PART ONE

The Problem of America's Energy Dependence

Chapter 1

America's Plunge into Reliance on Foreign Oil

For about a century, the United States dominated the expanding world oil market, able to dictate terms to other nations great and small. Then in the early 1970s, the country quickly plunged into dependence on imported oil. Private lives were suddenly disrupted by gasoline lines, and public officials struggled to convince the electorate they had effective solutions to America's new energy woes. The story of how this dramatic reversal of fortune happened provides a necessary foundation for figuring out how to reduce our current dependence on imported oil.

The Specter of Oil Imports

In the late 1940s, America reached a major energy milestone. After nine decades of more oil going out (mainly as gasoline and other products) than coming in, the country became a net importer. By 1950, net imports were running about half a million barrels a day, or about 8 percent of U.S. consumption. The transition from oil-exporting nation to oil-importing nation was not unanticipated.[1]

Before the end of World War II, the wise men of government and industry began to ponder some emerging new realities. It appeared America could not sustain its prodigious increases in oil production much longer. Moreover, oil from the Middle East, while still minor, would clearly play a much larger role after the war. Reserves there went well beyond any discoveries the world had ever seen. Moreover, with sparse populations and low levels of industrialization, these countries had little need for the oil themselves, making their growing levels of supplies available to Europe and eventually the United States. The warnings of the period resonate even many decades later.

Sumner Pike, a member of the Securities and Exchange Commission (SEC) with experience in the oil business, raised alarms in 1942 about the threat of future reliance on imported oil. He cautioned, "I visualize with a good deal of horror our sudden necessitous entrance in some not far distant day into the foreign markets, and boy at that time will we be held up!" He recommended against restricting imports from the Middle East, advising, "We might just as well get started in those markets as early as possible and while we can do those countries some good, and effect the transition from an exporting to an importing nation gradually in the meantime not trying to find all our domestic oil at once."[2]

Two years later, Eugene Ayres, head of research and development for Gulf Oil, urged that national security be given priority over low prices. He wrote Franklin Roosevelt's energy czar Harold Ickes that cheap imports would block the development of alternatives to oil. He proposed a tax on all liquid fuels other than approved substitutes to create an incentive for private industry to contribute to national security.[3] Despite their differences on tactics, Pike and Ayres agreed on one thing—the United States had to do something to ward off future dependency on foreign oil.

Although the amounts of oil imported were initially quite modest, independent producers soon complained about the "increasing flood of oil from foreign lands" and the adverse effects on their businesses. Both domestic production and imports continued to grow, however, due in large part to a growing national appetite for gasoline.

A transportation boom required new roads to handle the traffic. In 1956, President Dwight Eisenhower launched the 40,000-mile interstate highway system (eventually expanded to over 47,000 miles), intended initially to facilitate the easy movement of military equipment during wartime. To pay for construction, the two-cents-a-gallon federal tax on gasoline was upped to four cents. One oil company executive complained gasoline was being taxed off the market, because the average motorist could not afford the rising tax bills. The new levy had the opposite effect. It financed a road system that encouraged the expansion of commercial trucking, family vacations, daily commutes, and, hence, the demand for diesel fuel and gasoline.

Building a Wall

Political muscle opposing foreign oil in the late 1950s came from two influential Democrats from Texas—House Speaker Sam Rayburn and Senate Majority Leader Lyndon Johnson, both active advocates for petroleum interests in their state. Congressional leaders demanded protection for American producers and gave the president authority to block imports when in the interests of national security.

Despite his worries about adopting protectionist policies, in March of 1959 Eisenhower announced binding quotas on foreign petroleum, set at a stringent 12.2 percent of U.S. production. The caps were more generous for oil unloaded at West Coast ports and from overland sources (i.e., Canada). The rules made it particularly difficult for imports delivered to ports on the East Coast, in effect closing the door on increased deliveries from the Middle East. The quotas, though rarely remembered even by careful students of American energy policy, would prove far from temporary and would have significant impacts on later vulnerability to foreign pressure.

On the whole, quotas on foreign petroleum delivered many of the desired results through the 1960s. Domestic production continued to rise, and U.S. consumers enjoyed stable prices at the pump. Imports were constrained and came mainly from the Western hemisphere, not from the more distant and politically volatile Middle East. With added revenues due to reduced foreign competition and generous relief from federal taxes, American oil companies maintained excess productive capacity, which gave the United States great leverage in world affairs in event of a cutoff in oil supplies. Moreover, with Americans working harder to find oil than the rest of the world, they stayed on the cutting edge of oil technology. Even though importing some oil, the United States remained the world's major swing producer. It imported oil, but because of its surge capacity, was not yet dependent on that oil.

America's excess capacity demonstrated its strategic value during the 1967 Six Day War between Israel and its Arab neighbors. Strikes, sabotage, and mob disturbances shut down production entirely in some Arab countries, the result of agitation by Egypt's populist leader Gamal Abdel Nasser. Exports from the Persian Gulf were briefly reduced by 60 percent, a massive loss of about six million barrels a day to the world market. After the rebellions were quelled, the loss of oil ran about 1.5 million barrels a day—an amount still significant but more manageable.

Problems from the embargo were resolved in about a month by drawing on commercial stocks, cooperation between government and industry redirecting supplies, and surge production from the United States, Venezuela, and Iran. On the whole, the attempt to create an oil crisis as a weapon against supporters of Israel had fizzled.

As Pike warned in the 1940s, import restrictions proved to be a short-term strategy that created even bigger problems later on. They forced Americans to pay more for fuel than the prevailing world price, putting their industries at a disadvantage against foreign competitors with lower costs. The United States was also drawing down its easy-to-develop resources faster than would have been the case with free trade in oil.

Potential foreign suppliers, moreover, came to see the international oil market as more a matter of politics than economics. Import restrictions by the world's largest oil market during a period of stagnant world demand led to a sharp drop in the price Middle Eastern nations could get for their oil. As an unintended consequence of this chain of events, Saudi Arabia, Iran, Iraq, Kuwait, and Venezuela met in Baghdad to form a new alliance called the Organization of the Petroleum Exporting Countries (OPEC). Members at its founding in September of 1960 sought leverage against consuming nations blocking their access to customers and against international oil companies unilaterally reducing prices. It appeared initially that OPEC would have little impact on U.S. markets, but during the 1960s it did attract additional members—Qatar, Libya, Indonesia, the United Arab Emirates, and Algeria.

