes should mandate that parking lots provide strategically placed HEV parking spots near the front of the building as an incentive to potential HEV owners.

Second, in order to stimulate consumer awareness, advertisements would target potential HEV owners by touting low interest loans and other incentives. Also, in a public relations campaign, via the DOE and the White House the Presidential

limousine will have HEV capability. The president's example should inspire others.

And finally, the last step would be an effort to bring awareness and stimulate innovation. The Department of Energy would allocate a grant to the car manufacturer that develops the most efficient vehicle. In an effort to create the winning vehicle, manufacturers will have created models for future production.

Conservation was chosen as part of the solution because of the value of efficiency and self-sufficiency. Furthermore, the technologies promoted by conservation efforts will be increasingly utilized in the future; fossil fuel supplies are not infinite.

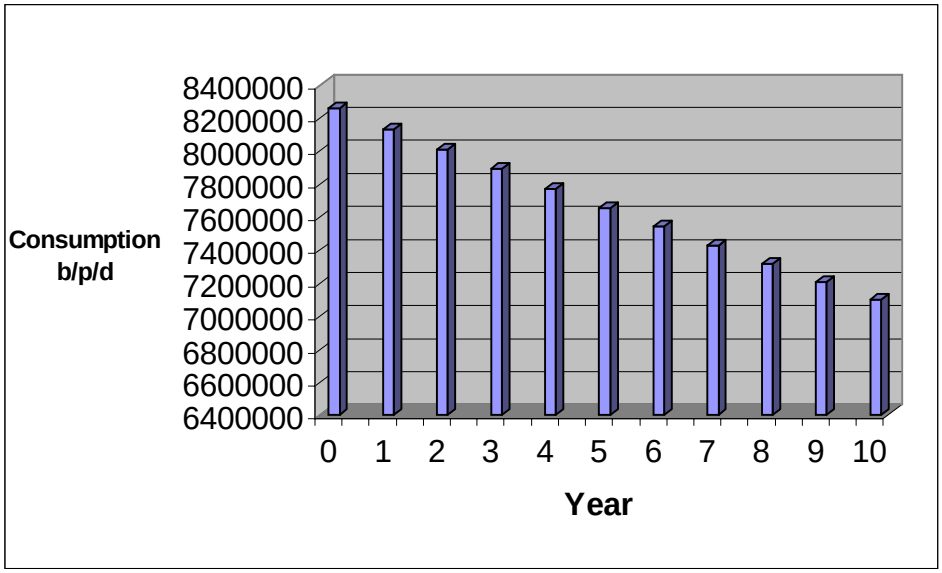
In devising policies to encourage conservation, the imposition of a gas tax was ruled out. Such a tax was deemed politically impractical and economically undesirable because increasing the price of gas would decrease consumption, possibly harming the economy.

There was also a focus upon promoting HEVs because that technology was deemed the most promising; a number of carmakers have already manufactured them. The recommendations were also designed to nudge American carmakers into the fray. Finally, the implementation of a traditional conservation campaign that urged individuals to drive less or at lower speeds was considered ineffective. Instead, more sophisticated means, such as priority parking, were employed.

Americans consume 8,253,000 barrels of motor fuel per day. The average automobile fuel efficiency is estimated at 30 MPG, while the average HEV should achieve twice the efficiency, or 60 MPG. We estimate that the proposed HEV initiative will cause a shift of 3% per year to those more fuel-efficient automobiles, resulting in a 30% share of the market over 10 years. Thus, considering that this 3% is approximately twice as fuel efficient, the total fuel consumption should diminish by 1.5% per year in that ten-year period *ceteris-paribus.* The total reduction will be 1,156,745 b / p / d (barrels per day) by the end of the period.

