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THE WHITE HOUSE

WASHINGTON

DEC 18 1974

MEMORANDUM FOR THE PRESIDENT

THRU: Rogers C. B. Morton
FROM: Frank G. Zarb
SUBJECT: National Energy Policy

The attached energy policy briefing book is the culmination of the most extensive analysis of our energy problems ever undertaken by the Federal government. It is based on the interagency Project Independence Report, a two-day policy meeting at Camp David attended by myself and by key members of all relevant departments, and an extensive set of regional public meetings and mini-summit meetings in Washington. This memorandum focuses on five key areas:

- o goals and principles
- o problem definition
- o short term policy options 1974-77
- o mid term policy options 1977-85
- o long term policy options 1985 —

No decisions are required at the meeting tomorrow on this subject. Secretary Morton, myself and your other advisers want to discuss these options with you, narrow the range of options and take your instructions with respect to consultations with the Congress or other advisers. We will then develop final energy policy decision papers covering outstanding issues. We will be prepared to meet again with you to cover these issues later in December.

DO-112

Attachment

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SUMMARY

Goals

- . Begin immediately to cut consumption and increase supply by 2 million barrels per day in 1977
- . Eliminate vulnerability by 1985
- . Develop our technology to meet Free World energy needs within this century. U.S. to become a net energy exporter

Problem

- . U.S. short term import situation (now to 1977) will deteriorate
- . World financial system is under severe strain
- . If world price breaks, U.S. imports could be doubled today's levels unless major program is initiated
- . For eventual world energy stability, the U.S. must return to its 1960's position of setting world energy prices
- . Efforts to achieve goals must be consistent with economic requirements and realities.

SHORT TERM POLICY RECOMMENDATIONS

- . Production from Elk Hills and coal conversion of oil-fired utilities can cut oil use by 500,000 barrels per day in 1977
- . ERC recommends petroleum price decontrol with windfall profits tax and a tariff of \$2.00 per barrel on domestic crude oil and imports to achieve remaining 1.5 million barrels per day

MID-TERM POLICY RECOMMENDATIONS SUPPLY ACTIONS

- . Establish \$7-\$8 per barrel floor price on imports to remove price uncertainty to insure invulnerability by 1985
- . Expand OCS leasing dramatically
- . Propose legislation to allow commercial development of Naval Petroleum Reserve #4

- . Amend the Clean Air Act to allow greater coal use
- . Provide immediate assistance to the electric utilities through tax changes and regulatory reform
- . Devote maximum effort to reduce nuclear power regulatory and licensing delays, encourage standardization and develop waste disposal and fuels safeguards policies

Demand Actions

- . Continue voluntary auto efficiency program with changes to Clean Air Act and extend to home appliances
- . Propose phased mandatory standards on insulation for new homes and offices
- . Provide tax credit or other incentive to retrofit insulation in existing homes

Emergency Actions

- . Seek standby authority to allocate, curtail demand and ration during a future embargo
- . Request legislation to begin construction of a one billion barrel emergency storage program
- . Development of detailed emergency plans to prepare for a possible embargo

LONG TERM RECOMMENDATIONS

- . Initiate a price guarantee system for new technologies to spur their commercial development on a targeted basis
- . Develop new technology initiatives for U.S./OECD efforts

I. PROPOSED NATIONAL ENERGY GOALS AND PRINCIPLES

The establishment of viable national energy goals must reflect a careful blend not only of U.S. energy possibilities, but also of other national and international objectives and realities. After a comprehensive assessment of (1) the U.S. energy situation, (2) national and international energy, economic and financial conditions, and (3) defense and diplomatic requirements, the Energy Resources Council (ERC) proposes the following national energy goals:

- To begin immediately to take those actions necessary to reduce our energy consumption and increase our domestic supply.
- By 1985 to eliminate U.S. vulnerability to economic disruption by foreign suppliers by achieving the capacity for full energy self-sufficiency.
- Within this century to develop our technology and resources so as to meet the energy needs of the Free World.
- To lower world oil prices so as to preserve the Western financial system and prevent accumulation of excessive economic and political power by oil suppliers.

Although quantitative estimates of U.S. import levels reflected in the first two goals do not adequately convey the full significance of these goals or signal the complexity of, and judgmental requirements for, making such estimates, these goals imply:

- 1977 imports of 5.4 million barrels per day (2 million less than would otherwise be the case); and
- 1985 imports of no more than 15% of total petroleum consumption, all of which will be immediately replaceable from storage and emergency measures. This could be as high as 4 million barrels per day if the world oil price breaks, or zero if higher prices prevail.

There are, of course, a wide variety of options available to the U.S. to achieve these goals. All of the options involve economic and political costs, largely because the goals cannot be fully achieved through natural market forces operating within the current mix of national and international policies. To minimize these costs and enhance the program's viability, the ERC urges that policy options ultimately selected reflect the following principles:

- ° Provide energy to the American consumer at the lowest possible cost consistent with our need for secure energy supplies.
- ° Make our energy decisions consistent with our overall economic goals.
- ° Protect the environment in every way consistent with our national energy needs.
- ° Look first to the private sector and our free market pricing system as the most efficient means of achieving the Nation's goals, but act through government where the private sector is not able to reach the national energy goals.
- ° Seek equity among all our citizens in bearing the burdens and costs of our energy program.
- ° Coordinate our energy policies with those of our allies so as to promote our interdependence as well as our energy independence.

II. THE U.S. ENERGY PROBLEM

The U.S. energy problem is complex and has potentially severe implications. It is not a problem of overall supply but a problem of where the supplies come from (the sources of those supplies), the prices charged by those sources and their ability to manipulate the price or quantity in a manner contrary to the economic and national security interests of the U.S. and its allies. What is essentially at stake is the economic balance of power achieved by the Western World over the last century and a half.

Prior to the late 1960's, the United States was not only self-sufficient, but had sufficient surplus capacity that it set the price and direction of the world petroleum market. Energy consumption grew rapidly at 4-5 percent per year. Since then, however, the U.S. situation has seriously deteriorated:

- ° Domestic supply, in the face of growing demand, has been declining.
 - petroleum production peaked in 1970 and has declined since,
 - natural gas has been consumed faster than new reserves were developed.
 - coal use is below 1930 levels,
 - nuclear power has been plagued by technical and political problems.
- ° Imports of oil have filled the gap, reaching 35 percent of domestic consumption by 1973.
- ° While supply disruptions in the past were buffered by the U.S.'s surplus capacity, our ability to provide excess production during the interruptions of foreign supply during the 1973 embargo was non-existent and:
 - our GNP dropped substantially,
 - half of a million additional people were forced out of work at its peak,
 - impacts could have been much more severe had it lasted longer or occurred at a time of greater dependence.
- ° The world financial system is under severe strain from the rapid, several-fold increase in petroleum prices.

As America's dominance of energy resources eroded, petroleum quantity, and hence, price leadership shifted to the Arab nations and later, the Organization of Petroleum Exporting Countries. The restoration of American dominance in setting the goals and establishing the price of energy must be the ultimate objective of our national energy policy.

The nexus of our problems and the time frame for their solutions -- domestic and international -- are focused in:

- ° The short term, between now and 1977.
- ° The middle term, through 1985.
- ° The long term, post-1985.

If we do not take new decisive actions now, the U.S. energy situation in the next three years will progressively deteriorate:

- ° There is little that can be done to increase domestic oil production during this period.
- ° Consumption will begin to grow again, although at less than pre-embargo rates.
- ° Imports will increase from 6.2 million barrels per day in 1973 to 7.4 million barrels per day by 1977. Much of the increase will come from insecure sources and occur at a time when the danger of a new Middle East war is at its highest.
- ° Some short-term actions can be taken to begin the process of reversing import vulnerability.

For the world, the situation will be even more intolerable due to the higher level of dependence on imports of many of the consuming countries and their inability to finance their import needs.

In the middle-term (through 1985), the problems are no less severe, but there is greater policy flexibility, particularly for the U.S.

- ° We can be domestically self-sufficient and invulnerable to future disruptions.
- ° It will take a massive and dedicated domestic supply, demand and emergency program to prevent imports from more than doubling if we get a significant break in world oil prices.
- ° Many of the other consumer countries have neither the economic strength, indigenous energy sources or technology to appreciably change their dependence.

In the long-term (post-1985), the U.S. has the capacity to be a net exporter of energy, not of oil but of alternative sources, such as coal, nuclear power, hydrogen or solar. In this period, our export capability will be able to restore price and quantity stability to the world energy market and provide relief for our allies from dependence on insecure Middle East oil.

III. SHORT TERM ENERGY PROGRAM OPTIONS AND RECOMMENDATIONS

Between now and 1977 our flexibility to reduce imports and provide international leadership is quite limited.

After a careful assessment of economic costs and possible benefits, the Energy Resources Council has concluded that the focus of our efforts should be to reduce imports by two million barrels per day by the end of 1977. While the 1975 1 million B/D goal is still desirable, we will have difficulty achieving it and the measures needed to do so could have appreciable economic impact at a time when the economy is in a weakened position. *Not really necessary.*

The two million barrel per day reduction in consumption by 1977 will also have negative economic impacts -- which cannot be measured with precision. The reduction will also have its benefits -- benefits which are primarily focused on reducing vulnerability to a potential embargo and stimulating international cooperation.

The rationale for the ERC's judgment on this very difficult issue is as follows:

- ° Our economy is currently heavily reliant upon imports from very insecure sources and to do nothing would mean continued and expanded vulnerability to another embargo or supply interruption.
- ° The reduction of imports by two million barrels per day is an insurance policy, so to speak, through which we would choose to sacrifice a small amount of economic activity that is anticipated in advance, in order to insure against the much more costly risks of the ever-growing vulnerability. If we are to reduce our vulnerability we must begin now and there is no way to do so that does not involve some economic costs.
- ° The Department of State believes that if we are unwilling to make sacrifices now to lessen our vulnerability, we will have no credibility with our allies who are already launching conservation programs. Without credible leadership from us, consumer cooperation cannot proceed.

- Each of the options presented below for achieving the short-term goal can be phased to fit economic conditions -- they can start at low levels and be strengthened as economic recovery begins to occur.

All members of the ERC agree that the following programs should be part of any short term program.

- Development of the Elk Hills Naval Petroleum Reserve.
- An aggressive mandatory program to convert oil fired power plants to coal.
- A stepped-up education program on voluntary conservation with an expanded Federal financial commitment.
- Deregulation of natural gas.

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Taken together, these measures would save an estimated 500,000 barrels per day by 1977, 25 percent of the 1977 goal. Production from Elk Hills as well as the coal conversion program will require new legislation or amendments to existing laws to be fully effective. The shape of this legislation, however, is at issue and will require a decision by you if you approve these programs (Tabs G and H deal with Elk Hills and coal conversion respectively).

To cut consumption and imports by an additional 1.5 million barrels per day will require strong government action to alter energy consumption patterns. The basic options for such action are:

- Price increase on all fuels to reduce demand (option 1 or 4 below, see Tab C) or on selected fuels such as gasoline (option 2 below, see Tab C).
- Allocation and rationing by the government in a price controlled situation to cut end-use consumption directly (option 3, see Tab C).

Several aspects of the options that deserve special note include the following:

- All of the options entail significant economic costs. There is no free way to reduce energy consumption by 1.5 million barrels per day.

- The economic costs of the price options initially show up in higher prices of fuel and products made from fuel, and secondarily in reduced economic activity. The costs of the government control option appear initially in reduced economic activity, and later in the form of price increases when controls are removed.
- Most of the economic impacts of the price options can be mitigated by rebating the taxes used to increase prices; the economic impacts of the government control option can be mitigated to some degree by wise choices of government decision-makers as to how much fuel ought to go where.
- The ERC has been compelled to recognize the current economic difficulties during its deliberations. While we have attempted to look toward a time period beyond the current cycle, we have provided options which can be implemented in a "timed" manner so that short-term economic conditions can be properly recognized.
- All of the tax options will require rebate mechanisms which could be complex and will never completely alleviate the inequities involved.
- Several of the options (1 and 2) require legislation, others do not (3 and 4). The options requiring legislation are better, provided they withstand significant congressional modification.
- Any of the options can, and should, be gradually phased in between 1975 and 1977 to reduce economic dislocation.