In 1968, OPEC passed a little-noticed resolution calling for government sovereignty over all its oil resources. This new policy eventually shifted control of the industry—previously exercised by the major international oil companies—into the hands of the political leaders of the OPEC countries, and made dealing with future crises more difficult.

New Challenges

The year 1970 marked another historic turning point in the history of American energy, clearer in hindsight than at the time. United States oil production, after more than a century of steady increases, reached its peak in April. Henceforth, U.S. production would trend down rather than up. Both symbolically and substantively, this reversal, during Richard Nixon's first term as president, heralded the end of the age of American oil dominance.

The decline in production occurred during a time of explosive demand growth, the greatest ever before or since. During the 1960s, U.S. energy consumption increased a whopping 51 percent, compared to 36 percent during the previous decade. More fuel was needed for new, larger cars with features like air conditioning. Automobiles logged more miles as the increasing popularity of suburban living required longer commutes. Moreover, the fuel efficiency of passenger cars in 1970 dropped to 13.5 miles per gallon.

Americans also displayed a growing appetite for electricity, a rising share of which was generated from oil. More energy was needed for larger houses and offices. In many sections of the country, moreover, air conditioning transformed itself from a convenience to a necessity. In 1960, only 12 percent of U.S. households had installed some form of air conditioning. Fifteen years later, about half had done so.

Rising environmental concerns—reflected first in local regulations and then in the Clean Air Act of 1970—forced a switch from coal to other fuels until new technologies to clean up coal emissions could be developed. Industrial use of coal, for instance, dropped 11 percent from 1966 to 1970, due largely to concerns about air quality. As a result, oil had to help meet both the rising demand for fossil fuels in general and the gap from reduced use of coal.

Declining U.S. oil production, exploding demand, import caps, and new requirements for clean air were creating an almost perfect storm. Midlevel staffers at the Nixon White House worried the prevailing energy trends might create fuel shortages.

One obvious way to alleviate the prospective energy crunch would have been allowing more foreign oil—a course advocated by an oil import control task force established in 1969 by Nixon and chaired by Labor Secretary George Shultz. Even though the quotas had already been tweaked to allow more Canadian and Venezuelan oil, the Shultz report, released in early 1970, argued that mandatory quotas forced Americans to pay $5 billion a year more than necessary by blocking access to cheap foreign supplies. The report is worth a close look, because it included the most extensive discussion ever by the U.S. government about the issues affecting U.S. reliance on foreign oil—the same issues that continue to plague us today.

The task force minimized the threat of an oil interruption from turmoil in the Arab states, calculating "to have a problem, one must postulate something approaching a total denial to all markets of all or most Arab oil"—a situation it viewed as highly unlikely.[4] The report concluded the United States could rely during an energy disruption on its own excess capacity for surge production of almost 2 million barrels a day (a Pollyanna-ish view, since surge production was no longer possible), on extra oil from Canada (which had its own needs for imported oil), and on commercial inventories to cushion the shock.

The task force identified war with the Soviet Union as the biggest threat to oil supplies, since all imports except those from Canada would be at risk. The group concluded that no plans were needed for more than a 12-month interruption of this sort, since it would be hard to keep a war between the superpowers from going nuclear, in which case the U.S. infrastructure, which relied on oil, would be wiped out.

According to contingency plans provided to the task force by the White House, the United States could reduce oil use during an emergency with rationing, similar to measures employed in time of war. It estimated "curtailing nonessential demand" could reduce use of gasoline by 40 percent. The task force was also told of classified plans at the Defense Department for keeping indoor temperatures at 55 degrees during a winter emergency.

Without quotas, the task force estimated oil imports would grow substantially and range from 27 to 51 percent of total use by 1980 (compared to 21 percent when the report was issued). Dropping quotas would create more dependence on the Middle East, but at a level it thought could be handled. The report predicted, "New discoveries and new technology at home and abroad . . . will have a major impact on the security situation in 1985," thus providing a period during which the United States could draw down its own reserves.[5]

Shultz' view that oil imports would not be a major problem in the future because of new technologies reflected analysis being done elsewhere in the government. By the beginning of the Nixon administration, the Atomic Energy Commission estimated a quarter of electric generation would be nuclear by 1980, the share would rise to half by 2000, and virtually all electric plants built in the twenty-first century would be nuclear. Other alternative technologies like gaseous and liquid fuels produced from coal (synfuels) and oil shale were also getting attention.[6]

The recommendations of the task force fell short of winning the full endorsement of the many interests that participated in its deliberations, nor even of its own members. The National Petroleum Council testified the likelihood of an interruption was much greater than acknowledged by the economists working on the report, and invoking wartime rationing plans to counter interruptions "would be politically unacceptable to the American consumer" in peacetime.

Two federal departments represented on the task force (Commerce and Interior) also strongly resisted the report's conclusions and wanted to retain quotas. These members argued the extra cost to consumers was only $1 billion a year, a reasonable price to pay given the turbulence in the Middle East and the need to support U.S. producers.

If Nixon had had his druthers, he would have avoided involvement in the oil import question. The conflict between the northeastern states wanting inexpensive fuel and the oil-patch states wanting protection was a no-win situation politically at a time he was trying to win an ideological majority of new Republicans and conservative Democrats in the Senate.

In a letter to the White House, George H. W. Bush—son of a former United States senator from Connecticut and a rising 45-year-old Republican star in Texas—complained the abandonment of import controls would "wreak havoc on my state and its people."

A week later, Bush forwarded correspondence from his former business partner J. Hugh Liedtke. The by-then chairman of the Pennzoil Company cited the electoral impacts of Nixon's pending decision:

> I am particularly interested in the possibility that George Bush will run for the senate from Texas. . . . If, in the opinion of the administration, it becomes necessary to materially change the present import quota system, I do not think he can be elected no matter what his support may be.[7]

In his private diaries, top Nixon aide Robert Haldeman confirmed the impact of the elections on Nixon's decision, "If we do what we should, and what the task force recommends, we'd apparently end up losing at least a couple of Senate seats, including George Bush in Texas. Anticipating Nixon's eventual announcement, he penned, "Trying to figure out a way to duck the whole thing and shift it to Congress."[8]

Nixon decided not to jettison the quotas. (Bush still lost his 1970 Senate race to Democrat Lloyd Bentsen.) The president did later, however, chip away at them with a series of ad hoc decisions allowing more imports. As a result, neither producers nor consumers were given clear direction about the future of oil import policy.

