

USAWC STRATEGY RESEARCH PROJECT

**ADDICTED TO OIL:
STRATEGIC IMPLICATIONS OF AMERICAN OIL POLICY**

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ABSTRACT

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In his 2006 State of the Union address, President Bush proclaimed that “America is addicted to oil, which is often imported from unstable parts of the world.” He announced it was time for the United States to “move beyond a petroleum-based economy and make our dependence on Middle Eastern oil a thing of the past.” He set a goal “to replace more than 75 percent of our oil imports from the Middle East by 2025.” This conjures up the grand image of Kennedy’s declaration to send a man to the moon by the end of the decade – it is not such a mission. Only 18 percent of oil imports are projected to come from the Middle East in 2025. The Bush goal in reality only results in a decrease of American oil consumption by 14 percent overall. Oil is a fungible, globally traded commodity with rising demand, so this initiative will have minimal impact on influencing America’s national interests in the Middle East. However, most rehabilitation programs follow a twelve step process. The Bush plan is step one in weaning America from its addiction, and is a necessary but not fully sufficient step to ensuring our future national security through Middle East Oil independence.

ADDICTED TO OIL: STRATEGIC IMPLICATIONS OF AMERICAN OIL POLICY

In his 2006 State of the Union address, President Bush set America on a new course towards oil independence. "America is addicted to oil," he warned, "which is often imported from unstable parts of the world." He further vowed that it was time for the United States to "move beyond a petroleum-based economy and make our dependence on Middle Eastern oil a thing of the past." To accomplish this, the President set the goal "to replace more than 75% of our oil imports from the Middle East by 2025."¹

Some have compared this to the challenge laid down by John F. Kennedy in May, 1961: "I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to the Earth."² In his address, Kennedy chose space as the main Cold War battleground on which to marshal his forces, responding to the Soviet Union's challenge when it sent the Sputnik satellite into orbit in 1957. President Kennedy galvanized the nation, and specifically the scientific community, toward a goal he deemed essential to America's national security. Similarly, President Bush appears to be choosing Middle East oilfields as a battleground for the War on Terror, and he is also calling on the scientists of the country to lead the charge. "The best way to break this addiction is through technology,"³ he said, and the program to accomplish this is the Advanced Energy Initiative.⁴

It is certainly clear that the War on Terror is centered in large part in the Middle East, where everything takes place in the context of what President Bush calls our "addiction" to imported oil. What is less clear, though, is how weaning ourselves off of this addiction is going to help us in our foreign policy and counter the terrorist threat. It is also unclear what the objective of reducing our Middle East oil dependence by 75% really means. The moon was a clear goal, and the space race was something the world could easily track with each astronaut and cosmonaut sent into orbit. Our dependence on Middle East oil is by no means so clear. For most Americans the addiction to oil means that we are victims of the fluctuating oil market, where 60 dollar per barrel oil results in gas prices approaching three dollars per gallon. For others, the thought of no Middle East oil harkens back to the 1973 Arab oil embargo, which tripled the price of oil overnight and resulted in long gas lines and large price increases. What will be required to meet President Bush's Advance Energy Initiative, and how will it result in a more secure nation?

Unfortunately, the past 35 years of failed presidential energy initiatives provides little insight and, in fact, presents a foreboding precedent for President Bush's proposals. During the 1973 Arab oil embargo, President Richard Nixon launched Project Independence, asserting, "In

the last third of this century, our independence will depend on maintaining and achieving self-sufficiency in energy.” He further declared: “What I have called Project Independence 1980 is...set to insure that by the end of this decade, Americans will not have to rely on any source of energy beyond our own.”⁵

President Gerald Ford moved the date for achieving American energy independence forward to 1985 when, in 1975, he signed the Energy Policy and Conservation Act to set federal standards for energy efficiency in new cars for the first time.⁶

In 1977 President Jimmy Carter notoriously declared energy independence an issue of such vital national interest that it was the “moral equivalent of war.” In August of that year, Mr. Carter signed the law creating the U.S. Department of Energy, to manage America’s ongoing energy crisis. In a nationally televised speech in July 1979, after the Iranian oil crisis doubled oil prices, Mr. Carter swore, “Beginning this moment, this nation will never use more foreign oil that we did in 1977 – never.” He proposed a sweeping 142 billion dollar energy plan which would achieve energy independence by 1990, moving the date forward yet again.⁷

In 1991, in the midst of the first Gulf War, George H. W. Bush announced a national energy strategy aimed at “reducing our dependence on foreign oil.”⁸ He also funded the U.S. Advanced Battery Consortium, a 260 million dollar research project to develop lightweight battery systems for electric vehicles.