Options Requiring New LegislationOption 1 - Petroleum Price Decontrol Plus Tax Induced
Increases on All Fuels (Tab C)

This option would be composed of several tax and decontrol elements to raise the price of natural gas, crude oil, and refined products. These measures would cut imports by 1.5 million barrels per day, raise all petroleum prices by about 10-11¢ per gallon, and raise \$18.6 billion in revenues in 1977. Key elements of the program are:

- (a) Elimination of price controls of old oil.
 - ° this could be done either in phased steps or by allowing expiration of the price control authority in August 1975.
 - ° prices would be increased by about \$2.30 per barrel and demand reduced by 850,000 barrels by 1977.
- (b) A tax on old oil to capture the windfall profits caused by decontrol.
- (c) An excise tax and import tariff to raise the price of all oil by an additional \$2.00 per barrel. Composed of two key elements:
 - ° A tax on refinery inputs (crude oil and natural gas liquids) of \$2.00 per barrel. This would apply to both imports and domestic sources.
 - ° An import tariff on products of \$2.00 per barrel (equal to the refinery input tax) with no exemptions. This is designed to keep the refinery input tax from encouraging foreign refining. We would also maintain the 63¢ current import fee on products.
 - ° This would cut demand an additional 600,000 barrels per day by the end of 1977.

(d) Actions to bring natural gas supply and demand into equilibrium by:

- ° Natural gas deregulation including both new gas as per the current Administration proposal and a phased decontrol of currently regulated interstate gas.
- ° A tax on deregulated old gas to capture windfall profits.
- ° An excise tax of about 40¢ per million cubic feet on natural gas to approximate the price of deregulated gas and oil on a Btu basis. This tax is necessary to prevent shifts to gas from oil.

(e) A program of reductions in income taxes and/or other rebate measures to return the revenues estimated to be raised through these measures back into the economy. The method of rebate would be designed to minimize disruptive effects on the economy and provide special attention to those industries requiring unusual treatment.

(f) All of the tax features -- windfall and excise -- would be designed to wind down over 5 years.

Option 2 - Petroleum Decontrol plus Tax Induced Price Increases on Selected Fuels (Tab C)

This option would also include petroleum deregulation and the natural gas package but would replace the tax on refinery inputs and product import tariff with a gasoline tax of 30¢, phased in with a 10¢ tax starting June 1, 1975, and rising 10¢ per year for two years. The program would cut energy use by 1.5 million barrels per day by the end of 1977, raise gasoline prices by 35¢ per gallon and other petroleum products by 5 1/2¢ per gallon. \$30.8 billion of revenues would be collected in 1977.

- A flat rebate would be designed to refund most of the revenues to everybody that has a driver's license.
- A tax credit or other incentive for the purchase of more fuel efficient equipment would be implemented with part of the revenues generated by the tax.

Apart from the focus on a single fuel as opposed to all fuels, this option primarily offers lower aggregate economic impact and greater regional equity than the first option. However, it does focus the impact on the auto, travel and related sectors of the economy.

Options Requiring No New Legislation

Option 3 - Import and Allocation Controls (Tab C)

An alternative to the two previous options would be no price increases, but use of Federal mandatory authorities to cut demand, including:

- Controls would be placed on imports using the existing import quota program and be phased to cut imports by 2 million barrels per day by the end of 1977.
- The quotas for allowable imports would be distributed equitably to the refiners and petroleum importers.

Some of the resulting shortages of products would be spread with the allocation program as was done during the embargo. Likely features of such a program include:

- Gasoline station closings due to insufficient supplies, probably on weekends to minimize pleasure driving.
- An enforced temperature reduction program through heating oil allocations.
- Restrictions on residual fuel use by electrical utilities.
- Reductions in airline flights.

These actions, however, are not likely to absorb a significant portion of the two million barrel curtailment. Therefore, industrial curtailments would result and standby rationing authority should be requested because it is likely that gasoline lines could easily become intolerable.

Option 4 - Use of Current Import Fee Program, Partial Price Decontrol and Price Equalization (Tab C)

This alternative would rely on existing administrative authority to closely duplicate the effect of option one. The program would include:

- Administrative decontrol of all oil recovered through secondary techniques.
 - releases about 50 percent of old oil
 - raises average oil prices \$1.00 per barrel.
- Increase the existing import fee by \$3.00 per barrel.
- Retain FEA's current crude equalization program to assure all refiners equal access to the lower price-controlled domestic oil.

This program would cut demand slightly less than option one and would necessitate maintenance of the cumbersome crude equalization program. Further, it might be subject to legal challenge based on the greatly expanded use of the current import license fee program. Finally, complete decontrol of all oil recovered by secondary techniques would be subject to congressional review and possible disapproval.

ERC Recommendation on Short-term Reduction Options

- ERC recommends Option 1 as the most effective and efficient means to achieve 1.5 million of the 2 million barrel per day goal. Also recommended is a statement that the Administration will work with the Congress in developing the legislation to implement this priority program, but if the legislation cannot be passed in 90 days the President would implement option 4. Even though it is inferior, the seriousness of the problem would necessitate such action. In addition, an import cap could be immediately placed on imports during the 90 day period. However, ERC recommends against this action because it is a step down the road to Option 3, for which there appears to be considerable congressional support.

IV. MID-TERM PROGRAM OPTIONS AND RECOMMENDED ACTIONS

In the period through 1985, the United States has the ability to greatly increase domestic supply and to achieve energy independence. This would be equivalent to between zero and 4 million barrels per day depending on the storage and emergency measures we adopt and the eventual world oil price. To achieve these goals, however, the United States will have to take aggressive actions to remove constraints to increased production, increase the availability of government-owned energy resources, stimulate energy conservation and probably maintain sufficiently high energy prices to make domestic resource development economic. Affirmative action in all of the areas listed below will be necessary to meet the 1985 goal.

There is broad agreement within the ERC that you should consider the following key domestic energy actions:

SUPPLY ACTIONS

(1) Establishment of floor price on imports to relieve price uncertainty (Tab D).

° Background

- The major supply issue to be faced is the problem of world price uncertainty and the adverse effects it could have on domestic investment and hence of our ability to be invulnerable by 1985. There are several important facts to be considered in evaluating a program to guarantee domestic investment in energy from world price drops.
- An \$11.00 price floor (in 1973 dollars) would make most domestic options commercially viable and insure zero imports by 1985. However, it would not allow room for lower oil prices and the economic advantages they bring.
- A \$7.00 to \$8.00 floor (1973 dollars) would basically protect Alaskan and OCS oil development and most other conventional sources of domestic energy.
- Most of your advisers agree that the economic viability of new technologies at prices close to or about \$11, such as gasification, would be more efficiently guaranteed through targeted price guarantees or subsidies, not by a floor.

◦ The majority of ERC recommends:

- A \$7.00-\$8.00 per barrel price floor, accomplished with a variable tariff.
- Immediate negotiation on a similar price floor with the other consuming nations.

◦ Dissent

- Secretary Simon strongly opposed this option. Tab E provides his rationale and alternative.

(2) Continue to pursue an expanded OCS leasing and development strategy (Tab F).◦ Background

- This could produce five million barrels per day by 1985, up from about one million barrels per day.
- There are some technical leasing questions, as yet unresolved, regarding the rate and method of leasing.
- There is opposition from many coastal states and financial assistance may be needed to reduce their opposition.
- Legislation to share OCS revenues with the States is possible in the next session.

◦ The ERC recommends

- That OMB and Interior work with the States and key Congressmen to provide a clear assessment of the need for the form of such Federal revenue sharing.

(3) Use of Naval Petroleum Reserve No. 4 to increase domestic self-sufficiency (Tab F).◦ Background

- Continuation of the reserve in its present form is overly expensive and an outmoded concept for national security purposes.
- NPR No. 4 is potentially the largest oil reserve available to the United States. It could provide up to two million barrels per day by 1985.

- Interior and Navy both agree that NPR No. 4 should be developed as rapidly as possible, and that the bulk of the oil should be sold into the commercial market. Part of the oil would be used to create a useable military reserve (see ERC recommendation, and Tab L).
 - Interior and Navy do not agree on how the objective should be achieved. Interior argues that NPR No. 4 should be transferred to Interior for development through a competitive leasing program as per the OCS. Navy and DOD argue that the exploration should be done under government control (Navy) with Federal funds, and that decisions regarding how best to develop the reserve be held in abeyance until the reserve is proven.
 - ° The majority of the ERC recommends
 - Interior option to allow development through competitive leasing and legislation to preclude Alaska from receiving 90 percent of the revenues.
 - Packaging of its NPR and emergency storage recommendations for well-planned discussions with the Congress.
 - ° Dissent
 - Secretary Schlesinger strongly disagrees, primarily on grounds that the Interior approach is not politically viable.
- (4) Amendments to the Clean Air Act to enable greater utilization of coal (Tab H)
- ° Background
 - Amendments are needed to assure achievement of our coal conversion goals for 1977 and for long term coal use as well.
 - There is strong disagreement about the need for Federal preemptive authority to override selected state air quality standards that are more stringent than Federal standards. If EPA's voluntary program doesn't work, it could mean \$600 million to \$1.2 billion extra capital costs for the utility sector and operating cost of between \$300 and \$700 million by 1985.

- There is strong disagreement by EPA concerning a legislative amendment to remove Federal authority to prevent significant deterioration of air quality. It is possible that implementation of this provision could preclude or delay major resource development in the West.

- ° The majority of ERC recommends

- Submit all amendments to Congress and seek enactment.

- ° Dissent

- Chairman Peterson recommends delaying submission of the preemption amendment pending Presidential jawboning of the Governors.
- Administrator Train does not support a legislative amendment on significant deterioration, but concurs in and will push for early congressional review on this issue.
- Administrator Train strongly opposes state preemption as unnecessary to stimulate coal use, an unwarranted Federal intrusion into a traditional state and local domain, and would draw heavy congressional and state opposition.

(5) Immediate assistance to electric utilities (Tab I)

- ° Background

- Utilities have cancelled or postponed over 60% of planned nuclear expansion and 20% of planned additions to nonnuclear capacity, in part reflecting downward revisions in electricity demand projections.
- Utility financing problems are worsening and current regulatory practices by the state commissions are not only inadequate but also serve to deepen the utility industry's problems.

- The major unresolved issue is extent and form of Federal assistance to utilities.
 - ° ERC Recommendations
 - A 10% investment tax credit.
 - Election of non-taxable, preferred stock dividends.
 - Development of Federal voluntary guidelines for regulatory rate process.
 - ° ERC further recommends that serious consideration be given to the following additional measures which may be needed to alleviate serious problem:
 - Federal financial incentive such as interest subsidy or guarantee tied to state regulatory reform.
 - Federal override authority if state utility commissions do not follow Federal guidelines.
- (6) Insure More Rapid Development of Nuclear Power Plants
- ° Background
 - Although nuclear power must become the backbone of our energy supplies by 1985 and beyond, it continues to be plagued by numerous technical difficulties, regulatory delays and public concerns over safety and environmental impacts.
 - As with coal-fired plants, utilities are having difficulty financing nuclear plants and have cancelled plans for numerous plants within the past six months (see Tab I).
 - Problems of waste disposal in later years and safeguarding of nuclear fuels against theft have not been resolved.
 - ° The ERC recommends
 - Resubmission of nuclear licensing and regulatory legislation.
 - Establishment of greater regulatory bonuses for standardized plant applications.

- Establishment of definitive policies for waste management and safeguard of nuclear materials.
- Further review of Federal actions recommended by individual members of the ERC. These options, which would be decided upon before the State of the Union, include Federal financial assistance for nuclear power plant construction and Federal construction of nuclear power plants for sale or lease-back.