In August of 1971, Nixon delivered a prime-time nationally televised address with a bombshell announcement that ended up distorting energy markets (and encouraging additional oil imports) for almost a decade. "I am today ordering," Nixon declared, "a freeze on all prices and wages throughout the United States for a period of 90 days."

Nixon's major goal—whether with the original freeze or later, tightly controlled increases—was to keep prices low going into his 1972 reelection campaign. As Paul Volcker—who as Under Secretary of Treasury worked on the plan—later observed, ". . . the program of August 15, 1971 . . . combined with an accommodative monetary policy to produce the strongest kind of electoral platform for Mr. Nixon: rapidly rising production and a clearly reduced rate of inflation."[9]

Low prices encouraged rapid growth in energy demand. Nonetheless, the Nixon plan did in the short term help harness inflation and was even more effective in limiting oil prices. In 1972, the retail price of gasoline remained at 36 cents a gallon for the third straight year, making this price (when controlled for inflation) the lowest in the history of oil sales. These were remarkable data. Declining domestic oil production and import restrictions were limiting the amount of fuel available, while energy consumption continued to zoom. The economists' laws of supply and demand were in suspension due to price controls.

In the weeks approaching reelection, Nixon called together his key economic advisors for a long rambling discussion about priorities for his second term. Nixon refused to talk about energy problems in public, but he confided that the growing scarcity of energy supplies was at the top of his concerns.

He told them, "It should scare the hell out of people. What are we going to do about energy and some of these other problems? I don't know."[10]

By the end of his first term, Nixon's weakening of caps on foreign oil allowed net imports to go to 4.5 million barrels a day (28 percent of consumption). Despite Nixon's crushing victory in November of 1972, it was clear to the energy experts in his administration that serious energy problems were at hand. The United States no longer reigned supreme in world oil. Production could no longer keep pace with consumption, and the nation had no clear policy on how to fill the gap.

The Unraveling

Just weeks into Nixon's second term, energy analysts at the Interior Department warned White House domestic policy chief John Ehrlichman, "It is almost certain that gasoline shortages will be widespread by summer if prompt action is not taken." They said more foreign oil was needed immediately to prevent chaos.[11]

Nixon finally announced in April he was ending all quotas on foreign oil. The United States needed all the foreign oil it could get as soon as it could get it. The country no longer had the luxury of worrying about the security implications of opening its ports to oil from the Persian Gulf.

In the same message, Nixon challenged Congress to remove remaining legal barriers to building an Alaskan oil pipeline. In 1968, the Atlantic Richfield Oil (ARCO) and Humble Oil (now Exxon) announced a major discovery at Prudhoe Bay, located on the North Slope adjacent to the Arctic Ocean. Drilling to depths of more than 8,000 feet, the oil companies had found North America's largest oil field—substantially bigger than East Texas. This area, 45 miles long and 18 miles wide, contained an "elephant"—industry lingo for an oil discovery of historic proportions. Nixon asked for legislation to specifically authorize the pipeline and preempt any further legal challenges.

The energy statement included a research and development component, with a strong emphasis on Nixon's favorite technology, nuclear power. It also proposed support for energy alternatives like shale oil, geothermal energy, and solar power. Nixon claimed credit for increasing support for energy research and development by 50 percent since his first energy message in 1971, and an additional boost of 20 percent in his proposed budget for 1974.

A section on energy conservation was largely limited to appeals for voluntary action. It called for a national "conservation ethic," including practices such as "turning out lights, tuning up automobiles, reducing the use of air conditioning and heating, and purchasing products which use energy efficiently." The plea was the first peacetime call for energy conservation to come from the White House.

The April termination of quotas did not allow enough time to affect gasoline supplies for the start of the summer driving season. It took weeks and even months to reschedule oil deliveries from the Middle East and for tankers to cross the Atlantic. In addition, small independent refiners and retailers, who had received preferential treatment with import oil controls, were encountering difficulties obtaining fuel.

In May, the American Automobile Association (AAA) launched a new survey of over a thousand gasoline stations to assess the severity of the national gasoline shortage. The June 19 edition of its *Fuel Gauge* report showed the supply situation deteriorating. Forty-seven percent of stations were not operating normally. Motorists faced increased difficulty finding gasoline, particularly at night and on weekends. By the end of June, every station polled in the Northeast had curtailed hours.[12]

Disrupted service at gasoline stations increased national worries about energy. In May, *Time* magazine devoted an entire section to its cover story, "The Energy Crisis: Time for Action." A private poll for the White House later in the month revealed the gasoline shortage had risen to the nation's number two problem—second only to inflation.

Another sign attitudes were shifting, a mid-year survey found the market share of small cars had increased from 22 percent four years earlier to 40 percent. Ads in May and June for two foreign imports—the Datsun 1200 and the Volkswagen Beetle—tried something new in auto advertising. They emphasized miles per gallon (mpg) as their primary advantage, capitalizing on concerns about the scarcity of gasoline. In an ad headlined "Datsun Saves," the Japanese importer (now Nissan) touted its number one ranking in gas mileage ("30 miles per gallon or over *twice* the national average") from the Environmental Protection Agency.

Continuing shortages forced Nixon to issue a new energy message on June 29, putting more emphasis on greater fuel conservation to get through the summer. He called for a national effort to reduce energy consumption by 5 percent over the next twelve months. To achieve the goal, he suggested people raise thermostats in the summer to four degrees above normal and reduce driving speeds to 50 miles per hour. He also called for greater use of car pools and public transportation. Nixon directed the federal government to set a good example by cutting its energy use by 7 percent.

Nixon's June message also called for a vastly expanded budget of $10 billion for research and development on advanced energy technologies. On R&D funding, Nixon was, in effect, adopting the position of Senator Henry Jackson, the Senate's most influential member on energy, who earlier in the year told Bob Schieffer on CBS' *Face the Nation*, "[T]he first order of business is a 10-year program of the same urgency that we pursued the Manhattan Project in the '40s . . . and the same urgency that Kennedy pursued the space program. . ."[13]

In August, net oil imports passed six million barrels a day for the first time and totaled 36 percent of consumption. The United States remained the world's greatest oil producer, but with raging demand for fuel, it became increasingly dependent on the prolific increases occurring in Saudi Arabia to get through the summer. As imports rose, speculation increased that Arab states might cut off oil supplies to pressure the United States to alter its policies in the Middle East. But U.S. leaders in charge of foreign policy discounted such threats, both privately and publicly.