In 1992, Bill Clinton proposed a large tax on crude oil to discourage dependence on foreign oil. The next year, he launched a billion dollar Partnership for New Generation Vehicles with the Big Three automakers, aiming, by 2004, to produce a prototype car that was three times more fuel-efficient than conventional vehicles.⁹

Even during the first term of his administration, the current President Bush has declared oil dependence an issue. In his 2003 State of the Union message, President Bush pledged “to promote energy independence for our country.”¹⁰ He also announced his 1.2 billion dollar FreedomCAR proposal to develop hydrogen-fueled vehicles.

It is no wonder America views President Bush’s current Advanced Energy Initiative skeptically. Despite the bold proclamations of the past three decades, the only way America has ever cut back on imported oil is in response to higher prices. World oil prices peaked in real terms in 1980 at about 90 dollars per barrel. In 1977, U.S. imports were 6.6 million barrels per day, but by 1985 imports had been cut in half to 3.2 million barrels per day -- due not because of a Presidential initiative but because higher prices had boosted domestic production and reduced consumption. Today, despite more than 30 years of government-sponsored programs only about a half-million alternative fuel vehicles roam America’s highways, and none are wholly

electric or hydrogen powered. American oil consumption is currently 20.6 million barrels per day, up from 17.3 million barrels per day in 1973. The percentage of imported oil has risen more sharply over the period, increasing from nearly 35 percent to 60 percent.¹¹

Simple economics – as in higher prices – seem to do far more to free America from dependence on foreign oil imports and spur energy technology innovation than any federal program. The question is, can America afford to wait that long?

National Security Implications

Throughout the nation's history, especially since World War II, four long-term enduring national interests have conditioned the way the U.S. government views the external world and this country's place in it:

- defense of the homeland;
- promotion of U.S. democratic values;
- creation of a favorable world order; and
- enhancement of the nation's economic well-being.¹²

These enduring national interests are expressed in the current *National Security Strategy* (September 2002), which states:

In keeping with our heritage and principles, we do not use our strength to press for unilateral advantage. We seek instead to create a balance of power that favors human freedom: conditions in which all nations and all societies can choose for themselves the rewards and challenges of political and economic liberty. In a world that is safe, people will be able to make their own lives better. We will defend the peace by fighting terrorists and tyrants. We will preserve the peace by building good relations among the great powers. We will extend the peace by encouraging free and open societies on every continent.¹³

While the enduring national interests have not changed from past national security policies, the environment in which the United States finds itself today is dramatically different. Enemies in the past needed great armies and great industrial capabilities to endanger America. Today, the enemy is terrorists and tyrants, fueled by radical idealism and financed in large measure by oil money. Each of our four enduring national interests is impacted by our dependence on foreign oil.

Oil and Defense of Homeland

President Bush noted that much of America's oil dependency relies on imports from unstable parts of the world. It is probably more accurate to state that America is buying billions of dollars of oil from nations that are sponsors of, or allied with, radical Islamists who foment hatred against the United States. The dollars we provide such nations contribute materially to

the terrorist threats facing America.¹⁴ In the War on Terror, the United States is financing both sides. While spending billions of dollars on U.S. military efforts in the war, we are sending billions more to nations such as Saudi Arabia, Iran and Sudan, where the cash is used to finance training centers for terrorists, pay bounties to the families of suicide bombers, and fund the purchase of weapons and explosives. Oil revenues in these countries underwrite new media outlets that propagandize hatefully against the United States. They pay for more than 10,000 radical madrassahs set up around the world to indoctrinate young boys with the idea that the way to paradise is through murderous terror. It was men energized by oil-revenue resources who killed 3,000 American civilians on September 11th, and who continue to kill large numbers of Westerners in Iraq and elsewhere. We are thus subsidizing acts of war against ourselves.

Besides financing the enemy, American overdependence on oil has led to a hapless foreign policy in the Arab world. It has weakened our nation's international leverage and empowered exactly the wrong countries. Iran is using oil revenues to finance development of nuclear weapons and to insulate themselves from the economic sanctions that could result. In his State of the Union speech, President Bush told America that "the nations of the world must not permit the Iranian regime to gain nuclear weapons,"¹⁵ but in effect the world is paying for these weapons with oil revenues. In our foreign policy with Iran, we are forced to speak loudly while carrying no stick.

Although America claims Saudi Arabia as an ally in the war on terror, the U.S. is powerless to force Saudi action when members of its elite help Osama bin Laden and his network of terror. It is unclear how involved Saudi Arabians are in backing terrorism because the Saudi government turns a blind eye and the United States is powerless to provoke action.¹⁶ Many of the sources of global terrorism spring from the archaic social conditions within Saudi Arabia and the vast stores of oil money that the royal family controls. The consequences of the destructive Wahhabi Islamic ideology that spins from Saudi Arabia to fuel terrorism is something the Saudi government is unwilling to address and the United States is unwilling to take a stand on. The Saudi's are tolerant of a jihadist culture and the U.S. is tolerant of our oil supplier.