ENERGY CONSERVATION ACTIONS

After assessing the mid-term effects of mandatory conservation, many are philosophically opposed to the increased level of government intervention associated with these measures. In a ten year period the marketplace will perform a large role in reducing U.S. aggregate energy consumption through the effects of high prices. However, mandatory conservation measures can quicken the rate of reduction in energy demand and provide lower levels of import vulnerability sooner. The measures discussed below could cut imports by 2-3 million barrels per day below what would otherwise be the case. Hence, mandatory conservation measures increase the certainty in achieving energy consumption levels which allow us to meet our long-term self-sufficiency goal.

Conservation measures can also provide balance to our long-term program, supplementing accelerated development measures and reducing environmental degradation. A balanced program which includes an aggressive conservation effort is needed if the supply measures are not to be opposed by many elements of our society.

Mandatory conservation measures should focus on two sectors:

- ° the auto
- ° buildings and their appliances.

Auto Fuel Efficiency (see Tab J)

Auto manufacturers have indicated that they can reach your voluntary goal of a 40% new car fuel economy improvement by 1980, but only with a delay or modification of the tigher standards scheduled to go into effect in 1977/1978.

It may be that mandatory measures are needed to assure attainment and get the emission standard relaxations from the Congress. But, mandatory standards, while politically popular, would impose new standards on top of achieving complex environmental and safety standards.

° There are only three viable options:

- (1) propose modification and delay of auto emission standards and continued with the voluntary program.
- (2) couple the emission amendment with mandatory fuel efficiency standards.
- (3) ask for a gasoline tax and a tax credit or other incentive for purchase of new cars that are more efficient than 16.6 mpg.

° ERC recommends Option 1

- ERC also feels that in conjunction with a gas tax credit or other incentive for the purchase of more efficient new autos would be a viable alternative for reducing the likelihood of Congress passing mandatory auto efficiency standards.

Efficiency Standards for Appliances and Homes and Office Buildings (see Tab K)

° Background

- There is disagreement about alternative measures to conserve in new residential and commercial buildings, which include extension of FHA minimum property standards to all new residential units with Federally financed mortgages, the development of national construction guidelines with regional flexibility, appliance efficiency standards, mobile home energy efficiency standards or Federal tax incentives.

° ERC recommends

- No appliance efficiency standards, but Presidential direction to the Secretary of Commerce to develop appliance efficiency goals similar to those developed by DOT for the auto industry.
- Phased mandatory Federal building codes for thermal standards on new homes and offices.

- A tax credit or other incentive for individuals of 25% of expenditures up to \$1000 on approved thermal efficiency improvements, funded by other energy tax measures if they are approved.

V. EMERGENCY PROGRAM OPTIONS AND RECOMMENDATIONS

Depending on the policy options ultimately selected, there is a likelihood of significant imports by 1985. The programs proposed by the ERC, for example, reflect an import target of no more than 15% of petroleum consumption (4 MBD) by 1985.

To have the capacity for full self-sufficiency therefore will require emergency programs to cover these estimated imports. Alternatives for emergency action are basically two:

- o Standby legislation that could be used in case of a supply cutoff to reduce demand and allocate available supplies.
- o Storage of petroleum.

Standby Legislation and Program

- o Background
 - Demand can be reduced on an emergency basis in a number of sectors and end-use categories (e.g., autos, outdoor lighting, reduced airline flights, etc.). There are limits, however, to the reductions that can be achieved.
 - Prohibition or constraints on certain fuel uses is more efficient in achieving reductions than an allocation approach.
 - Even with end-use conservation, allocation is necessary to mitigate economic dislocations and regional disparities.
- o ERC Recommendation
 - Seek standby authority to curtail demand through rule-making procedures.
 - Convert allocation authority to a standby authority when current act expires, and provide sufficient staff and budget to have a meaningful capability.
 - Not to count on more than one million barrels per day from these measures.
 - Prepare detailed plans for a possible embargo, including specific plans for carpooling and mass transit, industrial curtailments, electrical reliability, etc.

Emergency Storage

° Background (See Tab L)

- Emergency supplies held in storage can cushion the U.S. economy from harm in case of a supply disruption, and may even act to avert a supply disruption.
- Significant storage cannot be acquired in the near-term due to lead times (2 years) required to prepare storage facilities. A 1 billion barrel system could not be completed until 1980.
- Stocks should not be acquired in current price situation -- they would act to maintain current price levels and be overly expensive.
- Although value of reserves depends on likelihood of supply disruptions, reserves are a relatively cheap method of insurance against disruption (\$1.2 billion per year for 1 billion barrel program).
- A portion of the stocks could be set aside for defense purposes. This would provide an actual military reserve (as opposed to the current Naval Petroleum Reserves which are not useable by the military in time of need), and enhance the possibility of rapid development of NPR No. 4.

° Options

- Prepare storage facilities (salt domes) immediately, partially fill with crude from Elk Hills, and top off as world oil prices permit.
- Same as first option, but top-off immediately, regardless of price.
- Build no storage capacity.

° ERC recommendation

- Option 1: prepare salt domes for 1 billion barrel capacity, begin to fill with crude oil from Elk Hills, and add additional increments as world prices permit.
- Begin immediately to resolve private versus public ownership question and implementation problems.
- Include defense requirements in storage system.

VI. LONG TERM PROGRAM OPTIONS AND RECOMMENDATIONS

Any strategy for a major U.S. role in world energy markets in the post-1985 time frame must depend on the development, commercialization and export of new energy technologies, particularly coal liquids and gases, fusion, shale oil and hydrogen. The objective must be not only to dominate the production of these technologies, but also in the fuel produced from these technologies if we are to return to the pre-1970 position of setting world energy prices.

° Background

- Research and development in the new technologies is receiving substantial Federal funding. Further increases would result either in waste or in higher prices for the same product.
- Commercial application and hence development, of some of the technologies that could be available by 1985 is hindered by the likelihood of fuel costs from these systems higher than future world oil prices, at least until second and third generation systems have come into being.
- Our allies must benefit from these technologies, either through joint development agreements or through purchase of fuels from these sources if their dependence on OPEC oil is to be broken.

° ERC Recommendation

- Initiation of a price guarantee for selected technologies to spur commercial application.
- Development by ERC, ERDA and the State Department of initiatives to be included in the State of the Union for U.S./Allies cooperation.

RATIONALE FOR SHORT-TERM GOAL

PROBLEM

At current prices for crude oil and without additional programs to reduce demand, imports will continue to rise in the next few years:

- There is little that can be done to increase domestic oil production, as old fields continue to decline and new fields will take time to develop.
- Consumption will begin to grow again, but at a slower rate than prior to the embargo as high prices will continue to affect demand.
- Imports will increase from 6.2 MMBD in 1973 to 7.4 MMBD by 1977. Much of the increase in imports will come from insecure sources and occur at a time when the danger of a Middle East War is at its highest level.
- If an embargo were to occur, emergency measures could only cushion the effects to the same degree as last winter, but emergency petroleum storage could not be available for at least 2-3 years.

In addition to our worsening domestic situation, some of the other consuming nations face even more critical energy-related economic problems. If high prices continue-- and there seems little likelihood of a price break-- countries such as Great Britain and Italy may experience serious financial difficulties.

RATIONALE FOR GOAL

After careful assessment of economic costs and possible benefits, the Energy Resources Council has concluded that the focus of our efforts should be to reduce imports by two million barrels per day by the end of 1977. While the 1975 1 million B/D goal is still desirable, we will have difficulty achieving it and the measures needed to do so could have appreciable economic impact at a time when the economy is in a weakened position.

The two million barrel per day reduction in consumption by 1977 will have negative economic impacts -- domestic impacts which cannot be measured with precision. The reduction will also have its benefits -- benefits which are primarily focused on reducing vulnerability to a potential embargo and stimulating international cooperation, and which are also imprecise.

Rough estimates of economic impact which could occur if the options are not phased to take account of economic conditions include:

- an immediate 30¢ gasoline tax could force a further reduction of automobile sales by as much as 1,000,000 cars and result in increased unemployment in auto-related sectors.
- decontrolling the price of old crude oil will increase the price of an average barrel of oil by \$2.30 (26 percent) and could increase the inflation rate by 0.5 percent.
- a crude excise tax of \$2 per barrel would raise the consumer price index for fuel by over 3 percent and could result in more than 50,000 additional unemployed.
- a import cap could cause a \$10 billion drop in GNP (over 1.2 percent) and an increase of 0.7 percent in consumer prices.

The rationale for the ERC's judgment on this very difficult issue is as follows:

- o Our economy is currently heavily reliant upon imports from very insecure sources and to do nothing would mean continued and expanded vulnerability to another embargo or supply interruption.
- o The reduction of imports by two million barrels per day is an insurance policy, so to speak, through which we would choose to sacrifice a small amount of economic activity that is anticipated in advance, in order to insure against the much more costly risks of the ever-growing vulnerability. If we are to reduce our vulnerability we must begin now and there is no way to do so that does not involve some economic costs.

- ° The Department of State believes that if we are unwilling to make sacrifices now to lessen our vulnerability, we will have no credibility with our allies who are already launching conservation programs. Without credible leadership from us, consumer cooperation cannot proceed.
- ° Each of the options presented below for achieving the short-term goal can be phased to fit economic conditions -- they can start at low levels and be strengthened as economic recovery begins to occur.



MID-TERM SITUATION/GOALS

ISSUE

What should our long-term import goals be for 1985?

PROBLEM

The United States has greater flexibility with regard to its energy situation in 1985 than it has in the next few years. At the current high prices, we can cut imports to half of today's level (3.3 MMBD) with only minor actions such as Clean Air Act amendments, natural gas deregulation, and price decontrol. Additional steps could cut imports to zero at little extra cost. If there is a significant break in world oil prices, it will take a massive and dedicated domestic program to keep imports from more than doubling in 1985 (over 12.4 MMBD). The likelihood of reaching zero imports or even going below 5 MMBD by 1985, given uncertainties in supply and expected world oil prices is low.

The other consuming nations of the world have a much less favorable outlook. If high prices prevail, there is likely to be a serious financial crisis in several countries, such as Italy and Great Britain. Many feel that the western world cannot withstand the pressures of \$11 oil and that actions should be taken to try to reduce world oil prices. If prices can be reduced, the level of imports would be affected.

There will be some new sources of oil outside the Arab producing states mainly from the North Sea and Mexico, but the OPEC nations will probably still dominate the export market for the next 10 years and be capable of supporting today's prices. However, most feel that a major price break could occur if the world financial crisis continues, if the cartel breaks, or in later years, if new sources of oil are produced.

As a consequence of our domestic capabilities and likely world prices, the U.S. could set a zero import goal by 1985, but would only reach it if world prices stay at today's levels. However, our goal in 1985 should not be zero imports per se, but invulnerability from actions by foreign supplies to disrupt our economy or affect our international activities.

In as much as standby emergency measures and storage can allow some insecure imports to be cut off without significant effect, reaching zero imports is not truly necessary. Our estimate is that the U.S. can have the capability for self-sufficiency even if we import 3-5 MMBD in 1985, in that it could respond to embargoes through emergency measures and security storage.

Finally, because other consuming nations will still be critically dependent even by 1985, the U.S. may need to take steps to balance Middle East dominance of world energy markets. Domestic self-sufficiency if not accompanied by increased security of our allies will still not lead to a return to world price and quantity stability for energy. The only mechanism for the U.S. to do this is not by driving its imports to zero instead of several million barrels per day, but by becoming a major exporter of alternatives to Middle East oil, such as coal.

OPTIONS

There are several options available to the United States.

- Strive for zero imports (self-sufficiency) in 1985, assuming high oil prices, and try to restore America's previous position of leadership and price setting for energy.
- Strive to be invulnerable to disruptions by 1985 and set a goal of no more than 4-5 MMBD of imports by 1985 (15% of petroleum consumption). This level of imports could be achieved by taking tough supply and demand actions and could be protected through emergency measures and petroleum storage. The actual level would depend on world oil prices.
- Try to reduce imports to zero at all costs.
- Allow market mechanism to set our import levels and do not interfere in process.
- Try to become an exporter of energy beyond 1985 to restore dominance in world energy market.

C



NEAR TERM DEMAND REDUCTIONS

ISSUE

If the United States selects to reduce demand by 1977, what methods should be used?