At a press conference in early September, Nixon confidently declared the United States remained in a strong position vis-à-vis Arab producers, "Oil without a market . . . does not do a country much good." He warned that if Arab leaders did not act responsibly they would "lose their markets, and other sources will be developed."

The next week, National Security Advisor Henry Kissinger assured a congressional committee the flow of foreign oil was secure. He testified, "There appears to be no near-term alternative to increasing imports of oil from the Middle East. . . . We have excellent relationships with our principal Middle Eastern suppliers of oil, Saudi Arabia and Iran, and we do not foresee any circumstances in which they would cut our supply."[14]

It would not take long to determine whether official confidence about the reliability of foreign oil deliveries was warranted.

Embargo

On October 6, 1973, the Jewish holy day of Yom Kippur, 222 Egyptian supersonic jets soared across the Suez Canal into the Sinai Peninsula, controlled by Israel since the 1967 war. Syria simultaneously moved past cease-fire lines into the Golan Heights and other areas along its border with northern Israel. During the early days of the war, its potential effects on oil deliveries to the United States rated only minor consideration. Still, on the second day, Nixon told Kissinger, "[W]e don't want to be so pro-Israel that the oil states—the Arabs that are not involved in the fighting—will break ranks."[15]

Several developments confounded administration attempts to avoid inflaming Arab nations. Initial Egyptian gains persuaded Kissinger and Nixon the United States would have to provide planes and ammunition to replace Israel's early losses. At the same time, statements out of Saudi Arabia, Kuwait, Iraq, and Libya offered increasing evidence Arab countries would try to use oil to punish the United States for its support of Israel. Iraq quickly nationalized the Exxon and Mobil facilities in Basra. On October 11, U.S. oil companies informed the State Department that Saudi Arabia's King Faisal ibn Abd al-Aziz al-Saud—son of his nation's founder and the man with the world's greatest oil reserves—was angry with Kissinger's statements on the war and was threatening drastic cuts in oil production.[16]

Undeterred, on October 13 the United States launched a resupply mission to Israel that over the next few weeks became bigger than the Berlin Airlift of 1948–1949. Despite what he considered wavering on the part of Nixon, Kissinger was determined not to set any precedents by giving in to pressure from oil producers. British Ambassador Lord Cromer asked him the day the planes left for Israel, "What will be your posture . . . when the Arabs start yelling oil at you?" Kissinger replied tersely, "Defiance."[17]

Events of October 17 abruptly dashed U.S. expectations about the role of oil in the conflict. At a meeting in Kuwait, Arab producers worked out their divergent views to agree to a cut in oil production of 5 percent. A second part of the boycott included a total embargo of deliveries to the United States (and later the Netherlands) for supporting Israel. The U.S. embassy in Saudi Arabia reported the "King has never been more popular" in his country after it became clear he would join with other Arab states to use the oil weapon.[18]

With Israel gaining momentum on the battlefield but the military situation still in doubt, Nixon on October 19 sent a formal request to

Congress for $2.2 billion in aid to Israel. The radical states at the Arab oil ministers meeting responded the same day with demands for ending diplomatic relations with the United States, switching Arab financial reserves out of dollars, and cutting oil production in half—all moves successfully opposed by Saudi Arabia. The group did agree to increase the cut in production to 10 percent, after which the Iraqi representative walked out of the meeting. Within days, the Iraqi press was accusing Saudi Arabia of treason for failing to support stronger measures.

Twelve days later, Arab oil producers ramped up the pressure, announcing a massive 25 percent cut in production, with the threat of additional cuts of 5 percent each month if their demands were not met.

American options to force an end to the oil boycott were limited. The State Department determined the embargo violated a 1933 treaty with the Saudis, granting each other most favorable nation status. The diplomats concluded, however, that if such legalistic arguments led to an abrogation, "that would deprive the U.S. of usefulness of the agreement in other connections." Food provided another potential way to exert American power, particularly since floods in Pakistan and Thailand's temporary difficulties exporting grains meant the United States was furnishing over half the wheat, rice, and flour imported into Saudi Arabia at the time. Ambassador James Akins said a food boycott would "certainly cause Saudi Arabia considerable inconvenience." He observed, however, the Saudis could find other suppliers and "any counter-embargo would be ineffective in the long run and viewed as vindictive by those more friendly to U.S. interests."[19]

Both sides worked hard behind the scenes to ensure that arms sales were not affected adversely by the very public dispute over oil.

On a diplomatic mission to Saudi Arabia, Kissinger asked Faisal on November 9 to support his diplomatic efforts and told him the embargo was "a severe blow to our relations." The king replied that a decision on lifting the embargo could not be made by Saudi Arabia alone. He would need more evidence of progress on the larger issues before he could endorse such a proposal to other Arab states. Kissinger had not expected quick agreement in Saudi Arabia, noting in his memoirs, "Riyadh is not the place for scoring dramatic breakthroughs."[20]

The war was effectively ended by mid–November, though Egypt and Israel still had to work out a specific agreement on postwar lines. Even with evidence Kissinger's foray into the Arab world had achieved some positive results, American officials found it difficult to read what the Saudis required for oil sanctions to be lifted.

"Project Independence"

Nixon delivered his first major televised address about the embargo on November 7. To help reduce the need for oil, he called for a mandatory reduction in air traffic and relaxed controls on sulfur emissions to allow greater burning of coal. Nixon also made bold proposals for reducing highway speed limits to 50 miles per hour, thermostats to 68 degrees in residences (even lower in offices), and commercial lighting at night. He commended the state of Oregon for promoting staggered work hours, mass transit, and carpooling. In addition, he advocated shifting production of electricity away from oil—at the time responsible for 17 percent of generation.

Reversing his long-time resistance to calls from Senator Jackson for mandatory federal allocation of oil, Nixon proposed the government now make the decisions about the distribution of scarce oil supplies. The president tried to put the best face on this and other unpleasant news by declaring, "We have an energy crisis but there is no crisis of the American spirit."