America is hamstrung because any forceful action on our part against nations like Iran and Saudi Arabia could result in the disruption of oil supplies that the world economy is completely dependent on. We cannot stand up to those who support our enemies because we rely upon those supporters for the fuel that is our own lifeblood.

Oil and Promotion of U.S. Democratic Values: The War of Ideas

Secretary of Defense Donald Rumsfeld has said that "to win the war on terror, we must also win the war of ideas."¹⁷ The ideas the U.S. promotes are spelled out in the *National Security Strategy*:

Freedom is the non-negotiable demand of human dignity; the birthright of every person – in every civilization. Throughout history, freedom has been threatened by war and terror; it has been challenged by the clashing wills of powerful states and the evil designs of tyrants; and it has been tested by widespread poverty and disease. Today, humanity holds in its hands the opportunity to further freedom's triumph over all these foes. The United States welcomes our responsibility to lead in this great mission.¹⁸

The war of ideas, however, has produced a growing gap between much of the world's perception of the United States and America's self-perception as being the purveyor of freedom. While America sees its actions as being in the global interest, the world views America's interests as self-serving. Unless this "perception gap" is eliminated, America will have a difficult time winning this war of ideas.

In 2002, the Pew Global Attitudes Project found that 79 percent of U.S. citizens believe it is good that "American ideas and customs are spreading around the world," and more than 70 percent think that U.S. foreign policy "takes the interests of other states into account." Unfortunately, this rosy view of U.S. power is not shared overseas, where, according to the survey, overwhelming majorities say that the United States considers the interests of others "not much" or "not at all."¹⁹ A January 2005 BBC survey of 21 countries found only five -- India, the Philippines, Poland, South Africa, and South Korea -- where a majority of people had "positive" attitudes toward the United States.²⁰ Although the United States' global standing has rebounded slightly since the invasion of Iraq, Pew reported in June 2005 that majorities in all 15 countries it surveyed "favor another country challenging America's global military supremacy," and that support for the U.S.-led "war on terror" is declining on every continent.²¹

The United States' image is especially bleak in the Arab world. Although Arab populations view U.S. popular culture, U.S. science and technology, and the American people somewhat favorably, a 2004 Zogby International poll found that fewer than 10 percent of those surveyed in Egypt, Jordan, Lebanon, Morocco, Saudi Arabia, and the United Arab Emirates approved of U.S. policy. Indeed, when asked to indicate their "first thought" about the United States, the most common response was "unfair foreign policy."²²

If the United States is a force for good -- as the country's leaders proclaim and its citizens overwhelmingly believe -- why do even its allies have concerns about its foreign policy? The short answer is that they distrust American motives. In a 2004 Pew survey majorities in six of

the nine countries surveyed did not believe that the U.S.-led war on terrorism was a sincere effort to reduce international terrorism. Even in Russia and Great Britain, where there was strong support for the fight against terrorism, many people were skeptical of U.S. motives.²³

When people who expressed doubts about U.S. sincerity in the terrorism effort were asked about other possible reasons for the war on terrorism, oil was mentioned most often as a U.S. motive for the policy. Majorities in seven of the nine nations surveyed believed that controlling Middle Eastern oil supplies was an important reason why the U.S. is conducting the war on terrorism. This view was not only widespread in Jordan, Morocco and Pakistan, but also in Turkey, Germany and France. While Russians strongly back the war on terrorism, half of Russians said controlling oil was an important U.S. motivation. Great Britain and the U.S., where relatively few doubt America's sincerity in the first place, were the only countries where relatively small minorities held this opinion.²⁴

Proponents of U.S. foreign policy tend to portray anti-Americanism as hostility toward American values or simple resentment of U.S. dominance. President Bush has said that "America was targeted for attack because we're the brightest beacon of freedom ... in the world."²⁵ He later explained, "The terrorists who attacked our country on September 11, 2001, were not protesting our policies. They were protesting our existence."²⁶ The Pentagon's National Defense Strategy, issued in March 2005, states: "Our leading position in the world will continue to breed unease, a degree of resentment, and resistance."²⁷

There is a grain of truth in this argument, but foreign opposition to the United States is mostly a reaction to specific U.S. policies. The United States has been the sole great power for nearly 15 years, but its international standing remained fairly high through the late 1990s. Although some foreign leaders expressed concerns about the power imbalance, most nations -- their people and their governments -- looked favorably on the United States and welcomed Washington's global leadership.²⁸ Attributing the current unpopularity of the United States solely to its power or values cannot explain the sharp decline in its image that has occurred since 2003, or especially the intense antipathy toward President Bush himself.