PROBLEM

In order to get into the best possible position for negotiations with OPEC and our allies, it is the belief of your advisors that the United States should initiate a program to reduce consumption in 1977 by 2 million barrels per day below what would normally occur. Because it is unlikely that anything we do will reduce OPEC prices in the near-term, drastic immediate actions that would hurt the already depressed economy are not justified. Mandatory measures to reduce imports by one million barrels per day in 1975 are not needed. However, some immediate actions are needed to demonstrate the severity of the problem. Thus, the proposed program should start now and be phased-in to be fully in place by the beginning of 1977.

Consumption reductions of this magnitude will have major effects on the United States economy and adverse effects on those who are forced to reduce their consumption of energy, no matter how achieved. Any method chosen should attempt to minimize dislocations, to return any purchasing power removed back to the economy, and to spread the hardships equitably among the population.

Reductions in consumption can be achieved either by price increases acting through the free market or by controls forcing reductions in certain sectors. At high prices, under the market solution, individuals and firms decide which uses of petroleum can either be eliminated or replaced with other fuels and make these adjustments. With controls, shortfalls are allowed to occur, and an allocations system distributes these shortages. Increases in petroleum prices may occur up to legal limits, and price increases in other industries are likely if a shortage of petroleum reduces output.

OPTIONS

1. Price mechanisms using decontrol and taxes: There are several measures to achieve reductions in consumption by increasing prices.

- Elimination of price controls on old oil, along with other petroleum price controls and allocation regulations, either through legislation or allowing the current allocation act to expire.

Effects of Decontrol (Barrels/day)

	<u>1977</u>	<u>1985</u>
Decreased petroleum consumption	850,000	2,400,000
Increased petroleum production	350,000	2,100,000
Reduced imports	1,100,000	4,500,000

- it will eliminate the inequities and distortions created in the marketplace by price and allocation controls.
- it will eliminate Administrative requirements and costs of the program.

CONS:

- deregulation would have an inflationary impact in the first year of 0.5 in the Consumer Price Index (CPI) and 0.4 in the Wholesale Price Index (WPI) resulting in price increases of about \$2.30 per barrel, 5 1/2 cents a gallon for gasoline, and 4 1/2 cents for distillate. However, by 1977, the inflationary effect of deregulation as measured by the CPI will be eliminated due to the price effects resulting from increased domestic production and decreased consumption of petroleum products. The WPI impact will be reduced to 0.1 in 1977.
- deregulation would raise oil company profits, bringing considerable political criticism.

In addition to the above measures, the following actions would be taken:

- Natural gas deregulation including both new gas per the current Administration proposal plus a phased decontrol of currently regulated interstate gas. (50¢ ceiling for 1975, 90¢ ceiling for 1976).

- An excise tax of about 40¢ per MCF (as it is decontrolled) on currently regulated interstate gas based on the difference between the prices as of December 1, 1974, and the actual selling prices for gas committed to the interstate market on contracts of over one year.
- A program of reductions in income taxes and other measures (increases in social security and welfare payments) to return revenues of over \$20 billion estimated to be raised through these measures (and those below) back into the economy.

In addition to the above measures, a price oriented strategy will require specifics aimed at reducing energy use.

SUBOPTION: Excise tax

- A tax on refinery inputs (crude and natural gas liquids) of \$2.00 per barrel. This will result in price increases of about 5¢ per gallon in the prices of all petroleum products, producing the desired reductions in consumption. This would apply to both imports and domestic sources.
- An import tariff of \$2.63 per barrel on refinery products (equal to the refinery input tax) would be imposed with no exemptions. This is designed to keep the refinery input tax from encouraging foreign refining. The additional 63¢ is the current import fee on products.
- A permanent excise tax of 37¢ per MCF (the thermal equivalent of the crude tax) to reduce conversions from oil to gas, and to cut gas use.

PROS:

- Reductions in energy and increases in prices are spread widely throughout the economy preventing very heavy impacts on any one sector. This makes the program more equitable, and minimizes economic dislocations.
- Encourages a variety of measures not encouraged by a tax focused on gasoline, including:
 - conversions of industrial plants to coal.

- reductions in thermostat settings, insulation, and other measures to save heating oil or natural gas
- conservation of electricity generated from oil and gas
- encourages some reductions in gasoline use, although obviously not as much as a massive gasoline tax

CONS:

- Does not concentrate on the automobile sector where many feel the greatest cutbacks will have to be made.
- Will impose disproportionate regional burdens on areas that depend on oil or gas for heating or electricity use. Without the natural gas tax, the burden would be heavily concentrated in the Northeast.
- Introduces a tax bias against oil and gas which may be undesirable in the long-run, and which will be difficult to repeal because it raises so much revenue.

The above program could be modified by replacing the refinery product input tax with a gasoline tax of 60¢, phased in with a 10¢ tax starting June 1, 1975, (to minimize effect on currently depressed automobile industry, while gaining credibility by making a start). This would achieve the same reductions in use as the above crude excise tax, but it is recommended that the maximum gasoline tax considered be 30¢ for consumer acceptability.

A rebate would be designed to refund, through 1977, most of the proceeds to everybody who has a drivers license. After 1977, changes would be made in tax rates, welfare payments, and social security to have the same effects but with lower administrative costs (and to reduce incentive to get drivers licenses).

PRO:

- Relies on efficient price mechanism.
- Concentrates cutbacks on automobile use.
- May stimulate production of more efficient automobiles.
- Less likely to produce shortages than an import cap.

CON:

- Hurts already depressed auto industry (may result in a further decline in auto sales of up to 1,000,000 cars in 1975).
- Fosters political controversy about relation of perceived taxes paid and "rebates" provided.

- hurts travel and recreation industries
- individuals who must drive long distances are disproportionately affected.
- would involve reversing a widely publicized Presidential decision

2. An Import Cap: The existing import quota authority would be used to reduce imports by 2 million barrels per day on the following schedule:

1 MMBD at start of program (0.5 MMBD of which is effects of recession)

1.5 MMBD at middle of 1976

2 MMBD end of 1977

To assure that the program did not raise oil company profits the quotas would be distributed on the basis of refinery runs plus product imports. This will insure that people can earn additional import rights only by increasing sales, and prevent the value of rights to quotas from being captured by historical importers.

The resulting shortages of products would be dealt with through an allocation program as was done during the embargo. Likely features of such a program include:

- gasoline station closings because of insufficient supplies. These would be coordinated to focus on weekends to minimize pleasure driving.
- an enforced temperature reduction program through heating oil allocations.
- restrictions on residual fuel to electric utilities
- reductions in airline flights.

The suboptions under this program include:

- Import cap with decontrol and windfall profits excise tax. With decontrol there would be major increase in crude prices of about \$2.30 per barrel (5 1/2¢ per gallon). This price increase would accomplish much of the reduction in consumption, having similar effects as the first tax program.

- Continuation of current price control system. The prices of new and released oil would rise by a large amount bringing the prices to about \$20 per barrel as refiners bid desperately for uncontrolled crude in order to run at capacity and meet the demands of their customers. The resulting price increase of about \$3.00 per barrel in average costs would accomplish much of the reduction in consumption, and some additional increase in production would eliminate some imports.
- A new price control system to hold all crude to current prices (including new and stripper crude) and rely fully on allocations to deal with remaining shortages.

PRO: - quota will reduce imports

- will force a price rise

CON: - administratively complex

- would require continued allocation

- would leave prices uncertain

D



PRICE FLOORS

ISSUE

Should the Federal government establish a price floor to protect investors in energy projects from a decline in world oil prices?

PROBLEM

Investments in major energy resource projects may be deterred because of the risk of a large decline in energy prices that could result from the breakup of the cartel or from deliberate actions by the cartel to cut prices to undermine non-OPEC expansion of production. If new investments are delayed because of this uncertainty in world prices, domestic self-sufficiency would be seriously hindered.

The level at which a price floor would be set is difficult to choose, since different domestic sources become economic at varying prices. Some domestic onshore oil can be produced for less than \$4 per barrel, some at \$7, and some enhanced recovery techniques would require \$10 per barrel oil.

OPTIONS

There are two major issues to be decided with respect to price floors:

1. Should the Federal government establish a floor on prices?
2. If a floor is desirable, at what level should it be set and what mechanism should be used to establish the floor?

Issue 1: Need for a price floor

- PRO:
- could signal our expectations of the long-run price of oil
 - provides across-the-board investment security against a precipitous decline in prices
 - encourages Canada, Great Britain, and other consuming nations to set up similar programs

- protects certain firms and employees from the dislocations that would result if the economy adjusts to high prices and then the cartel collapses or prices are deliberately lowered

CONS:

- may impose a larger economic burden on consumers if the cartel comes apart and prices fall below the costs of production
- since a \$7 floor would protect few new investments, a higher floor may be needed and would leave little room for a decline in world oil prices
- may indicate to OPEC that high prices are acceptable and thus discourage them from reducing prices
- there is no evidence that investors really need a price floor before making investment decisions
- imposes a precedent that may be desired by other industries faced with a threat of price declines
- would be most effective only if other consuming nations go along

Issue 2: Level of a price floor

Option 1: Lower level price floor (\$6-8 per barrel)

PROS

- will assure production of offshore oil, oil fields, and Alaskan oil
- will cost very little since there is little likelihood of prices dropping below \$7 per barrel unless the cartel breaks

CONS

- does not protect shale oil, decisions to build coal rather than oil baseload plants, tertiary recovery, and some new onshore production
- it is possible that the cartel will come apart letting prices fall well below \$7; and very large costs to the government would then be incurred

- sets a minimum level of oil prices which may be unacceptable to consumer groups

Option 2: Higher level price floor (\$10-11 per barrel)

PROS:

- will assure production of almost every domestic petroleum source

CONS:

- provides no room for OPEC to reduce prices
- would be politically difficult to maintain in the event of a drop in oil prices
- would be set at a price level that is higher than we expect long-run prices to settle

There are 3 major mechanisms for establishing a price floor:

1. Tariff - a tariff would be imposed on the difference between the estimated world price of foreign crude (c.i.f.) and the floor price. The FEA would determine the average value for this differential and the tariff could be set quarterly about one month before the start of the quarter. The same rate would be paid by all firms regardless of the prices they negotiated (to avoid discouraging hard bargaining abroad).

PROS:

- relatively easy to administer, as compared to a quota
- imposes cost of protection from lower prices on energy users, thereby altering use

CONS:

- provides across-the-board protection rather than guarantees to specific industries
- susceptible to evasion

2. Quotas - a quota would set a maximum quantity of imports over a specified time period.

PROS:

- can be implemented under existing authority

- easily understood by the public
- collects no revenues

CONS:

- would have a major adverse effect on the economy and especially in the automobile sales
- could leave downside price somewhat uncertain
- could entail large administrative burden

3. Guaranteed Purchase System - this scheme would offer a guaranteed government purchase contract for certain new technology production processes. For example, the government could offer to purchase up to 50,000 barrels per day of shale oil at \$10 per barrel for up to 5 years. If the price of oil is above \$10, the shale oil would be sold on an open market by the firm; if below \$10, the government would purchase the oil and resell it on the open market at a loss. The firm receiving the contract would be selected on the basis of competitive bids and would agree to build a plant or forfeit a performance bond.

PROS:

- likely to increase domestic production
- helps demonstrate certain technologies that may otherwise be uneconomic

CONS:

- if the price declines, this could involve large budgetary costs
- sets a precedent that may encourage other industries to request similar programs

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Treasury Department Views on Price Floor

ISSUE

The mid-term (1974-1985) energy program calls for "the establishment of a floor price to relieve price uncertainty." The recommendation is (a) to establish a \$7-8 per barrel price floor on imports, to be accompanied by a variable tariff and (b) to begin to negotiate immediately a similar price floor with other consuming nations.