The program for scientific research, in particular, lent itself to rhetorical embellishment. The most radical concept in early drafts of the speech was a call for expansive research programs to "return this country to a largely self-sufficient energy supply posture." The day before the speech, Nixon aide Gen. Al Haig passed on a suggestion from chief economist Herb Stein. Haig told Nixon, "[Y]ou may wish to name the effort to achieve self-sufficiency 'Project Independence.' This fits well with the rhetoric of the Bicentennial era."[21]

Nixon adopted the language in his vision of a better future:

> Let us set as our national goal, in the spirit of Apollo and with the determination of the Manhattan Project, that by the end of this decade, we will have developed the potential to meet our own energy needs without depending on any foreign energy sources. Let us pledge that by 1980, under Project Independence, we shall be able to meet America's energy needs from America's own energy resources.

Nixon was telling the public that technology would end reliance on foreign oil within seven years, an idea several advisors found implausible.

Managing the Crisis

Ten days later, Faisal reiterated more Israeli withdrawals were needed to change oil policy. Yet the next day, Arab oil ministers announced they would hold the production cuts to 20 percent, largely as a gesture to friendly European nations.

The task of assessing the impact of the interruption on the U.S. market fell to the Interior Department. Its analysts projected a shortfall of 1.4 million barrels a day in the fourth quarter of 1973, 8 percent of expected demand. For the first quarter of 1974, when there would be sufficient time for the Arab cuts to be felt in the distant American market, Interior projected an ominous deficit of 3.5 million barrels a day—a daunting 20 percent of expected demand.

Interior assumed an airtight embargo cutting off all U.S. imports of oil from Arab producers. To get to a greater loss of 3.5 million barrels a day, it was necessary to add losses resulting from the production cuts. The world at the time was consuming roughly 60 million barrels of oil a day, 20 million coming from Arab producers. With a fifth of Arab production cut, the international market would lose about four million barrels a day (about 7 percent of the world's supply).

On the demand side, forecasters saw a gigantic 9 percent increase in the first quarter of 1974 over the equivalent period in 1973. They concluded the rampaging consumption evident in recent years would not be affected by the higher prices seen in 1973 or by various conservation policies already in place.

Though these estimates became the basis of U.S. policy throughout the embargo, they were shockingly inept. They totally ignored the likelihood oil deliveries from non-Arab sources could be shifted away from countries not under the embargo to replace some of the losses of countries that were. Equally problematic, the energy team projected that of a worldwide shortage of four million barrels a day, the United States would have to absorb 3.5 million. Government calculations that a 7 percent cut in world oil production would lead to a 20 percent shortfall in the United States were preposterous, even assuming (equally amazingly) rapidly growing demand in the face of high prices and government conservation programs. All adverse factors were being cumulated, even though they were overlapping. It was equivalent to a mortality study that counted each death from three causes as three separate deaths.

At the time, Senator Jackson and others in Congress agreed the pending shortage of petroleum in the United States would likely reach

20 percent or more. Administration projections of a smaller deficit would have made its concerns sound weak compared to those coming from an alarmist press and Congress.

Public worries about energy led on November 25 to another prime time television address from the president, filled with more rhetoric about energy independence. Nixon commended Congress for recently passing legislation on both the Alaska pipeline—which Interior Secretary Rogers Morton estimated would eventually add two million barrels a day to domestic supplies—and emergency petroleum allocation. Mandatory federal controls in the Emergency Petroleum Allocation Act of 1973 were designed to promote equitable distribution of available products and to protect independent oil companies. The act also codified price controls on oil, making it difficult for any president to end them without congressional cooperation.

Nixon's address also praised the American people for responding to his last speech with "a spirit of sacrifice." He announced, nonetheless, additional conservation measures to reduce demand. He called for the closing of all gasoline stations every weekend between 9:00 P.M. Saturday and midnight Sunday to discourage weekend driving and for cooperation from state and local governments. By this time, six states had lowered their speed limits to at least 55 mph. Just five weeks into the embargo, the nation was adopting measures to deal with the anticipated shortfall of oil.

News of the embargo and pleas from the government to conserve helped further alter American views about energy. In a late November Gallup poll, 62 percent of people said they were using less electricity. To save gasoline, 62 percent reported driving slower, 41 percent using the car less, and 8 percent joining a car pool. Americans were adopting the conservation ethic. [22]

To deal with the energy crisis, Nixon on December 4 announced formation of a federal energy office, to be headed by Deputy Secretary of Treasury William Simon, who said he was asked by Nixon to act as an energy czar.

Around the time of the reorganization, energy officials received encouraging news. Imports did not drop as quickly as expected. Even more positive, demand for oil fell well below anticipated levels. Warmer weather helped save heating oil in the northeastern states during November, and the National Weather Service projected favorable temperatures through February. Savings also came from sharp drops in the use of jet fuel and from electric utilities using less oil. Demand for gasoline fell 15 percent below forecast, suggesting a substantial response to the president's energy message. Europe and Japan also experienced sharp drops in fuel use.

The budget office used some of these data to challenge the Interior estimates of the shortage adopted by Simon. Taking into account large price increases since 1972, reductions in spending from an economic slowdown, and the impact of federal policies already adopted, the Office of Management and Budget (OMB) figured the shortage for the first quarter of 1974 would be in the range of one million barrels a day, less than a third of the government's official number.[23]

The ultimate test of the embargo was its impact on consumers. In the first months of the boycott, disruptions at the pump turned out to be bothersome, but no greater than those of the previous June. A new AAA survey in mid-December reported with some relief that 80 percent of gasoline stations expected to be open on holiday eves. Despite many positive signals, Simon regarded December's reprieve as only temporary and resisted adjustments to official projections.

Hopeful signs didn't keep the national mood from turning sour. The stock market fell 165 points (17 percent) in a single month, one of the steepest drops in history, and viewed as a major byproduct of the embargo. Adding to the bad news, small and formerly docile nations seemed to be dictating terms to a world power.

Zealous press coverage contributed to a national frenzy over energy. A mid-November cover of *Time* was headlined, "The Arabs' New Oil Squeeze: Dim Outs, Slowdowns, Chills." The magazine opined:

> Even if the Arabs were to reopen their taps tomorrow, the world would never again be the same. The sudden shortage of fuel has finally jolted governments into a realization that the era of cheap and ample energy is dead and that people will have to learn to live permanently with less heating, lighting, and transport and pay more for each of them.[24]

A declining quality of life seemed certain.