According to the 2002 Pew survey, "Antipathy toward the United States is shaped more by what it does in the international arena than by what it stands for politically and economically."²⁹ Similarly, a 2004 study by the Pentagon's Defense Science Board concluded that "Muslims do not 'hate our freedom,' but rather they hate our policies."³⁰ And the State Department's Advisory Group on Public Diplomacy concluded in 2003 that "Arabs and Muslims ... support our values but believe that our policies do not live up to them."³¹

Disagreement with U.S. foreign policy does not mean the policy is wrong, but it does mean U.S. actions come with a price. America's war on terror requires action, but our addiction to oil only serves to contaminate our true objectives when acting in the Middle East. For half a century, the United States made Persian Gulf oil a primary security interest, boldly allying with these Muslim states to defend them from the godless Soviets. Our defense was a small price to pay for the uninterrupted flow of oil. Today, as the world's lone superpower, America is seen as a threat to Muslim sovereignty. Middle Eastern states see America's great need for their oil, but they see no clear cut policy on how the U.S. intends to fill this need. Our "dirty little secret" of oil dependency only serves to build mistrust and disdain. When battling a war of ideas in this region, these are not the foundations on which to fight this battle.

Oil and Promotion of U.S. Democratic Values: Freedom and Democracy

Besides contaminating our intent to bring freedom and democracy to the region, American oil money is actually bolstering governments which are diametrically opposed to American values. In places like Saudi Arabia, Iran and Sudan oil revenues are used to insulate the regimes from any pressure to open up their economies, liberate their women or modernize their schools. Huge oil windfalls have created societies led by the wealthy few where there is no incentive for reform. The National Security Strategy lays the foundation for the type of government which reflects U.S. democratic values:

The great struggles of the twentieth century between liberty and totalitarianism ended with a decisive victory for the forces of freedom – and a single sustainable model for national success: freedom, democracy, and free enterprise.³²

The problem with the totalitarian governments of the oil states is that the people have been suppressed to the point that they do not have the power, education, or will to participate in the governance of their countries. In the Arab-Muslim world, the ruling elite have been able to sustain themselves in power without ever empowering their people -- without ever allowing progressive parties to emerge -- because they have massive oil revenues to keep their people quiet and themselves in power. They have never had to tap their people's energy and creativity because they simply had to tap an oil well. Therefore, politics in these states has never been about building a society or an educational system that maximizes people's ability to innovate, export and compete. Politics has simply been about controlling oil.

Some fear that there is nothing below the ruling elite, no educated middle class, on which to form a foundation to build a democracy. Without a ruling elite, the next level of society below the ruling class in the Arab world is the mosque, and this is where the Islamic extremist ideals foment. U.S. national security may be no better off, or perhaps worse, with the extremists

in charge. The emergence of zealots to power has certainly been the case in the few Arab countries which have held free and fair elections. In Egypt, the Muslim Brotherhood won 20 percent of the seats; and, in Palestine, Hamas went from nowhere to a governing majority. There are two reasons why this is not necessarily a bad thing. First, the perspective of an opposition ideological group is different when they are in charge. Rather than being the people “sticking it to the man,” they find themselves as “the man.” Perhaps having to run a country will pacify the extremist nature of the group. At a minimum it will bring these organizations to the level of a nation-state where the international community has means to deal with their radical behavior. Second, the only way that new leadership in the Arab world will allow for real democracy, political parties, institutions, free press, competitive free markets and proper education – a free, civil society built on values we promote – is if they no longer have unlimited oil revenues and are forced to make internal reform in order to sustain themselves. These nations will change when they have to, not when we tell them to. If building governments based on U.S. democratic values means having to go through interim regimes led by the religious zealots, then maybe this is a necessary evil. Unless the U.S. changes its policy on oil, though, there will be no impetus for reform.

Oil and Favorable World Order

Creating a favorable world order became a national interest of the U.S. following World War II, when there was a concerted effort to create a new international environment in which Europe and East Asia would be peaceful and friendly to the United States. Sponsorship of the United Nations and formation of NATO were results of the U.S. postwar interest in building a favorable world order in which Americans could feel secure. While these organizations still exist, the environment in which they operate has changed dramatically. Terrorism has replaced Communism as the major threat to our security, and increasingly the world's insatiable appetite for oil is building as a looming security threat.