TREASURY VIEWS

Treasury has serious reservations concerning price floors in general and specifically in the determination of an appropriate one for oil. Too low a price would be ineffective while too high a price would impose extensive costs on the national and international economy. We strongly recommend that no Presidential enunciation of a specific value be made since doing so would undercut our position in IEA negotiations. Specific points are as follows:

- (1) We have been arguing for months now that \$11 oil is too high, that it is unreasonable, not at all related to economic costs, and imposing heavy burdens on the economies of the world. Now to posture ourselves as saying that \$9 or \$8 or \$7 oil is not too high, and more that we will guarantee that it stays there, is ridiculous.
- (2) By establishing a \$7-8 price for all oil, we are making the consumers pay a price that may be much higher than the market, if allowed to operate freely, would set and still bring on the necessary supplies.
- (3) We can handle the downside risk problem adequately through the tariff which we would have the flexibility to increase if we wanted to.
- (4) We can handle the investment incentive problem through selective encouragement to investment in high cost and high risk energy projects. Business decisions are made every day based on certain risk. It's certainly hard to tell for sure at what price various energy sources will come on. Some will say \$5-6, some \$8-9. If the marketplace is allowed to operate freely, the necessary incentives will exist and investment will follow.

- (5) What we must do is to balance our two basic objectives of (a) giving continual incentives to OPEC to refrain from production cuts and (b) providing proper investment incentives to U.S. energy producers and consumers so that we will become self-sufficient. Even if some marginal investment is discouraged, that cost must be balanced against the cost of locking ourselves into a very high level of oil prices. Any economic incentive which the oil producers would have to lower their prices could potentially be lost. They could realistically say to us that \$11 per barrel is better than \$8 or \$9 and so why shouldn't it stay at that level or go higher.

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OCS LEASING

ISSUE

At the November 13 meeting with coastal state Governors the President endorsed the policy that the Federal Government must begin leasing in all OCS frontier areas as quickly as prudently possible in order to increase our domestic supply of oil and gas. The issue is what Federal actions should be taken to overcome coastal state opposition to this policy.

PROBLEM

Outer Continental Shelf oil and gas development in the Atlantic, Pacific, and Gulf of Alaska have the potential to provide over 1.5 million barrels per day of oil by 1985. Some of these areas, such as the Atlantic, are frontier areas and have never been thoroughly explored. Before development can occur, however, opposition by some coastal states may have to be overcome. The coastal states make three basic points:

1. They want a share of OCS bonus and royalty income.
2. They want a veto over leasing off their shores.
3. Several endorse a federal OCS exploration program prior to lease sales, so that rights to OCS oil and gas will be sold on the basis of much greater knowledge, and so that onshore impacts can be more accurately predicted.

All three positions are adopted, at least to some extent, in Senator Jackson's bill to amend the OCS Lands Act, which has passed the Senate, but has not been considered in the House. The Administration opposed the Jackson bill, saying:

- The Submerged Lands Act gave coastal states all rights to the first three miles offshore. The remainder belongs to all the citizens, and no case has been made for giving coastal states a share of this Federal revenue.
- Coastal state vetoes could be based on parochial grounds and could delay vital Federal policy to increase our oil and gas supply.

- Changes in the OCS statute and procedures will greatly delay implementation of our program.
- The present program is a good one.

At the November 13, 1974 meeting with OCS coastal state Governors, the President stressed the following points:

- We want to work closely with state officials in studies leading up to a leasing decision. Delay for completed coastal zone plans is unwise because shoreside impact cannot be estimated until after full exploration following a lease sale and because shoreside impact will not occur until at least 3 years after the lease sale.
- We are requesting \$3 million additional funds under the Coastal Zone Management Act for states affected by our 1975 frontier leasing proposal involving mid-Atlantic states, California and Alaska. (The Administration has argued that this existing program is the appropriate means to take care of on-shore impacts of OCS leasing.)
- We will propose legislation providing a fund, financed by charges on OCS and imported oil, that will guarantee full recovery by anyone damaged by an oil spill.

OPTIONS

Basically three courses of action are possible:

1. Continue our present position as enunciated at the November 13 meeting with the Governors and in our comments on Jackson's bill, but undertake a greatly stepped-up, coordinated educational effort to convince coastal state governmental personnel and the public that our program is sound.
2. Supplement Option 1 by new legislative authority and appropriations to provide Federal funds to pay for state coastal zone planning to accommodate the onshore impact of offshore development. Grants under this program would be tied to offshore leases--i.e., no grant until a lease sale is held.

3. Accept some or all of the coastal state demands reflected in Jackson's proposed bill--i.e., some form of revenue sharing, some form of coastal state veto, and/or a government exploration program prior to leasing in frontier areas.

A difficulty in assessing these options arises if we don't know what support there will be in the new Congress for the coastal state points in Jackson's bill. There is sufficient legal authority in existing law to conduct OCS sales over coastal state opposition, though this will produce lawsuits, which may or may not hold up our schedule. However, if Congress acts over our opposition, this will cause much greater delays than if we now accept some of the coastal state points. One measure of Congressional attitude is the recent Deepwater Ports bill; there, Congress granted coastal states a qualified veto power over Administration opposition.

Another important consideration is that we cannot control the scope of amendments to the OCS Lands Act --thus, even if the Administration endorsed some form of OCS revenue sharing, the final bill could well include unsound or delaying provisions such as: further sharing of all federal income from minerals leasing, and coastal state veto rights, or a required governmental exploration program.

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NAVAL PETROLEUM RESERVES

Issue

Should the major Naval Petroleum Reserves (NPR's) contribute to increasing domestic energy supplies through production for the civilian economy and for use in a stored strategic reserve, with oil shale and coal relied upon for long term reserves, or should the concept of military petroleum reserves, usable only for national defense purposes, continue to restrict their use?

Discussion

Two of the four NPR's (numbers 1 and 4) could make a substantial contribution to domestic energy supplies or to a strategic storage program (see Tab L). NPR-1, Elk Hills, California, contains close to 1.5 billion barrels of oil and 1.5 trillion cubic feet (tcf) of gas, could produce 160,000 barrels per day (bpd) within 2 months, and 400,000 bpd within about 4 years if fully developed. NPR-4, Alaska, is estimated to contain from 10 to 30 billion barrels of oil and 60 to 192 tcf gas. With accelerated exploration and development over the next 8 to 10 years, NPR-4 could produce 2 to 3 million bpd of oil and large quantities of gas.

The two other NPR's (2 and 3) are small and together, with full development, could produce only about 12,000 bpd--not significant for either a reserve or as a contribution to domestic energy supplies. Navy plans call for their immediate development to full capacity and production, the net revenues to be used to help pay for exploration and development of the major NPR's.

NPR's were established after 1900 to assure the military, then the major consumer of a relatively small petroleum industry, a source of fuel during periods of national emergency. Under the governing statute the Secretary of the Navy may explore and develop the reserves but he cannot go beyond maintenance production unless he finds the production required for national defense, the President approves, and Congress authorizes production by joint resolution. Congress has been and still is highly protective of the NPR's even though military needs can now be provided for under the Defense Production Act.

Current capacity to deliver oil from all four NPR's is less than 175,000 bpd. Current Defense Department consumption is 600,000 bpd. Future wartime usage should not exceed 1.6 million bpd. Clearly, the NPR's have not undergone exploration and development sufficient to meet the emergency military

demands for which they have been so carefully preserved. The development time to achieve substantial production of NPR-4 is longer than any wartime period now contemplated.

In response to the President's request to the Secretaries of the Interior, Defense and Navy to prepare a responsible plan for the use of the NPR's, the Departments have worked together and prepared three options for consideration. There is no issue over the need for rapid exploration and development of NPR-1 and 4, and all options agree on the production of NPR's 2 and 3. The primary differences in the plans center on the question whether the Reserve shall be retained for national defense and in what form; in addition, the options describe alternative means for industrial participation in the development and production of NPR-4.

Options

1. Option #1, Navy

NPR-1

- a. Exploration: Complete Navy 5-year program already underway, encompassing 76 wells at cost of \$30 million.
- b. Development: Over the same 5 years, drill 829 development wells at cost of \$417 million to achieve production potential of 400,000 bpd. Also solutions to associated transportation requirements will be recommended.
- c. Production: None. Maintain the reserve under current statutory control. Continue Unit Plan Contract with Standard Oil of California (SOCAL) to keep reserve shut in and to share future production for national defense.
- d. Legislation: Needed to allow production of the small NPR's 2 and 3 to provide a net 5-year contribution of \$230 million to help pay program costs.
- e. Comment: This approach is consistent with the original intent for NPR's and reflects some current thinking in the Congress.

NPR-4

- a. Exploration: Under Navy control, drill 26 wells at cost of \$333 million over a 7-year period.
- b. Development: Competitive negotiation with industry for development and production based upon proven reserves area by area.
- c. Production: Negotiated agreements with industry will reserve a specified deliverability and transportation capacity for national defense, the excess oil to be sold commercially.

- d. Legislation: Needed within 2 to 3 years, after reserves have been identified, to provide for negotiated agreements to produce the oil that is excess to national defense needs.
- e. Comment: The Navy plan for NPR-4 requires substantial Federal funding plus close control over private industry programs. If present estimates of reserves are accurate, returns to the Federal Government under this plan would be high because negotiated agreements with industry would reflect full information about the resources from the Navy exploration program. Congressional opposition to this approach would probably be moderate.

2. Option #2, Interior

NPR-1

- a. Exploration: Same as Navy.
- b. Development: Same as Navy.
- c. Production: Produce under Navy control 160,000 bpd now and increase output as developed to 400,000 bpd for use in a strategic storage program (see Tab L).
- d. Legislation: Needed to allow production of NPR's 1, 2, and 3. If the Unit Plan Contract with SOCAL is abrogated by this approach, and renegotiation of the contract is not possible, legislation will also be needed to protect the Government's interest.
- e. Comment: This option should be considered in conjunction with the storage issue (Tab L).

NPR-4

- a. Exploration: Interior administers commercial leasing program similar to OCS. Navy continues exploration until necessary legislation is obtained.
- b. Development: Included in leasing program.
- c. Production: Prompt production provided for in leasing program.
- d. Legislation: Major legislation needed to transfer jurisdiction over NPR-4 from Navy to Interior (from Armed Services Committees to Interior Committees). Interior should be granted sufficient discretion over lease size, production requirements, and other terms to assure rapid production and fair return to the Government. The legislation should, for production from NPR-4, deny the State of Alaska the 90% of Federal royalties that would be required by the Alaska Statehood Act.

e. Comment: If NPR-4 is explored, developed and produced under the financial incentives of a commercial leasing program, better results would be achieved more rapidly, and the Federal cost and administrative burden would be minimized. Under this approach, \$25 million in pre-lease sale Federal costs plus minimum Federal oversight would be required. If present estimates of reserves are accurate, returns to the Federal Government under the Interior plan would be limited by uncertainty as to actual volume of resources at time of bidding. In implementing this program, consideration should be given to utilizing the Federal revenues and/or royalty oil in connection with a strategic storage program. Strong congressional opposition to this program can be expected.

3. Option #3, proposed jointly by Navy and Interior

NPR-1 would be explored, developed, and produced for use in a strategic storage program as in Option #2. New legislation would be sought authorizing the President to determine how to develop and produce NPR-4, after continuing for 2 years an accelerated exploration program along the lines of its currently projected exploration program for NPR-4.

Option #3 recognizes the need for a viable reserve for national security. It provides a reserve that is more readily accessible than does Option #1, which utilizes shut-in production capacity. Option #3 also continues the statutory concept of a national reserve. And because this option is designed to avoid at this time the question of whether NPR-4 will be developed and produced under a Government-supervised program or under a competitive leasing system, the passage of necessary legislation may be easier.



CLEAN AIR ACT

FEDERAL PREEMPTION OF STATE AND LOCAL AIR POLLUTION EMISSION STANDARDS

ISSUE

Should the Federal Government be given the authority to remove State emission standards more stringent than necessary to protect public health so as to reduce obstacles to energy development?

PROBLEM

Current emission limitations in some State Implementation Plans are more stringent than necessary to achieve ambient air quality standards; that is, they have a degree of "overkill" in them. The overkill and the unavailability of control technology and clean fuels created an annual shortage of 225 million tons of coal.