National concerns about energy spurred Congress to extend Daylight Saving Time and reduce speed limits. Traffic controls had traditionally been set by states, but now the Department of Transportation would cut off funds for states not complying with a 55-mph cap. Nixon continued to complain about congressional inaction, but it moved with some vigor in the last two months of the year.

Oil producers in the Middle East held crucial meetings late in December in Iran and Kuwait. At Tehran, the oil ministers again increased the price of oil, this time from $5 to $12 a barrel. With the price as late as mid-October having stood at $3, the new jump was stunning in its size. The quadrupling of prices in ten weeks for a major commodity was without precedent.

This bold action went largely uncontested by the industrialized nations. The U.S. ambassador in Riyadh cabled back to Washington, "OPEC is probably surprised at the helpless reaction from the consumers." Saudi Oil Minister Ahmed Zaki Yamani bemoaned to U.S. diplomats his lonely role at the meeting, trying to limit the increase, and asked why the United States was not doing more to restrain its close ally Mohammed Reza Pahlavi, the Shah of Iran. The irreverent oil minister mused that his best chance to get support came from Iraq "strangely enough . . . not because they don't want more money or because they have developed a love affair for Saudi Arabia, but because they hate Iran more."[25]

The meeting in Kuwait also fell well short of U.S. expectations. Arab OPEC did agree to lower its cut in production to 10 percent. Nixon and Kissinger were frustrated by what they thought of as a total lack of Arab cooperation in ending the embargo. Though Arab producers didn't give the Americans what they wanted, they did give them part of what they needed—a substantial loosening of their stranglehold on world oil supplies. Strangely, U.S. officials and media took little notice of the significant easing of the production cuts. Nixon's energy czar continued to cling to his now even more badly outdated projections on the oil shortage.

At the end of December, Nixon demonstrated his own commitment to saving energy with a symbolic change in his travel plans. He canceled his normal flight via Air Force One back to San Clemente for the holidays. Instead, the First Couple traveled on a United Airlines commercial aircraft, taking five-and-a-half hours. They returned from California on an

Air Force Jetstar. With the smaller plane having to make a stop for refueling, they arrived back at the White House at three in the morning.[26]

In the early weeks of 1974, the task of restoring oil deliveries from the Arab world assumed increasing urgency. Tankers en route before the embargo had now unloaded their oil. The time it took to deliver cargoes from the Persian Gulf to U.S. ports delayed the impact of production cuts in November and early December. It now had the reverse effect. Arab oil production rose 10 percent in January, just as promised in late December. However, total U.S. imports, after dropping 13 percent in December, fell an additional 11 percent in January.

The president's weakened political position added pressure on his Secretary of State to negotiate a quick end to the embargo. According to a skeptical Kissinger, Nixon was "in thrall to the idea that a dramatic lifting of the embargo under his personal leadership was the cure-all for his Watergate agonies."[27]

Kissinger left shortly after midnight on January 11 for his third whirlwind trip to the Middle East in three months. A disengagement of Egyptian and Israeli troops was finally agreed to, encouraging American hopes for a quick end to the embargo. Egyptian President Anwar Sadat had promised to press for such action after disengagement—a pledge he kept. Egypt, however, was not a major oil producer and could not prevail unilaterally on Saudi Arabia and other Arab exporters to resume full production. Radical states like Libya could not be ignored. Also, with negotiations to disengage Syrian and Israeli forces stalled, the Saudis were reluctant to end the embargo without Syria's consent.

On January 21, Syrian President Hafez al-Assad demanded continuation of the embargo until agreement was reached on his country's disengagement. National Security Advisor Henry Kissinger finally had to tell the President that Arab oil producers were not going to let him announce a return to normal oil deliveries by the State of the Union speech scheduled for January 30.

Back home, Simon's federal energy office used its authority over industry to stringently limit oil coming to the market. With dwindling oil imports and mandatory allocation taking hold, motorists in January faced shocks at the pumps far more stunning than any before. The AAA *Fuel Gauge* survey during the month found only half of gas stations staying open after 7:00 P.M. Seventeen percent were limiting purchases of fuel. Even more ominous, 2 percent of stations had exhausted their supplies.[28]

A confidential poll conducted by the White House showed that, by mid-January, 37 percent of the population reported difficulties obtaining motor fuel—a big jump from the 16 percent in December. At the same time, 60 percent of respondents indicated the energy shortage had affected their lifestyle.[29]

Problems at the pumps and extensive news coverage of the embargo jolted public opinion. Americans for the first time considered energy the nation's number one problem. In the first week of January, 46 percent of respondents in a Gallup poll ranked the energy crisis the most important issue facing the country. About 40 percent of the public saw the need to change lifestyles because of the energy crisis as a change for the worse, but 43 percent saw it as a change for the better.[30]

"THE FIRST PRIORITY"

In his nationally televised 1974 State of the Union address, Nixon declared it "the first in which the one priority, the first priority, is energy." Pledges to achieve energy independence and to avoid gasoline rationing earned mild applause. But he offered few ideas beyond those from the previous year.

An embattled Nixon tried to adopt the most optimistic interpretation of the chances for ending the embargo. But his cautious aides thought an immediate diplomatic breakthrough unlikely and any evidence of impatience to get one a sign of weakness. Kissinger stayed in frequent communication with the Saudis on what the president was authorized to say.[31]

Nixon described the disengagement of Egyptian and Israeli forces in terms that exaggerated the chances for restoring the flow of oil but were vague enough to satisfy his advisers. Four days later, however, Faisal officially informed the United States of an Arab consensus, which came as little surprise to the Americans: the embargo would not end without more progress on disengagement between Israel and Syria.

Despite Nixon's attempt to strike an optimistic tone, the fuel crisis at home continued to escalate. The American Automobile Association reported that by the end of January, many dealers had run out of monthly allocations. Unable to get fresh supplies, the percentage of stations without any fuel jumped to 16 percent. In the Northeast and Northwest, most open stations were imposing quotas on purchases and closing by noon or mid-afternoon. Arrival of new supplies helped in the early days of February, but about 10 percent of retailers still reported no available gas.

An unpleasant byproduct of the energy crisis in early February was a national truckers' strike. Major grievances included lower speed limits and the rising cost of diesel fuel, which with federal price controls could not be quickly passed on to customers. Stations without fuel and Sunday closings were also exacting their toll. Truckers defying the stoppage reported being shot at in Virginia, Missouri, Tennessee, Texas, and Ohio. A driver in Pennsylvania was killed when a boulder was dropped on his cab from an overpass. Attorney General William Saxbe called on governors to "use every resource at their command to see that we do not descend into anarchy."