Americans consume nearly 21 million barrels of oil per day – a quarter of the world total of 84 million barrels per day. China, however, had an increase of 30% in its oil demand in 2004 and is now second at 6.4 million barrels a day with predictions its demand could double by 2020. Moreover, China will import most of its new needs because its domestic output is steady at about 3.5 million barrels a day. China now has about 20 million cars and trucks; by 2020 it could have 120 million.³³ The bipartisan, congressionally mandated U.S.-China Economic and Security Review Commission reported that: “China’s large and rapidly growing demand for oil is putting pressure on global oil supplies. This pressure is likely to increase in the future, with

serious implications for U.S. oil prices and supplies."³⁴ India has a similar burgeoning demand for oil.

While there is considerable debate about when world oil production will peak, most analysts agree that it will happen between now and the middle of the century. American oil production peaked in 1971. The trend for world oil consumption, especially in India and China, shows no signs of peaking. The International Energy Agency estimates that the oil reserves of the world are sufficient to supply a considerable demand growth until 2030, and therefore there will be no "peak oil" problem before 2030.³⁵ That being said, the rising appetite for a finite resource which will at some point be in short supply is a recipe for future conflict. America must take the lead to attempt to reduce some of this impending pressure.

The international security environment is already being impacted by oil dependence. India and China have both already signed deals with Iran. Rogue states like Sudan are given political cover by their oil customers in Asia and Western Europe. The United Nations may wish to do something about genocide in Darfur or nuclear proliferation in Iran, but its most powerful members are hamstrung by their oil alliances with some of the worst leaders on the planet.

Promoting a favorable world order also includes mitigating the environmental impact of our addiction. Historically, environmentalists have been the lead proponents for changing American energy policy. While international security has added additional reasons for action, environmental considerations remain. The carbon lodged in the atmosphere by the Industrial Revolution over the last 150 years has already taken a toll: disappearing glaciers, a thinning Arctic icecap, dying coral reefs, and increasingly violent hurricanes. Most agree that the worst consequences – widespread drought and devastating rises in sea levels – can be averted if society moves quickly to slow and ultimately reverse its output of greenhouse gases. A responsible energy policy would do more than anything in the Kyoto accords toward this end.³⁶

Oil and Economic Well Being

The economic aspect of our oil dependence is perhaps the area that American's feel most directly. Oil at 60 dollars per barrel and gas pump prices well over 2 dollars per gallon hit Americans where it hurts most. The U.S. Energy Department predicts that with the rapid development of India and China, annual global consumption will rise from over 78 million barrels of oil a day to over 119 million barrels by 2025.³⁷ Absent efforts to reduce American consumption, these new demands will lead to soaring oil prices, inflation and a loss of America's trade advantage. Both American consumers and the U.S. economy are already suffering from the cumulative effect of recent increases in gas prices. Even now, fully one-quarter of the U.S.

trade deficit is associated with oil imports.³⁸ By some estimates, America loses 27,000 jobs for every billion dollars of additional oil imports.³⁹ American dependence on foreign oil is a drain on our economy and leaves us vulnerable to unstable oil prices set by those without our best interests in mind. One needs only look at the impact of Hurricane Katrina to see how oil and our economy are inextricably linked.

Our present dependency creates another vulnerability to our economy – attacks on oil infrastructure. In Iraq and more recently in Saudi Arabia, America's enemies have demonstrated that they can advance their strategic objective of inflicting damage on the United States economy simply by attacking critical overseas oil pipelines, storage facilities, and personnel. To date, such attacks have been relatively minor and their damage easily repaired. Over time, they are sure to become more sophisticated and their destructive effects will be far more difficult, costly and time-consuming to undo.

The Cure for Our Addiction? The Bush Plan

Energy policymaking in the United States in the past 35 years has been neither decisive nor strategic. America can no longer afford to forward oil policies which we fail to implement. The history of U.S. energy policy is reminiscent of Mark Twain's quip about the weather: everyone talks about it, but no one does anything. This inertia has deep roots. Vested interests – especially in the oil, utility, and transportation industries – have been powerful economic and political players, protecting the status quo and brooking little interference from the outside. Similarly, the environmental lobby has proved itself able to block proposals it opposes but less successful in advancing initiatives it favors. As a consequence, little progress has been made toward breaking the gridlock. Today, we can no longer afford to postpone urgent action on national energy independence. U.S. strategic interests have been kicked down the road long enough. Our enduring national interests are at stake.

In remarks made since his State of the Union address, President Bush has stated that we have “an unbelievable opportunity for our country to achieve a great national goal, and that is to end our addiction to oil.” Additionally, he has said:

I have spent a lot of time worrying about the national security implications of being addicted to oil, particularly from parts of the world where people may not agree with our policy or our way of life, and the economic security implications of being hooked on oil, particularly since the demand for oil is rising faster than the supply of oil.⁴⁰

In the *International Energy Outlook 2005*, the U.S. Department of Energy has projected world energy consumption over a 23 year forecast horizon from 2002 to 2025. The outlook highlights

many of the President's concerns. World energy consumption is projected to increase on average by 2.0 percent per year over the period. Emerging economies, such as China and India, account for much of the projected growth in energy consumption, with energy use in these regions more than doubling by 2025.⁴¹ Table 1 displays the petroleum prediction over the period.