EPA is encouraging the States to voluntarily revise their pollution abatement plans to remove the overkill. The voluntary program has resulted in the elimination of 42 million tons of overkill and is expected to eliminate an additional 50 to 70 million tons of overkill leaving 30 to 70 million tons of overkill. This overkill will result in additional capital expenditures of \$600 million to \$1.2 billion, and annual operating costs of 300 to 700 million dollars in 1985. The clean fuels deficit will be eliminated through compliance date extensions.

OPTIONS

1. Rely solely on a voluntary program.
2. Provide limited Federal preemptive authority to remove overkill for sulfur dioxide emissions released from either coal burning facilities or oil and gas burning facilities that are candidates for conversion to coal.
3. Provide Federal preemptive authority to remove overkill for all pollutants (not only sulfur dioxide) released from all source categories; that is, smelters, foundries, refineries, etc.

PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY

ISSUE

Has the Administration's position on the prevention of significant deterioration changed?

PROBLEM

In 1973 the courts required the Federal Government to act to enforce not only air standards designed to protect health and welfare but also that states must protect areas already cleaner than mandated levels from further "significant deterioration". Last Spring the Administration submitted an amendment which eliminated the court imposed requirement. Subsequent to the court order, final regulations which would require the prevention of significant deterioration of air quality in all clean areas of the country, i.e., areas where air quality is cleaner than needed to protect public health and welfare.

These regulations provide for the initial classification of all areas of the country covered by the regulations as Class II areas. Although there is some disagreement over the numbers, Class II areas are designed to provide for a moderate amount of well controlled growth. Although all areas covered by the regulations are initially designated as Class II areas, the regulations permit the States to reclassify an area to accomodate either more (Class III) or less (Class I) development based upon the social, economic and environmental desires of its citizenry.

OPTIONS

1. Resubmit a legislative amendment changing the purpose of the Act. This would have the effect of removing the requirement that the Federal Government promulgate standards more stringent than the national ambient air quality standards necessary to protect public health and welfare.
2. Do not resubmit an amendment; obtain Congressional consideration by having EPA push for early Congressional hearings on this issue.

In both cases, current EPA regulations would remain in effect.

COAL CONVERSION AND THE CLEAN AIR ACT

ISSUE

Should potential pollutants, for which there is no existing air quality standard, provide a basis for prohibiting a major fuel burning source from converting to coal?

PROBLEM

The Energy Supply and Environmental Coordination Act of 1974 gives FEA the authority to mandate the conversion of oil-fired power plants and other major fuel burning installations to coal.

EPA has the authority to prevent or suspend the issuance of a coal conversion order based on a finding that the conversion will create a significant risk to public health from concentrations of non-criteria pollutants, that is, those pollutants for which no ambient air quality standard has been promulgated. Of particular concern is sulphates. While there presently is no standard for sulphates, there is some evidence to suggest that they constitute a hazard to public health. It might take five years to gather and assemble the appropriate data needed for the establishment of a sulphate standard. Presently, there is interagency agreement on the remaining amendments needed to implement the coal conversion program.

OPTIONS

Agreement has been reached on five issues; one issue remains. If agreement is not reached among the Federal agencies on this remaining issue by December 24, 1974, this issue will need to be resolved by the President.

AUTOMOBILE FUEL ECONOMY AND THE CLEAN AIR ACT

ISSUE

Should there be a pause in meeting the automobile emission standards mandated by the Clean Air Act in light of energy and economic considerations?

PROBLEM

Automobile fuel consumption accounts for 14 percent of the total energy consumed in this country and 28 percent of the total petroleum consumed. You have proposed that the automobile manufacturers improve the fuel economy of their cars by 40 percent. The automobile industry claims that the major constraint which would prevent them from achieving this goal is the implementation of the statutory automobile emission standards mandated by the Clean Air Act.

There are considerable uncertainties regarding the cost and fuel penalties associated with meeting the statutory emission standards and the measurement of benefits. Per vehicle estimates of initial costs, that is, excluding operating costs, range from \$75 to \$200. Estimates of initial fuel penalties range from no penalty for 70 percent of the cars (EPA) to a substantial penalty for virtually all cars (industry).

Air quality studies indicate that any additional reduction of nitrogen oxide (NO_x) emissions from automobiles will have little significant impact on air quality in all cities other than Los Angeles and Chicago. Holding automobile emissions at the 1975 levels will have little impact on oxidants which are controlled by the level of hydrocarbons (HC). The impacts of not achieving statutory standards for carbon monoxide (CO) are more significant. The data show that even if the emission standards were decreased, the six cities with the greatest concentration of CO will continue to have levels which exceed the national standards; six additional cities will marginally exceed the national standard by holding the emission standards at the current level.

In summary, the benefits of relaxing the standards from statutory levels are: (a) lower initial automobile costs compared to meeting the statutory standards, and (b) fuel economy savings. The costs of freezing the standards are related to higher ambient air quality levels of CO, and to much less extent, oxidants.

OPTIONS

1. Relax NO_x emission standards but do not change statutory standards for HC and CO.
2. Maintain the 1975 interim standards through 1980.
3. Lower the emission standards but not as low as required in the Clean Air Act.
4. Defer a decision until additional information can be gathered and analyzed from EPA's hearings.



ELECTRIC UTILITIES

ISSUE

What institutional, fiscal and other measures are necessary to restore the health of electric utilities and assure a favorable long-term fuel mix?

PROBLEM

Double-digit inflation disrupted the traditional balance between costs and revenues in the utility industry. The companies are not able to increase their revenues in a timely way. Average rate decisions have taken 10 months; some states have minimum processing times of more than one year. High interest rates, regulatory lag and environmental costs have magnified the problem.

This industry is highly capital intensive and the squeeze has damaged its ability to finance new capacity. Nuclear and coal plants, which have the highest capital costs and longest lead times, are the hardest hit. Almost 60 percent of planned nuclear plants and over 20 percent of planned non-nuclear plants have now been postponed or cancelled. Continued delays will slow the transition from oil- and gas-fired powerplants to coal and nuclear facilities -- and result in higher import levels.

OPTIONS

The options to deal with electric utilities fall into three categories:

1. Regulatory and rate reform to improve the utilization of existing plants, by increasing load factors, thereby enhancing industry financial integrity: Examples include:
 - Advisory Federal guidelines regarding financing, allowable rate of return, and conservation practices.
 - Federal authority to override state and local regulatory commissions.
 - Presidential study commission to examine utility problems and recommend policy.
2. Federal financial incentives. For example:
 - Parity for utility investment tax credit (now 4%) with other credits (now 7%) and increase to 10%, with remission of unused credits.

- Use of shorter tax depreciation periods for rate making purposes after a 3-5 year phase-in period.
 - Tax reforms to allow stockholders election of stock dividends with taxation delayed until sale of shares.
 - Federal Reserve Bank investment in utility bonds.
 - Federal guarantee of utility bonds.
3. Measures to improve system efficiencies. For example:
- Technical assistance and demonstration projects on rates, load management and conservation.
 - Expedite licensing and construction of power plants
 - Federal regulation of power plant siting.
 - Mandatory Federal programs to improve load factors.
 - Promote intrastate mergers of utility companies and free such mergers from Justice Department and Securities Exchange Commission intervention.

While there is little disagreement that utility financing and load management are important problems and there is basic agreement concerning a number of the options listed above, there are two major options which require special attention:

1. Federal override of state and local regulatory decisions.

- PROS:
- would assure adequate rates of return
 - would reduce political pressure on state commissions to keep rates low
 - could reduce lag time for decision-making
 - is not vulnerable to local circumvention
- CONS:
- would represent a radical departure from current operation
 - would involve a strong Federal role in what has traditionally been a local area of jurisdiction

- requires new legislation
- could require a new administrative structure

2. More direct Federal involvement in utility financing problems. This could consist of loan guarantees, or partial subsidy of interest payments by the Federal Government that would be linked to acceptance of Federal rate, regulatory, and conservation guidelines.

- PROS:
- subsidies could be pinpointed to coal or nuclear power plants
 - would make capital investments easier
 - would lower cost of utility debt
 - would allow utilities to increase debt to equity ratio
 - would result in lower power prices

- CONS:
- would target assistance to electric utilities and lead to pressures for similar relief by other industries
 - would shift some of the costs of producing and supplying electric power from rate payers to general taxpayers
 - existing owners of utility debt would probably contest loan guarantees and could delay implementation
 - subsidies would not relieve the interest coverage problems currently being experienced. An interest subsidy could have a budgetary cost of over \$2 billion.
 - some utilities could default on loan guarantees leaving the government with some expense.

3. Direct Loan Program - Much of the revenues from energy taxes would be used to make direct loans to electric utilities for nuclear and coal plants.

PROS:

- helps meet utility financing problems.
- encourages use of coal and nuclear plants.
- increases capital formation in economy through reducing pressure of utility financing (helping housing, state and local governments and industrial capacity).
- by putting revenue back into energy will help sell program
- can be used as an inducement for regulatory change.

CONS:

- does not resolve all the financial problems of utilities.
- Federal Government may offset added funds for capital market.
- would set a new and probably undesirable precedent.
- would utilize funds that would otherwise go the taxpayers.
- a loan fund may have to be \$100 billion to supply a part of the \$300 billion needed for investment by electric utilities.



BERNARD M. FORD LIBRARY

AUTO EFFICIENCY MEASURES

ISSUE What actions should the Federal government take to reduce gasoline consumption?

PROBLEM The transportation sector of the economy accounts for more than half of petroleum use, and the automobile uses more than half the fuel burned in the transportation sector. Current gasoline consumption is over 6 million barrels per day, and there is little evidence that long-term future trends will reverse historical patterns of steadily increasing per capita consumption.

There are two major ways to reduce the amount of gasoline consumed by the American people:

- Improve the efficiency of automobiles
- Lower the amount of driving (vehicle miles travelled, or VMT)

In response to the Presidential call for a 40% improvement in new car fuel economy, a series of discussions, led by DOT, have been held with the auto manufacturers. The principal issue emerging from these discussions is the potential impact on fuel economy of the emissions standards mandated by the Clean Air Act for 1977 and 1978. The standards and their effective dates are:

<u>Standards (grams/mile)</u>	<u>HC</u>	<u>CO</u>	<u>NOx</u>
1975 interim standards			
49 States	1.5	15	3.1
California	0.9	9	2.0
1977 statutory standards	0.41	3.4	2.0 (interim)
1978 statutory standards	0.41	3.4	0.4

The manufacturers have indicated that they can improve the fuel economy of their products by an aggregate 40% over 1974 in the 1980 model year if automobile emission standards are held at the 1975 Federal interim levels and there are no net weight increases due to safety standards and damageability. Half of this gain comes from improvements in the engine itself, and half from changes in transmission, aerodynamic drag, etc.

In the manufacturers' projections, the tighter statutory emission standards in 1977 result in a 17% drop in fuel economy from 1976 to 1977 with little gain back by 1980 of this loss. Their estimated cost to meet the statutory emissions standards is in the range of \$100-\$150 per car. The DOT/EPA estimate of the fuel economy loss is 10% in the 1977 model year with a full recovery by 1980. The added cost for this emission control is estimated to be \$75. The difference in these estimates is in part explained by the manufacturers' use of only current technology which they can now mass produce and install as a basis for their fuel economy projections. The DOT/EPA estimates are based on the data from the best 1975 cars, data from manufacturers of smaller cars who indicate a less severe penalty for tighter emissions standards than do the major domestic manufacturers, and from tests on various engine components or modifications deemed feasible for production by 1980 but not yet all installed and functioning on any one car.

Conservative industry projections of the impact of a mandatory 40% improvement goal and no relief from emissions standards include a drastic curtailment of domestic production of large cars (dropping from 55% of the U.S. market to 10-20%), a strong shift to foreign cars, and possible failure of the financially weaker domestic car-makers. DOT/EPA projections are considerably less pessimistic, but all agree that the 1977 and 1978 standard will have a negative effect on fuel economy.