Motorists began to see long lines of trucks protected by the National Guard and police, part of the inspiration for a new anthem for the CB radio craze, the chart-topping "Convoy" by the legendary C. W. McCall, a.k.a. "Rubber Duck."

Problems of managing lines at the pumps stimulated innovative responses from government and industry. To reduce long waits, Oregon asked motorists to limit purchases of gasoline to odd or even days, based on the number on their license tags. Seven other states and the District of Columbia followed the Oregon example and adopted voluntary plans. Maryland, Virginia, New Jersey, New York, Delaware, and Hawaii went further and mandated the odd-even system. Motorists on the Florida Turnpike had to show they had less than half a tank of gasoline before they could purchase additional fuel. Along the East Coast, many stations operated on split shifts—closing during the middle of the day to spread out the time gasoline was available.

Facing growing shortages and a barrage of complaints from state and local officials, the energy office announced on February 19 additional allotments for hard-hit states. Still, the crisis continued to worsen, reaching its peak late in the month. One of every five dealers reported no gasoline at all was available. National averages masked the greater severity of problems in some regions. The Carolinas were hit worst, with half their stations reporting they had run out of fuel. Florida (with 40 percent out) and Pennsylvania (37 percent out) ranked next in the shortage of supplies.

Unlike preembargo supply problems, the new shortages were accompanied by major increases in prices at the pump. From October to December, the cost of gasoline rose 3.5 cents a gallon. From December to April of 1974, it jumped another 10 cents. Motorists who had been paying $6 to fill a fifteen-gallon tank in October were by April paying over $8. They were also getting less service for their money. To control costs, dealers were reducing customer inducements like trading stamps, free maps, windshield washes, and oil checks.

Federal price controllers allowed retailers to pass on their costs, but a quirk allowing refiners and dealers to raise prices only on the first of the month contributed to the shortages. The energy office announced in mid-February that service stations would be allowed to add an additional two cents on retail prices, based on higher costs for crude oil, and raise their profit margins from 8 to 10 cents a gallon on March 1. This pricing policy created a significant incentive to withhold supplies at the end of February, and that is when shortages at the pump, in fact, reached their peak.[32]

There was one silver lining in the dark cloud of the gasoline shortage. In the first week of February, the National Safety Council reported that about 1,000 fewer people were killed in traffic accidents in the United States in 1973 than in 1972, the greatest reductions coming in December, when the energy shortage hit and many speed limits had been lowered. Several weeks later, the National Highway Safety Administration announced fatalities for the month of January were 853 (23 percent) below January of the previous year. The embargo was irritating motorists and dragging down the economy, but it was also saving lives.

In March, as larger allocations started arriving around the country, the number of stations without fuel suddenly plunged. Simon's release of inventories had finally made a difference. Even with the embargo still in place, the shortage had eased. Gas lines were disappearing.

End of the Embargo

Diplomats from Egypt and Saudi Arabia privately informed Kissinger and Nixon at a meeting on February 16 that the embargo would end. A U.S.

commitment to continue to work for peace in the Middle East allowed Arab officials to say they had gotten something out of the oil weapon. Since working on disengagement between Israel and Syria was something they planned to do anyway, Nixon and Kissinger felt they had made no concessions, thereby avoiding any demonstration of weakness that might invite future oil boycotts. Finally, on March 18, after Arab producers reined in the radical states, Kissinger informed Nixon the embargo was lifted. The Saudis announced they would increase production by one million barrels a day.

Temptations to celebrate the end of the embargo were tempered by a decision by OPEC to freeze oil prices. Yamani had promised lower prices, while many producers had pushed to raise them. Keeping current levels in place helped find middle ground needed to get a consensus on terminating the boycott (though Syria and Libya still refused to sign the agreement) and alerted American drivers that any expectations for lower prices at the pump when the embargo was lifted were at best premature.

Supplies had been interrupted for five months, with peak loss of imports coming in February. At that point, they fell 1.2 million barrels a day (19 percent) below September levels. Because most oil consumed in the United States still came from domestic sources, the peak total monthly loss of oil was about 8 percent of total United States supplies. The oil weapon had packed a wallop, but by itself delivered far from a knockout punch.

Availability of gasoline continued to improve through the end of March, avoiding the end-of-the-month panics in January and February. The American Automobile Association reported, "Gas Easier to Find, Harder to Pay For," as increasing supplies were accompanied by high prices. By early May, about half of the states with odd-even plans dropped them, as lines at the pump vanished. By June and July, the situation was even better. For the high-demand Fourth of July holiday, AAA reported gasoline supplies as "plentiful." In the public's view, the oil shortage was over.

After the embargo, public focus on energy fell in the absence of gas lines drawing attention to America's oil dependency. Presidential statements on energy, conspicuous in January, became increasingly rare. Energy's rank as a national problem dropped in the polls.

Yet Simon felt the worst part of the crisis remained, because OPEC price increases were a greater threat to the United States than the five months of the embargo. With Americans paying much more for foreign oil, a big chunk of U.S. financial resources would be sucked out of the national economy in the form of an energy trade deficit and transferred to the Middle East.

The aggregate numbers for higher costs were staggering. In 1972, the U.S. bill for foreign oil was about $4 billion. The next year, the price rose to about $7 billion. In 1974, the first year affected by the late 1973 actions of OPEC, the cost jumped to about $25 billion. The total tab for imported oil had soared to more than six times its level just two years earlier. This leap occurred despite a 4 percent drop in U.S. oil consumption in 1974, the first decline in history.

The increasing cost of imported oil had a dramatic impact on the U.S. balance of trade. In 1974, the net energy trade deficit ran $22 billion. By contrast, the non-energy balance for the year ran a positive $18 billion. The outflow of money from the United States was matched by inflows into the Persian Gulf. Suddenly oil producers were raking in more money than could be immediately spent. From 1972 to 1974, the gross domestic product of Saudi Arabia more than tripled. Other oil-exporting nations were also experiencing extraordinary economic expansion, even with reduced oil exports during the embargo.