Table 1: World Petroleum Outlook 2002 - 2025

	2002		2025	
	U.S.	Emerging Asia (Primarily China, India, S. Korea)	U.S.	Emerging Asia (Primarily China, India, S. Korea)
Middle East Imports (Million Barrels per Day)	2.3	4.1	5.8	15.1
Total Imports (Million Barrels per Day)	11.3	11.0	21.1	27.4
Total Consumption (Million Barrels per Day)	19.7	15.1	32.9	33.6

Source: U.S. Department of Energy (Energy Information Agency)⁴²

The table highlights that, over the period from 2002 to 2025 U.S. consumption is expected to increase by 67 percent with Middle East imports increasing by 152 percent. Emerging Asia, on the other hand, is expected to increase total consumption by 123 percent and Middle East imports by 268 percent. In 2025, the U.S. will receive 18 percent of its oil requirement from the Middle East, while Emerging Asia will receive 45 percent of its oil from the region. The Middle East, with the world's largest oil reserves, will be increasingly called upon to meet the need as world oil demand rises.

The *International Energy Outlook 2005* also notes that world oil consumption over the period will increase from 78 million barrels per day in 2002 to 119 million barrels per day in 2025. Of this projected increase in oil use, two-thirds will occur in the transportation sector. Oil consumption in the transportation sector will increase from 44 million barrels per day in 2002 to 72 million barrels per day in 2025.⁴³ This increasing reliance on transportation as the driver of our oil dependence is why most of the President's initiatives to save oil focus on the transportation industry. The President has noted that America "uses a lot of oil for our transportation needs...so if we can change the way we drive our cars and our trucks, we can change our addiction to oil."⁴⁴

The Advance Energy Initiative calls for research in three major areas concerning the way we drive our automobiles. The first is through the use of hybrid vehicles. Hybrid vehicles are vehicles that use a gasoline engine to help charge a battery. When the battery is charged it powers the vehicle, and when the battery is low the gasoline engine takes over. It is a hybrid of two sources of power for the engine. The technological breakthrough in this area will happen when batteries are developed that are able to power a vehicle for the significant distance -- say the first 40 miles on electricity alone. These are called plug-in hybrid vehicles. Since most automobile trips are less than 40 miles, these battery advancements will go far toward reducing American oil consumption.

The second initiative is with ethanol. In the Midwest today, many gasoline stations carry E85 gasoline, in which 85 percent of the fuel is ethanol derived from corn and 15 percent is gasoline. As the President has noted, "using corn for fuel helps our farmers and helps our foreign policy at the same time."⁴⁵ Vehicles which use ethanol are called flexible fueled vehicles, meaning they can burn any mixture between gasoline and E85. Many automakers already make flexible fueled vehicles, which only entails minor modifications to the standard engine to use different fuel injectors. Ethanol burns cleaner and yields higher horsepower than gasoline, it is renewable, and it is domestically grown. The problem is production capacity. The United States currently produces about 4.3 billion gallons of corn ethanol per year, and production is growing by about 2 billion gallons per year. Experts believe that, based on the amount of domestic corn capacity, production of corn ethanol will peak out at 12 to 14 billion gallons per year. This has led to the development of cellulosic ethanol. Cellulosic ethanol is developed using decomposable plants -- such as sawgrass, sugar cane, corn waste, and wood products -- to produce a derivative of ethanol. Experts estimate the U.S. will have the capability of producing 60 billion gallons of ethanol from cellulosic materials. When combined with corn ethanol, total ethanol production will replace about half of the 140 billion gallons of gasoline the United States uses every year.⁴⁶

The third initiative is hydrogen fuel cells. The Department of Energy acknowledges that this is a long term solution, and their goal is to have a commercially viable hydrogen car by the early 2020's. There remain many issues with the production, transportation, and distribution of hydrogen, but it is a zero emission fuel and holds the promise as an ultimate solution for how American's drive their vehicles.⁴⁷

The Problem with the Bush Plan

At a press briefing the day after the State of the Union Address, Secretary of Energy Samuel Bodman and National Economic Council Director Allan Hubbard expanded on the Bush Plan. The President's goal is to lead the country into a position of being able to reduce the amount of oil consumption in this country by 75 percent of what we expect to be importing from the Middle East in 2025. This number comes from projections by the Department of Energy that by 2025 the new technologies – cellulosic ethanol, the new hybrid, the new battery technology, and the hydrogen car – will allow the U.S. to reduce demand for oil by 5.26 million barrels per day. The department anticipates that approximately 90 percent of the demand reduction will come from import reductions, meaning that imports will fall by 4.7 million barrels of oil per day.⁴⁸ Table 1 projects the U.S. will be importing 5.8 million barrels per day in 2025, so the 4.7 million barrel per day reduction in imports represents about a 75 percent reduction in imports.