The impact on air quality of freezing the 1975 standards for five years is small. EPA analysis of a freeze shows that it has these results:

- For carbon monoxide, twelve cities fail to meet ambient air quality standards in 1985, compared with only six failures if standards are not frozen. However, the six additional cities that fail with frozen standards are only one or two parts per million (ppm) over the standard of 9 ppm, and enforcement of the statute just barely brings them down to the air quality standard.
- The freeze has very little negative effect on oxidant levels.
- Any reduction of NOx exhaust emissions has little air quality impact in cities other than Chicago and Los Angeles, and even here statutory standards only reduce the margins by which these cities fail to meet air quality standards, rather than bringing them into conformance with the standard.
- The incremental health effects are largely unknown, but automobile air pollution emissions are decreasing throughout this period as older cars are phased out.

If a relaxation of emissions standards is obtained, it seems likely that the Congress will demand some concrete assurance that gasoline consumption will be reduced. One approach is through voluntary or mandatory fuel economy standards for new cars. If standards are eased, industry indicates that it would agree to a voluntary program to increase efficiency 40 percent.

Another Federal tool to reduce gasoline consumption is a gasoline tax. A thirty-cent tax, phased in at 10¢/year over three years, provides larger immediate savings in gasoline than new car fuel economy standards whose effect is felt after 1980. The regressiveness of a gasoline tax can be eliminated by a direct flat rebate to all citizens, using the tax system and IRS. Since lower-income citizens use less gasoline than average-income groups, an equal rebate to all citizens would transfer some income from those above the \$10,000/year level to those below, the group hardest hit by the last year's inflated energy prices. The table below shows comparative petroleum consumption and savings for these two options:

AUTOMOBILE GASOLINE USE & SAVINGS (MBD)

	<u>1975</u>	<u>1977</u>	<u>1980</u>	<u>1985</u>
Base Use (no policy actions)	4.4	4.7	5.2	6.2
40% Standard: Use	4.4	4.5	4.6	4.8
Savings	-	.2	.6	1.4
10¢/10¢/10¢ Tax: Use	4.3	4.3	4.4	5.0
Savings	.1	.4	.8	1.2

While the major savings of a gasoline tax are realized through reduced driving, it also encourages the production of more efficient cars in the long term. Its short run impact (1-2 years) is to reduce new car sales, however, and for this reason should be considered in tandem with some incentive, such as a tax credit, to encourage new car purchases. Such a subsidy should be linked to the purchase of cars getting more than a certain mile/gallon rate. Since this subsidy would provide benefits not only to the purchaser, but to society in general, (reduced national dependency on foreign energy sources, improved air quality as cleaner new cars enter the fleet more rapidly than expected), some expenditure of public funds can be justified.

In addition to fuel efficiency standards and gasoline taxes, other measures to reduce gasoline consumption could include rationing and weekend service station closings.

OPTIONS

- Continue voluntary program without freeze on auto emission levels.

- Recommend amendment to Clean Air Act to freeze auto emission levels at 1975 standards through the 1981 model year, with the 1977 statutory standards to be effective in 1982. This option could be coupled with one of the following:
 - voluntary efficiency standards
 - mandatory efficiency standards
 - gasoline tax

- The gasoline tax, if adopted, could be accompanied by rebates and a tax credit to subsidize the purchase of efficient new cars.

K



ENERGY EFFICIENCY STANDARDS AND INCENTIVES
FOR BUILDINGS AND APPLIANCES

ISSUE

1. What actions should be taken by the Federal Government to improve thermal performance of new residential and commercial buildings, and to improve the energy efficiency of appliances?
2. How can the Federal government encourage thermal improvements in existing homes and commercial buildings?

PROBLEM

ISSUE 1

A. Residential and Commercial Buildings

Space heating and cooling in residential and commercial buildings account for approximately 19% of total U.S. energy consumption. Energy savings on the order of 30% per unit can be gained by improving the structure's thermal efficiency at the time of construction (by increasing insulation, using storm or double glazed windows and reducing air infiltration), and by utilizing more efficient heating and cooling systems. Since by 1985, approximately 30% of residential units and 40% of commercial floor space will have been constructed after 1974, these thermal improvements can result in significant total energy savings.

Because more thermal efficient construction practices may be economically justified at today's prices, it can be assumed that the marketplace alone may gradually effect some of these changes even without further government intervention. However, full attainment of potential energy savings will not occur through the marketplace for the following reasons:

- Builders/developers have traditionally attempted to minimize first costs and ignored operating costs. The house buyer frequently is left with higher total costs than necessary.
- The construction industry is made up of many small conservative companies; therefore, technical talent is not widely available or used to instigate significant improvements in construction methods.
- Diverse local building codes and local agreements with labor unions tend to inhibit innovation.

- ° Financing institutions do not adequately take into account the benefits of reduced "life cycle" costs in mortgages of new buildings.
- ° Natural gas prices are artificially low and thus distort investment decisions.

Some states are preparing their own mandatory standards - 16 states presently have legislative authority; several states are in the process of establishing standards.

B. Appliances

The major energy consuming appliances are water heaters, refrigerators and freezers, ranges, television sets, room air conditioners, and clothes dryers. (Excluded are large appliances found primarily in the commercial sector, and residential central heating and cooling equipment.) These appliances accounted for about 8% of total U.S. energy consumption in 1972, or 2.9 million barrels equivalent of oil per day of which about 82% was consumed in homes.

A variety of technically and economically feasible opportunities exist at current energy prices for substantially improving the energy efficiency of appliances, without markedly affecting the service they provide. The major appliances, their annual energy consumption, potential savings, and the cost of those savings are shown in Table 1 attached.

Although some gradual improvement in appliance efficiency may occur without government action, such market response is likely to be slow and weak because:

- Consumers have traditionally purchased appliances on the basis of initial cost. They have not considered the lifetime operating costs.
- Even with some increased consumer awareness about operating costs, manufacturers would shift only gradually toward the production of more efficient appliances.

--Many appliances are purchased by the homebuilder or landlord, not the user, who therefore has no opportunity to select an efficient appliance.

--As a result, the full potential energy savings would not be realized for many years, if at all

OPTIONS

There are two basic alternatives available to the Federal Government to promote increased efficiencies in new buildings and appliances:

1. Continue and accelerate efforts to educate the public on the benefits of buying more efficient appliances so as to save energy operating costs over the lifetime of the purchase.
2. Develop, promulgate, and require compliance with Federal standards.
3. Develop mandatory labeling of appliances without minimum standards of efficiency. The Administration has previously proposed this approach.

Alternative #1 - Public Education and Voluntary Standards

In the buildings area, the public education alternative would include the following elements:

- ° Encouragement to use the FHA revised minimum property standards as of December 1974.
- ° The development of national building standard guidelines with a request for voluntary adoption by state and local governments.
- ° An accelerated program of public education would be launched to overcome the first-cost orientation of consumers.

For appliances, the approach would be similar to that in buildings, but would be accompanied by a program to gain voluntary agreement with the appliance manufacturers to achieve efficiency standards-- similar to the agreements negotiated with the auto industry on fuel efficiency.

It is estimated that the following results would be achieved with this alternative:

	<u>1980</u>	<u>1985</u>
Energy Savings (MBD equivalent)		
Buildings	141	272
Appliances	75	145
Costs to the Public (\$M)		
Buildings	300	610
Appliances	200	167
Costs to the Government (\$M)		
Buildings	15	2
Appliances	4	4

Alternative #2 - Federal Standards

A. Buildings

The Federal Government would both develop the building standards and establish a program to demonstrate the effectiveness of the standards to investors, manufacturers, professionals, and consumers. The standards would be developed and promulgated in several phases to allow the private sector to adjust to the new requirements gradually and to prevent inflation in material required by the standards. The standards would be implemented through the enactment of a national building standard with regional variability requiring state implementation and Federal Government enforcement. However, monitoring of enforcement and compliance could be performed by the state, adding no burden to the present method of inspecting and enforcing state and local building codes. The Federal Government would grant funds to the states to monitor the program.

Costs to Federal Government to implement this program would be about \$35 million over three years to develop the standards, \$45 million for the demonstration program over three years, \$1 million annually for administrative expenses and \$30 million annually to update the standards.

A building standard could provide additional semi-skilled employment for installation of storm windows and insulation. While most of the materials needed would be available due to the depressed housing market, soda ash (used in glass production) could be in short supply. Initial costs of buildings could also be raised by 2-3 percent.

If the building standards program is also extended to mobile homes, additional costs would be \$3 million through 1977 for development of the standards and \$1 million annually for monitoring, updating and enforcement.

B. Appliances

Mandatory energy efficiency standards would be developed for new appliances sold in interstate commerce, supplemented with mandatory labeling and a vigorous public information program. National efficiency standards which preempt the states' standards would enable appliance manufacturers with their national markets to meet a single standard rather than a large number of different ones.

Mandatory appliance efficiency standards would be set, for each appliance, on the basis of the following factors: (a) technical opportunities for energy savings, (b) life-cycle cost/benefit analysis, (c) present state-of-the-art and manufacturer capabilities.

Mandatory standards would produce the following results:

	<u>1980</u>	<u>1985</u>
Energy Savings (MBD equivalent)		
Buildings	296	602
Appliances	235	616
Costs to the Public (\$M)		
Buildings	610	610
Appliances	600	500
Costs to the Federal Government (\$M)	80	35

TABLE 1

<u>Appliance</u>	<u>% of Retail Sales</u>	<u>1970 Energy Used (*)</u>	<u>Potential Savings (%)</u>	<u>Increase in Pur- chase Price</u>
Water Heaters**	3.7	832	338 (18%)	10%
Refrigerators & Freezers	18.0	649	690 (50%)	5%
Ranges	9.6	308	169 (26%)	5%
Television Sets	3.8	253	80 (18%)	#
Room Air Condi- tioners	7.9	160	70 (21%)	7%
Clothes Dryers	5.6	121	26 (10%)	10%

* Thousands of barrels per day equivalent)

** Additional hot water savings (about 700 trillion BTU/yr) are possible by modifications to hot water using appliances, such as clothes washers, dishwashers, sinks, showers, etc.

Technological evolution of TV toward solid-state sets will accomplish this reduction within five years, given the continuation of present trends. Abolition of "Instant-On" feature will give larger savings.

ISSUE 2

How can the Federal Government encourage thermal improvements in existing homes and commercial buildings?

PROBLEM

Thirty-two percent of all U.S. energy consumption occurs in buildings. Of this 2/3 is residential, and 1/3 is commercial. Twenty percent of the total used is for space heating and cooling. Two thirds of the building stock in 1985 will be buildings in existence today. Increased energy efficiency for existing buildings was not justified on an economic basis at the time of their construction because of the low and declining relative fuel prices. Sudden energy price increases have made these buildings economically inefficient in their energy use. Numerous investments in increased efficiency are available to building owners, many with 10 to 50 percent rates of return (see Tables A and B).

There are at least 18 million thermally inadequate homes. Most of these are part of the 25 million pre-1940 homes in use. There are about 5 million thermally inadequate homes owned by the poor. If building owners made an economic response to the new price of energy, about 25 million units could be in the market for various improvements. Retrofitting all existing residential and commercial structures with insulation, storm windows (in some regions), weatherstripping and caulking, would reduce energy consumption in this sector by more than 15 percent or save the equivalent of one million barrels per day of oil.

Although retrofitting existing buildings may be economically justified to the building owner, there are several serious impediments which may preclude the achievement of major energy-saving investments. Principal among these are:

- allocation of funds to retrofit may mean not spending those same funds on food, clothing or other items perceived to be more necessary
- consumer debt is large now and there is natural reluctance to increase long-term debt
- high population mobility and associated home turnover give little incentive to a building owner to consider energy saving modifications

A November, 1974, consumer survey done by FEA revealed a lack of accurate information. When asked how much they would be willing to spend to save 15 percent of their home energy use, 57 percent replied they "didn't know", 32 percent replied "nothing".

Current retrofit activity indicates that moderate expansion could occur without stressing production capacity or available labor. For example, the major manufacturers of insulation report that they are operating at about 65 percent of installed capacity. New capacity additions scheduled for 1974 and 1975 have been delayed by up to twelve months. One major manufacturer has laid off 20 percent of its labor force since September. All companies report further lay-offs are imminent. This industry has historically served the new construction market, now severely depressed. One utility in Michigan, which has been directly assisting customers with ceiling insulation for a year, reports that fully 1 percent of their 850,000 residential customers added insulation in October, the most successful month of their program. Manufacturers estimate there was virtually no reinsulation in 1972, about 100,000 jobs in 1973, and perhaps four times that in 1974. Retrofit capacity, assuming 1.5 million new housing units per year, is estimated at between three and four million units in 1975.