Reduction of Consumption as a Result of Conservation Policies

		0.015 % Change
Yr.	Consumption	Reduction
0	8253000	
		123795
1	8129205	
		121938.1
2	8007266.925	
		120109
3	7887157.921	
		118307.4
4	7768850.552	
		116532.8
5	7652317.794	
		114784.8
6	7537533.027	
		113063
7	7424470.032	
		111367.1
8	7313102.981	
		109696.5
9	7203406.437	
		108051.1
10	7095355.34	
	Total Reduction	1157645 b/p/d



Increasing Production: Alaskan Oil

The DOE should sponsor a campaign to educate the public on the pertinent issues of Alaskan oil exploration. The aim of this effort will be to allow drilling in the Coastal Plain of ANWR. There are already a number of public figures who advocate exploration in ANWR's coastal plain, like Senator Trent Lott, who recognizes that "American dependence on foreign oil threatens our national security and our freedom."[43]

Alaska's Senator Murkowski has proposed a Bill that would open ANWR's coastal plain for oil exploration. "Senator Murkowski's legislations include numerous tax credits to spur oil and natural gas production in small and mid-sized companies and to promote alternative fuels. The bill would exempt oil producers from paying federal royalties on deep-water wells if crude prices drop below an average of $28 a barrel for 12 months."[44]

There is ample incentive for oil companies to drill in ANWR. If the ban on exploration in the coastal plain were lifted, they would begin work immediately. Thus, the most important component to implementing the plan is to allow oil companies access to the Coastal Plain of ANWR.

Oil companies would be allowed to drill for oil in ANWR if appropriate legislation were passed. However, the proposals are facing high opposition due to environmentalist concerns. Educating the public would quash this opposition. If the American people were more educated about the cost-effective outcomes of drilling for oil in Alaska, it is more likely that public opinion towards the Alaskan initiative would be much more favorable, freeing Congress to raise prohibitions on activity on ANWR's coastal plain.

Environmentalist groups have used propaganda to convince the public that petroleum related operations are harmful to animals and the environment. Accidents such as the crash of the Exxon Valdez oil tanker have also contributed to negative public sentiment. The key component in gaining support for a plan that would open the coastal Plain of ANWR is to advertise the following pertinent facts:[45]

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[43] Alavarez, Lizette. "Senate Republicans Propose Big Overhaul of Energy Policy." The New York Times. February 26, 2001, p. 1.

[44] Dwyer, Paula. "The Furor Ahead Over Fat Tax Breaks For Energy." BusinessWeek. March 12, 2001, p. 53.

[45] http://www.anwr.org/topten; www.aapg.org/divisions/dpa/anwr

- Exploration in the Arctic does not adversely affect wildlife. In fact, In Purdhoe Bay, areas adjacent to ANWR's coastal plain, certain species of animals have flourished. For example, the Central Arctic Caribou Herd has increased six fold.

- ANWR consists of 19 million acres. The area that is being proposed for exploration is only 1.5 million acres (or 8%) of the Reserve. When drilling begins, only 2000-5000 surface acres of land would actually be affected. This is possible because of the new drilling technologies that allow for a smaller "footprint" on the land.

- The operation would be subject to stringent precautionary measures and high environmental standards. For example, regulations that require double hull tankers show that we learn from our mistakes and are taking steps to prevent future mishaps.

- 75% of Alaskans are in favor of oil exploration in ANWR's coastal plain, the largest reserve in America that we are aware of. They are in the best position to decide what is best for their land, and should be allowed to determine its future.

- The economy would benefit because of the estimated half million jobs created by the project. Lower petroleum prices would also stimulate the economy. And most importantly, consumers would be able to take advantage of lower prices at the pump.

We opted to increase domestic production because of the high premium placed on national security and independence. Traditional American values militate for utilizing our own natural resources, protecting economic stability, and providing low cost energy. Those interests outweigh any environmental impact that may occur in ANWR, especially given the fact that Alaskans themselves support the proposal. In this case, local rule is preferable to imposition of outside authority.

Alaska was chosen over California because most Alaskans favor the proposal. Californians, on the other hand, have displayed a hostile attitude towards offshore extraction. Finally, Alaska was a natural choice because of the sheer magnitude of its reserve base, and the maturity of its petroleum infrastructure.

Currently, Alaska supplies us with 18% of our oil. Analysts predict that the Coastal Plain of ANWR could yield 9-16 billion barrels. With a conservative estimate of a yield of 12 billion barrels, we calculated a reduction of dependency based upon a 50-year production schedule. The total output would be over .4 million barrels per day (b / p / d).

In making the calculations, we allocated 65% of the increase in supply to offset OPEC oil, and 35% from other countries. This distribution is designed to minimize disruption of U.S. foreign relations, as a reduction in trade with OPEC that equaled 100% of U.S. reduction in foreign oil purchases could be viewed as overtly targeted at OPEC.