The President's logic, apparently, is that by reducing our dependence on oil from this region of the world our national and economic security will be strengthened. Reducing our dependence on Middle East oil will weaken these countries economically. This will result in our national interests being served because these countries will:

- have less money to fund terrorism;
- have to come off an oil economy and forsake the totalitarian government that the oil supports;
- have to build democratic societies to participate in a free market economy instead of an oil economy;
- have to heed our foreign policy; and
- have little power to threaten our economic security by controlling world oil prices.

The problem with this logic is that it ignores the reality of the international petroleum market. As noted earlier, world oil demand is rising so fast and with such a focus on the Middle East that the American reduction of 4.7 million barrels per day will be rapidly bought up by developing countries. Also, the Secretary of Energy has noted that "most of the purchases of oil in this country are done by the private sector."⁴⁹ Since oil is a fungible commodity, the capitalist system virtually guarantees that America will end up buying the lowest cost oil from sources unknown to us. Additionally, since the oil economy is a free market and is global in nature, oil prices set in the Middle East and elsewhere will affect oil prices everywhere.

The problem with President Bush's plan is that since only 18 percent of oil imports are projected to come from the Middle East in 2025, the Bush goal only results in a decrease of

American oil consumption by 14 percent overall. Twenty years from now America will still be addicted to oil, and will still be importing 58 percent of it – even after all the technological innovation. Many of America's national interest problems simply are not solved with the Bush Alternative Energy Initiative.

That being said, there is some good which will come from the President's plan. First, if the war on terror is a war of ideas, our involvement in the Middle East in 2025 will not be contaminated by the perception we are only there because of our oil interests. We can be purists in our ideals and intents with these nations, both directly and in the United Nations, because we will not be hostage to the threat of an embargo. Second, it will ease the tension for a dwindling commodity with rising demand internationally. We will not be in direct competition with China and India for Middle East oil. Third, we will be good world citizens by helping to reduce greenhouse gases, the majority of which come from the transportation sector. Fourth, it is an investment in our troubled farm and automobile industries and can bolster the strength of our economy. Finally, since the world is becoming increasingly global, a technological advance here is an advance everywhere. Progress in the United States will help alleviate the growing demand globally.

The Future of Oil Independence

America must realize that the ultimate goal will require sacrifice. As Kennedy said on September 12, 1962:

We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win.¹⁵⁰

America must adopt a similar attitude to choosing oil independence. Unfortunately, history has shown that Americans do not change their transportation habits because of Presidential intent. The only way America has ever cut back on imported oil is in response to higher prices or lower cost alternatives. One reason alternatives to oil for transportation have not developed is that investors and potential innovators know that if they do come up with a product that competes with oil at anything like current prices, the Saudis, who can produce oil for around 5 dollars per barrel, can always lower the price and wipe them out.⁵¹ Another reason is that consumers are not really "addicts," they are rational. Even at current high prices, gasoline is the best buy if you want to power a vehicle. Hence hybrids have only found a niche among greener motorists, and

economics have not forced the free market to offer alternative vehicles or fuels to the general consumer.

The bottom line is that America does not change because of good ideas – this must be driven economically. First, the government must provide incentives to coax and federal standards to mandate automakers to produce vehicles with the new technologies and gasoline distributors to change their delivery systems to accommodate ethanol mixes. One major country has already done so. In 2003, Brazilian lawmakers mandated a transition to flexible fueled vehicles, with some tax incentives to move things along. As a result, the Brazilian divisions of Fiat, Volkswagen, Ford, Renault, and General Motors all came out with ethanol flexible fueled vehicle models in 2004, which took 60 percent of the country's new vehicle sales that year. By 2007, 80 percent of all new vehicles sold in Brazil are expected to be flexible fueled vehicles, producing significant fuel savings to consumers, a boost to local agriculture, and massive benefit to the country's foreign trade balance.⁵²

Second, a federal gas tax to stabilize gas prices artificially high and force consumers from an SUV mentality must be imposed. The extra revenue – roughly a billion dollars for every penny of additional tax -- could then be used to further fund advanced technological initiatives. Concessions could be made for lower income households in the form of a tax rebate. A tax increase could induce exporters to allow the price of oil itself to fall, in order to keep the price at the pump at a reasonable level.⁵³ Eventually, the affect of the gas tax would lessen, as revenues from it are used to finance structure changes to reduce oil dependency.