OPTIONS

There are two basic choices: (1) a major Federal voluntary/marketing effort and (2) provision of Federal subsidies for retrofit.

OPTION #1: Major Federal effort to promote retrofit investments.

As mentioned above, one major impediment to increased retrofit activity is lack of reliable information. This alternative, therefore, proposes a substantial Federal program to rapidly increase the awareness of energy savings potentials inherent in retrofit actions. Key elements of the program include:

- Demonstration of retrofit actions in various climate regions and types of buildings.
- Acceleration of current FEA efforts such as the Lighting and Thermal Operations Program and Operation Button-Up.
- Marketing retrofit actions through:
 - o Regional consulting and technical information centers.
 - o Development and distribution of guidelines and "How To" information.
 - o Dissemination of successful retrofit examples.
 - o High information content media campaigns targeted to segments of the buildings market.

Savings derived from this program are as follows:

	<u>1975</u>	<u>1977</u>	<u>1980</u>	<u>1985</u>
ENERGY SAVINGS				
QUADS/YR	.18	.24	.39	.52
BARRELS/DAY	75,000	100,000	165,000	225,000

OPTION #2: Provide Federal subsidies for retrofit

A tax-incentive or other incentive may call attention to the benefits of retrofit in a way that education and promotion plans alone cannot do. The size of the incentive may not be as important as the fact that it is available.

For residential buildings, the Federal Government would offer:

- A tax credit, expiring in 1980, for 25 percent of the cost of certain retrofit actions. Homeowners would be limited to a \$250 credit, but would not have to claim it all in one year. Implementation would require Congressional approval. While there are previous precedents for tax credits, none have been for thermal improvements.

Appropriate retrofit actions would be defined in advance, jointly by FEA and IRS, and IRS would have implementation and audit responsibilities.

Approximate costs of the program, to the Treasury, are \$450 million per year. Energy savings are estimated to be:

	<u>1975</u>	<u>1977</u>	<u>1980</u>	<u>1985</u>
NO. HOMES MODIFIED (MILLIONS)	5	6	6	6
BARRELS PER DAY	28,000	56,000	140,000	333,000
TAX CREDIT (MILLIONS)	375	450	450	450

- Offer direct subsidies to low-income homeowners for the cost of certain retrofit materials. This would be a joint program with states, patterned after successful OEO-funded programs of a year ago.

There are at least five million poor families living in homes with no insulation. These families can afford neither the high cost of fuel nor the initial outlay which would decrease those

costs. With help from OEO, a few states had programs last winter to retrofit the homes of the very poor, to save fuel, and to increase comfort. Under these programs, the state used OEO funds to purchase bulk quantities of insulating materials. The actual installation work was accomplished by volunteer work forces coordinated by local community action groups. The expansion of such programs nationwide would reach families which could not benefit from tax credit programs and who would have difficulty qualifying for loans for any kind.

Implementation would require Congressional authorization of funds through the OEO network. The current OEO-state network appears to be established; as a consequence, implementation could be accomplished rapidly.

This proposal is based on a highly successful one-year pilot project in Maine, where a large number of homes were refitted with insulation, using volunteer labor, at an average cost of about \$100 per home.

A Federal grant program, whereby grants are awarded to the local group through existing OEO-state networks, requires definition of program standards and appropriate funding levels. neither of which is a major constraint.

Approximate costs of this program, retrofitting about 500,000 homes per year, are \$50 million.

Energy savings are projected to be:

	<u>1973</u>	<u>1977</u>	<u>1980</u>	<u>1985</u>
QUADS/YR.	.01	.02	.06	.08
BARRELS/DAY	4,000	9,000	26,000	35,000
\$ SAVINGS (MIL.)	17	34	102	136

In the commercial sector, the Federal Government would offer to:

- Shorten the depreciable lives of investments for commercial buildings retrofit, also expiring in 1980.

Under the shortened depreciable life option, owners of commercial buildings would be allowed to depreciate or write off costs of materials and/or labor for energy savings modifications over 3 to 5 years. Current IRS Guidelines vary, depending on retrofit measure, from 8-10 years to as long as the projected life of the building. This option could expire in 1980 or shortly thereafter, providing an incentive to move rapidly.

If experience with the 7% investment tax credit is relevant, business and commercial buildings owners prefer depreciation change options.

Ample precedent exists. For example, Code Section 167(K) allows five-year useful life for rehabilitation of properties rented to persons of low or moderate income; this accelerated depreciation provision began in 1969 and expired in 1974. Time limited rapid amortization may also be elected for certified pollution control equipment (Code Sec. 169), certified coal mine safety equipment (Code Sec. 187), and new railroad rolling stock (Code Sec. 184). However, Treasury indicates that none of these worked in the sense that they increased the desired level of activity.

As with the residential option, FEA and IRS would be charged with definition of retrofit investments. IRS would be responsible for enforcement.

Approximate costs to the Treasury for this program are \$50 million per year, without consideration of additional taxes received on increased retrofitting activity. These revenues are only deferred.

Projected energy savings are:

	<u>1975</u>	<u>1977</u>	<u>1980</u>	<u>1985</u>
QUADS/YR.	.03	.07	.16	.29
BARRELS/DAY	13,000	31,000	70,000	127,000
\$ SAVINGS (MILLIONS)	51	119	272	493

TABLE A

Retrofit Action	Cost/Unit	# of Units	Expected 10 year Penetration	MMBTU Yr Energy Saved Per Unit	(\$2.36/MMBTU) \$ Saved Per Unit	Payback and ROI	ROI sub- sidy	\$ Gov't Cost Per MMBTU Saved
Ceiling Insulation	\$200/home	17 million poorly ins.	15 million (nationwide)	40/home	\$94	2-50%	66%	1.25
Wall Insulation	\$750/home	25 million	1 million	50/home	\$115	6-15%	20%	3.75
Other Insulation	\$100/home	10 million	3 million	8/home	\$20	5-20%	27%	3.1
Storm Windows	\$30/window	100 million windows in north	50 million (nationwide)	2.2/window	\$5.20	6-17%	23%	3.4
Storm Doors	\$50/door	25 million doors in north	10 million (nationwide)	4/door	\$9.40	5-20%	27%	3.1
Clock Thermostats	\$70/home	20 million homes	5 million	12/home	\$28	3-33%	44%	1.5
Caulking & Weather-stripping	\$50 home	20 million homes	15 million	10/home	\$23.60	2-50%	66%	1.25

TABLE B

Analysis of Costs and Returns of Commercial Retrofit Measures

Retrofit Measure	Average Cost (\$/1000 [□])	Annual Savings BTU/[□]	Annual Savings (\$) @ '74 Prices = \$2.36/MMBTU	Annual Savings (\$) @ 5% Annual Price Increase
1. Insulating Glass/Storm Windows & Doors	\$350	34,200	\$ 80.70	\$131.33
2. Increased Roofing Insulation	\$500	15,630	\$ 36.89	\$ 60.02
3. Improved Caulking & Sealing	\$200	19,770	\$ 46.66	\$ 75.92
4. Adoption of Existing Heat Recovery Technology	\$150	10,260	\$ 24.20	\$ 39.39
TOTALS	\$1200	79,860	\$188.45	\$306.66



SECURITY STORAGE

ISSUE

Should the U.S. initiate a security storage program to protect against supply disruption?

PROBLEM

In the event of a supply disruption resulting in a loss of 3 MMBD, 500 million barrels of emergency storage would enable the U.S. to maintain almost the pre-disruption level of consumption for six months, while 1 billion barrels of storage would permit this consumption for a year. If consumption were curtailed by emergency conservation measures, or the import loss smaller than 3 MMBD, the stored supplies would last correspondingly longer.

Not only would storage cushion the American economy from harm in case of a supply disruption, it would help to buy time in which to deal with the causes of the cut-off. In fact the very existence of significant storage might help to avert a supply disruption since the producing countries would know that its effects would be blunted. A U.S. decision to initiate a security storage program would be welcomed by both the American public and by our allies as a positive and constructive move to reduce our vulnerability. It might also impress the oil producers of our determination to increase our strength in our relations with them; given the preponderance of leverage on their side at the present time. However, the importance of this factor should not be overrated.

Significant security storage cannot be obtained instantaneously because storage facilities take time to prepare, and purchases of oil for storage must be spread over time in order to avoid pushing up the prices. A fully stocked, one billion barrel storage program will probably take until at least 1980 to achieve; a 500 million barrel program might be completed a year or two earlier.

The cheapest form of storage is in large geological formations called "salt domes" in the Gulf Coast area; the cost of preparing salt domes for storage by washing out the salt is estimated at \$.50 to \$1.00 per barrel of storage capacity, i.e., \$500 million to \$1 billion for one billion storage capacity, not including the cost of stored oil. Completion of storage preparation work is estimated at two to three years, although storage could be begun before leaching is completed.

The major alternative form of storage is steel tanks, estimated to cost \$3.00 to \$6.00 per barrel of storage capacity. Capacity

limits in the production of steel plate and the more complicated design and logistic planning required by steel tank storage would also require at least two to three years for completion of significant storage capacity.

The value of security supplies of 500 million to 1 billion barrels in 1980 and beyond depends on the likelihood of a supply disruption and the level of U.S. imports. If U.S. imports are low, demand for OPEC oil is reduced, and OPEC latitude to cut back on supplies is limited, then the need for security storage is correspondingly diminished. Nonetheless, it may be a relatively cheap method of insurance against disruption: about \$12 billion in capital costs for 1 billion barrels, \$1 for the storage facilities and \$11 per barrel for the oil spread out over a period of approximately five years, or \$1.2 billion per year in carrying costs (assuming a 10% interest rate). Moreover, it might have some deterrent effects, which would certainly be of value to our allies, who will still be more vulnerable than the U.S.

OPTIONS

Because of the lead time required to prepare storage facilities, including the possible need for environmental impact statements, it is infeasible to begin accumulating any significant quantity of emergency petroleum stocks in less than 2-3 years. Thus the options are:

- Begin immediately the implementation of a standby strategic storage program, i.e., preparation of storage facilities and mechanisms.
- Do not undertake any storage program.

Under a standby program, the U.S. would develop the capability to store large amounts of oil. The decision to begin storing oil would be deferred, and could be made contingent on a decline in the world price. Because a major cost of storage is the interest on the capital tied up in oil, a standby program would involve only 10 percent of the cost of an actual storage program.

A standby program achieves even greater flexibility and can serve a major additional purpose if the cost of the storage program is charged to imports (either by a tax or by requiring that importers be responsible for storage, thereby increasing the cost to them of importing). Under this procedure, the more the world price declines, the higher are the storage charges that would be placed on imports without increasing the cost of imported oil to the domestic consumer, and the more rapidly storage can be built up. At the same time, these storage charges would act in the same manner as a tariff, narrowing the difference between the declining world price and the old domestic price, and thus slowing the increase in imports.

By careful calibration, the tariff effect of the storage charges could bring about a balance between the rate of build-up of stocks and the increase in the level of U.S. imports.

It is impossible to calculate the overall cost of this program because it would depend on the world price and the amount of oil ultimately placed in storage. The latter, however, would be under control of the government through regulation of the storage charge imposed on imports.

Some of the oil going into storage might be supplied from NPR-1 or NPR-4, thereby mitigating the effects on the world price of storage purchases.

There are several important programmatic questions:

- Should the cost of storage be charged to imports or spread more widely over all petroleum consumption, or imposed on taxpayers generally?
- Should the implementation of the program be accomplished insofar as possible through private sector mechanisms, or should it be implemented directly by government?
- Should only crude oil be stored, or should there be some storage of petroleum products (which must be stored in steel tanks, thereby raising the cost of storage)?
- Should the decision to begin storing oil be contingent upon a decline in the world price?

Recommendations on these questions will be provided after a basic decision regarding storage has been reached.