Reduction in Dependence Upon OPEC as a Result of New Alaskan Production

IA = Increase in Alaskan production*

PA = Percentage of new Alaskan production allocated to offset OPEC imports

AO = Amount of new Alaskan production allocated to offset OPEC imports

CO = Current OPEC imports

NO = New OPEC Imports

IA (PA) = AO – CO = NO

657534 (.65) = 427397 - 5136000 = 4708603 b / p / d

Importing Regionally: Mexican Oil

Mexico should play a major role in reducing dependence on OPEC. Currently, the Bush administration is calling for a similar effort, which has been dubbed the "hemispheric energy policy".[46] US Energy Secretary Spencer Abraham has led the effort by meeting at the Hemispheric Energy Conference. In order to successfully implement such a strategy, the following actions should be taken.

The executive branch should seek to increase Mexican imports of petroleum by expanding foreign investment to facilitate greater exploration and refining capability. U.S. policy should be to keep Mexico from cooperating with OPEC by fostering localism and regional ties via old agreements such as NAFTA, as well as innovative new arrangements such as a North American Energy Summit.

The Executive Branch, the US Department of Energy, Mexican Officials and the major US and Mexico oil producers should organize an Energy Summit in which participants could decide what should be done to secure the future of energy

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* Based on new drilling with a finding of 12 billion barrels of reserve, used over a 50-year period.

46 "US Energy Chief Promotes Bush Plan in Mexico", *LA Times*, Friday March 9, 2001, Lee Romney.

supply, specifically in the Western Hemisphere. Some of the topics of discussion should be:

> **Exploration:** Determining the amount of proven, and to be proven, oil reserves that Mexico hopes to exploit, both on land and in water.
>
> **Foreign Investment**: Infusing capital into the Mexican petroleum industry. In order to encourage regional ties, Canadian investment should be considered.
>
> **Proven Reserves:** Incorporating ways to increase the number of proven oil reserves via the usage of better technology and guidelines as to current oil industry standards regarding proven reserves.
>
> **Technology:** Developing strategies that will facilitate the extraction of more oil from Mexico. There should be a balance between environmental and efficiency needs.

These negotiations should serve to expand the U.S.- Mexican oil trade. The US Department of Energy and the Executive Branch should pursue a commitment from the Mexican Government and the current Chief Executive of PEMEX, Raul Munoz, to produce more oil. To persuade PEMEX, the US should provide tax incentives and subsidies for small and large oil companies to invest in Mexico. These incentives could be modeled after existing tax incentives.[47]

In formulating a strategy, it became clear that the United States is not in a position to provide for the whole of its energy needs- the sheer scale of consumption ensures that at least some importation of petroleum is necessary. It was equally obvious that there were no alternatives on the horizon that would supplant petroleum as the foremost provider of energy. Petroleum is here to stay.

The decision to shift reliance away from OPEC was taken to ensure a more stable supply of petroleum. The fact that OPEC member countries hold positions that are adverse to U.S. interests was troubling. Dealing with Russia was viewed as too risky, and a poor choice for the same reasons as relying on OPEC.

Mexico was chosen as a partner in the interest of promoting regional cooperation and in an effort to strengthen regional ties. Mexico is viewed as a more suitable trade partner because its policies more closely parallel U.S. values and interests. In addition, the existence of a history of prior relations and the NAFTA free trade

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[47] Please see US Department of Energy, Energy Information Administration, Tax Incentives, www.eia.doe.gov/oiaf/servicerpt/subsidy e-mailed to us by Jon Rasmussen.

zone was considered. Finally, the ability, and especially the willingness, of the Mexicans to export oil to the United States served as strong incentives.

The U.S. currently imports about 1.4 b / p / d from Mexico. PEMEX has indicated that it plans to increase production by 40% per year. We used a conservative estimate of 25% per year in our calculations. Total output will be approximately 1.7 million b / p / d. As with the newly extracted Alaskan oil, only 65% of the new influx from Mexico was calculated to offset imports from OPEC countries.