The United States was paying a heavy price for its new dependency on foreign oil. Over the years, measures like import quotas, price controls, and fuel allocation were adopted to deal with the symptoms of falling domestic production and rapidly rising demand. They only made matters worse. After the embargo, many in and out of government were looking for new solutions that might reverse negative trends in energy and bring about the kind of energy independence Nixon had talked about.

Searching for Answers

The dominant coverage by journalists and historians of the Nixon pardon has obscured Gerald Ford's intense efforts to deal with energy after being sworn in as president on August 9, 1974.[33] The former congressman from Michigan was well aware the tide of oil imports continued to rise. He quickly vowed in his first address to Congress that to avoid another energy crisis he would push Project Independence. Ford stayed personally involved in energy policy in a way unmatched by Nixon, even during the embargo. He made energy a frequent topic at cabinet meetings and discussed it often in his private and public remarks.

The energy agenda in the later months of 1974 was propelled by initiatives during the embargo. October legislation creating a new Energy Research and Development Administration combined all the R&D functions for nuclear, fossil, and renewable energy spread throughout the government into a single agency. With new funds pouring into energy research, the reorganization was far from a trivial matter. The budget rose from $1.25 billion in 1973 to $2.5 billion in 1975. Controlled for the rate of inflation, these expenditures greatly eclipse the tepid energy research efforts of today.

In November and December, Congress, with strong White House support, passed additional measures. A mass transit program authorized $12 billion through 1980, which Ford called "significant in our fight against excessive use of petroleum." Congress then made permanent the temporary 55 mph speed limit adopted during the Arab boycott.

Early in the year, Congress ordered the administration to produce a national energy plan by November, called the "Project Independence" report. Within weeks of taking office, Ford decided to keep the deadline for energy independence at 1980, a challenging target just six years off. The administration also debated internally about whether to set a more immediate goal of lowering imports by one million barrels (from six million to five million barrels) a day by the end of 1975. Against the advice of most advisors, Ford decided to take the political risk of publicly advocating the stretch short-term goal whose success or failure could be assessed before the next presidential election.

The "Project Independence" report, written by the Federal Energy Administration, had some impact on the energy plan developed by Ford. But his inner circle viewed it as too tilted toward energy conservation and government mandates.

Ford unveiled his energy strategy in two major speeches during January of 1975. A live televised fireside chat on the economy and energy, broadcast in prime time, conveyed a strong commitment to robust action on energy. Ford, with characteristic candor, admitted, "Americans are no longer in full control of their own national destiny, when that destiny depends on uncertain foreign fuel at high prices fixed by others."

The president announced he would invoke emergency powers to phase in a fee on foreign oil reaching $3 a barrel over the next three months to discourage imports and force Congress to take action. He admitted, "Yes, gasoline and oil will cost even more than they do now."

Ford's energy plan included a windfall profits tax and a threat to return to oil import quotas if necessary. He also urged Congress to grant a five-year delay on new auto pollution standards to achieve a 40 percent improvement in miles per gallon, implying (incorrectly) all the savings would come from adjusting environmental mandates. He vowed to veto any new spending programs, except for energy.

By accepting higher prices, Ford took a different path than Nixon, who always favored politically popular low prices whatever the eventual consequences. Like his predecessor, however, he invoked the bicentennial and previous times of crisis when the American people "closed ranks, rolled up their sleeves, and rallied to do whatever had to be done."

Post-speech commentary illustrated at least one difficulty Ford's programs would face. Noting the large number of components in the economic and energy programs, CBS reporter George Herman said that it was good advanced texts had been handed out, but the proposals were still complicated.

At his State of the Union address on January 15, Ford continued to speak bluntly, saying, "I've got bad news, and I don't expect much, if any, applause." Going beyond the energy measures in his earlier message, he called for deregulating natural gas prices, amending the Clean Air Act to allow greater use of coal, providing tax credits for construction of electric power plants that didn't use oil or gas, producing one million barrels a day of synthetic fuels and shale oil by 1985, authorizing a floor price for oil to protect alternative energy from a price crash, and creating a new tax credit for installing additional home insulation. He also proposed "a strategic storage program of 1 billion barrels of oil for domestic needs and 300 million barrels for national defense purposes."

Reaction to the President's flurry of energy proposals was dominated by Democrats generally hostile to the tax on imports. Massachusetts Governor Michael Dukakis accused Ford of holding New England hostage. Public officials from the Northeast, joined by ten regional utilities, filed a legal challenge to Ford's authority to impose the import fee. House Speaker Carl Albert, delivering the official Democratic reply on major television networks, complained Ford's import tax would have "an astounding inflationary impact."[34] Labor unions, service station operators, and homebuilders complained about the added cost for fuel.

Ford quickly became frustrated with the slow pace of his old congressional colleagues in dealing with the country's dangerous dependence on foreign oil. In late January, he chafed to reporters, "We've diddled and dawdled long enough." Confrontations between the two branches of government over the oil import fee contributed to a sense the Republican president and Democratic Congress were far apart on energy matters.

More than Ford was willing to acknowledge, however, the House and Senate were working hard in their own messy ways to forge a new energy policy. Chairman Al Ullman managed to get a twenty-three-cent gasoline tax through his House Ways and Means Committee, but in June it suffered a crushing defeat on the floor, despite the support of Democratic powerhouses like Majority Leader Tip O'Neill (MA), Jim Wright (TX), Richard Bolling (MO), Morris Udall (AR), John Dingell (MI), and Dan Rostenkowski (IL).

O'Neill then led an effort to retain at least a three-cent tax dedicated to an energy trust fund, asking on the floor, "Have we got the guts to stand up and vote for the future of America?" Even this more modest measure failed, after road builders lobbied against using gas tax revenues for purposes other than roads.

Editorial boards pilloried the House for failing to pass a strong energy bill. The *New York Times* called the tax votes an "act of irresponsibility that greatly increases this country's vulnerability to economic coercion by the oil cartel." The *Washington Post* wrote, "Energy policy is now the most divisive regional issue to afflict this country since civil rights."[35]

The House votes on the gasoline tax were another historic fork in the road of energy history. Just three days earlier, Switzerland passed a national referendum to raise its gasoline tax by 50 percent to 45 cents a gallon, part of a post-embargo trend in Europe toward much higher taxes. By 1976, only two industrialized nations had gasoline prices below one dollar a gallon—Canada at 71 cents and the United States at 58 cents.[36]

American energy policy seemed totally adrift, but appearances were deceiving.