Third, America must look for new reserves and better oil reclamation technology to maximize North American oil production. Currently the United States gets half of its oil from the Western Hemisphere, with the vast majority of imports coming from Venezuela, Canada and Mexico.⁵⁴ Much of the oil reserves in North America remain relatively untapped, such as the oil sands in Canada, the outer continental shelf off of North American coastlines, and the arctic Alaskan wilderness.⁵⁵

Finally, in this endeavor America must realize that the greatest threat to global stability is not too much American power, but too little. We must summon not only all of our own industrial and scientific talent, but the talents of the global community as well. This must be an international effort. The increasing tension between a developing world demanding more oil and a fundamentalist world controlling this diminishing resource needs to be relieved. President Bush has set America off on a journey and given us a course to steer. The destination is too important for us not to give our full effort. As John F. Kennedy said: "While we cannot

guarantee that we shall one day be first, we can guarantee that any failure to make this effort will make us last."⁶

Clearly, oil is the root of many of the evils confronting U.S. national and economic security. President Bush's Alternative Energy Initiative is being touted as the rehabilitation program to wean America off its addiction to this evil commodity. The State of the Union address conjured up the grand image of a "Kennedy-esque" edict to send a man to the moon by the end of the decade – it is not such a mission. Oil is a fungible, globally traded commodity with rising demand, so the limited objectives of the Bush initiative will have a minimal impact on influencing America's national interests in the Middle East.

The hardest part of breaking any addiction, though, is getting started. Since the Nixon administration America has put forth initiative after initiative to break our addiction to oil -- with little success. Most rehabilitation programs are a twelve step process. The Bush plan is step one in weaning America from its addiction. We can no longer pay lip service to the impending problems that oil will bring to the international community. The Bush solution is one small step.

Endnotes

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¹⁴ Of the fourteen top world oil net exporters listed on the U.S. Department of Energy website (www.eia.doe.gov/emeu/cabs/topworldtables1_2.html), ten of the countries have Muslim as their primary religion (source: CIA factbook; www.cia.gov/cia/publications/factbook) and two are listed as state sponsors of terrorism by the U.S. Department of State (www.state.gov/s/ct/c14151.htm). The State Department lists Iran, Sudan, and Saudi Arabia as areas of concern for breeding terrorists.

¹⁵ George W. Bush, "State of the Union Address," 2006.

¹⁶ Gawdat Bahgat, "Terrorism and Energy," *World Affairs* (Fall 2004): 51. Bahgat observes that beginning with the revelations that Saudi citizens were involved in the September 11 attacks, the kingdom has come under public and congressional suspicion as a breeding ground for terrorism. He analyzes the Saudi government role in the support of terrorism and tolerance of a "Jihadist" culture.

¹⁷ Frank J. Gaffney Jr, "War of Ideas," *The Washington Times*, 28 October 2003 [newspaper on-line]; available from www.washingtontimes.com/functions/print.php?StoryID=20031027-083105-433r; Internet; accessed on 01 December 2005.

¹⁸ George W. Bush, *National Security Strategy*, v.

¹⁹ Pew Research Center, Global Attitudes Project, "A Year After Iraq War: Mistrust of America in Europe Ever Higher, Muslim Anger Persists," 16 March 2004,

<http://pewglobal.org/reports>. Hereinafter referred to as Pew 2004. The Pew Global Attitudes Project is a series of worldwide public opinion surveys that encompasses a broad array of subjects ranging from people's assessments of their own lives to their views about the current state of the world and important issues of the day. More than 90,000 interviews in 50 countries have been conducted as part of the project's work. The Pew Global Attitudes Project is co-chaired by former U.S. Secretary of State Madeleine K. Albright, currently Principal, the Albright Group LLC in Washington, DC, and former Senator John C. Danforth, currently Partner, Bryan Cave LLP in St. Louis, MO. The Pew Research Center is a nonpartisan "fact tank" in Washington, DC that provides information on the issues, attitudes and trends shaping America and the world.

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³³ U.S. Energy Information Administration, *International Energy Outlook 2005* (Washington D.C.: U.S. Government Printing Office, July 2005).

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³⁵ U.S. Energy Information Administration.

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⁵⁵ "United States: Rethinking the Axis of Oil," *The Economist*, 30 April 2005, 44. Oil sands in Canada's Alberta province hold 175 billion barrels of proven oil reserves, second only to Saudi Arabia's estimated 260 billion. Shell Canada estimates there could be as many as two trillion barrels. Current high prices make it economical to extract oil from sand, and Canada's oil sands are already producing a million barrels per day.

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