Reduction in Dependence Upon OPEC as a Result of Mexican Trade Increase

CM = Current Mexican imports

AM = Additional Mexican imports [**]

NM = New Mexican imports

PA = Percentage of Mexican imports allocated to offset OPEC imports

MO = Amount of Mexican imports allocated to offset OPEC imports

CO = Current OPEC Imports

NO = New OPEC imports

(CM + AM) = NM (PA) = MO - CO = NO

(1359000 + 339750) = 1698750 (.65) = 1104188 - 5136000 = 4031812 b / p / d

Conclusion

Our proposal provides a realistic solution to alleviating U.S. dependence upon OPEC. It is a three-pronged approach. Currently, the U.S. imports about 4.8 million b / p / d from OPEC countries. The combination of policies we recommended would reduce this figure to 2.1 million b / p / d, decreasing U.S. dependence upon OPEC by about 44%. The U.S. will have to take many factors into consideration but one thing is certain, legislators and policy makers must take action now. The U.S. economy, national security, sovereignty, and people are at threat if we continue to rely on OPEC for oil. We hope our recommendation sets the stage up for future debate.

[**] Based on a 25% increase

References and Bibliography

The Color of Oil –The History, the Money and the Politics of the World's Biggest Business; Michael Economides, Ronald Oligney; Round Oak Publishing Company; Katy, Texas; c. 2000

Oil in the New World; Kate Gillespie and Clement Moore Henry; University Press of Florida; Gainesville, FL; c. 1995

OPEC in a Changing World Economy; Abbas Alnasrawi; The Johns Hopkins University Press; Baltimore Maryland, London England; c. 1985

OPEC Behavior and World Oil Prices; James M. Griffin, David J. Teece; George Allen & Unwin; London, England; c. 1982

Energy Economics; Helmut A. Merklein, W. Carey Hardy; Gulf Publishing Company- Book Division; Houston Texas; c. 1977

"The Saudis Defend Their Slippery Turf"; Business Week, New York, NY; 01/29/01; Stanley Reed

"Oil; Higher Prices, but not for Long"; Country Monitor; New York, NY; 01/22/01; Anonymous

"OPEC and US Energy Policy"; Oil and Gas Journal; Tulsa, Oklahoma; 01/22/01; Anonymous

"OPEC Tries to Navigate Oil Prices to 25 Dollars bbl, Uncertainty Prevails"; Oil and Gas Journal; Tulsa, Oklahoma; 01/2201; Anonymous

Sources of Historical data: Energy Information Administration / US Department of Energy

Latest data available from EIA databases supporting the following reports: *Natural Gas Monthly*, DOE/EIA-0130; *Electric Power Monthly*, DOE/EIA-0226; Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Oil and Gas, Reserves and Natural Gas Division.

www.eia.doe.gov, *Short-Term Energy Outlook*, February 6, 2001

www.eia.doe.gov, *Non-OPEC Fact Sheet*, June 2000

www.eia.doe.gov, *OPEC Fact Sheet*, June 2000

http://www.eia.doe.gov/emeu/international/petroleu.html

http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/petroleum_supply_monthly/current/pdf/stable3.pdf

America's Right Turn From Nixon to Clinton, Second Edition, William C. Berman, The Johns Hopkins University Press, Baltimore and London c. 1994, 1998

Energy Information Administration / Monthly Energy Review January 2001

"Bush Is Due to Visit Mexico in Search of Oil and Power"; February 13, 2001; By TIM WEINER; NY Times

Oil Producing Countries Current Economic Conditions, Milken Institute, African and the Middle East Study, 3/8/2000 www.milken-inst.org

OPEC Leans Towards Another Oil Supply Cut ----- Consuming Nations Caution Against Trims Amid High Crude Prices, *Wall Street Journal*, New York, NY; February 20,2001 by Bhusan Bahree

Supply Concerns Arise Amid Expectations of Price Stability; *Oil & Gas Journal*, Tulsa; Feb. 12, 2001, Anonymous

OPEC Critic Puts Spotlight on Output- Cartel Holds the Reins too Tightly for Times, Energy Agency Argues, *Wall Street Journal*, New York, NY; February 13, 2001; Bhusan Bahree

Don't Blame the Arabs- *The Spectator*, London, February 10, 2001; Justin Marozzi

OPEC Tries To Navigate Oil Prices, *Oil & Gas Journal*; January, 22, 2001; Anonymous

Business Over a Barrel, *The Economist*, London, January 20, 2001; Anonymous

Hudson Reflections, "Party Mood Will Keep Good Times Rolling", Irwin Stelzer, Senior Fellow