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Federal Fleet Conversion

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Department of Energy
Washington, DC 20585

DEC 08 1993

Mr. Lawrason D. Thomas
Vice Chairman
Amoco Corporation
200 East Randolph Drive
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Chicago, IL 60680-0703

Dear Mr. Thomas:

Thank you for your letter of October 20, 1993, regarding the recommendations contained in the *First Interim Report of the Federal Fleet Conversion Task Force* and a recent proposal made Mr. Thomas Jorling of New York and Ms. Jananne Sharpless of California on the procurement of alternative fuel vehicles for the Federal fleet. The Task Force and the Department of Energy very much appreciate Amoco's input on these matters.

You commented that the Federal government should concentrate its purchases on one type of alternative fuel vehicle in a given market after appropriate local groups, through the Department's Clean Cities program, have chosen a particular alternative fuel. We believe that the choice of a single alternative fuel by a particular city may eventually occur in the future. However, it is not clear to us, at this point, that any city has reached the stage where a single alternative fuel is dominant. We believe that the Clean Cities program, as a locally-based and market-driven program, should help determine which alternative fuel(s) will become preeminent in a particular city. In the future, should it become apparent that a particular city is focusing its resources on a particular alternative fuel, the Department will attempt to place alternative fuel vehicles in that city that are compatible with that city's alternative fuel choice. It is important to point out that part of the Federal government's role is to serve as a catalyst for the development of a self-sustaining market for alternative fuels. The choice of a particular fuel by an individual city, however, will greatly depend upon the actions of local interests.

You also recommended that we should focus our purchases on dedicated alternative fuel vehicles as a means of ensuring that the alternative fuel is actually used. The Department is required under the Energy Policy Act (EPACT) to purchase both dedicated and dual-fuel vehicles, and Federal agencies have expressed a clear preference for dual-fuel and flexible-fuel vehicles. The Department continues to believe that the placement of these dual-fuel and flexible-fuel vehicles can provide significant encouragement to

the alternative fuel industry to build refueling infrastructure. Provisions in EPACT require that Federal dual-fuel vehicles be operated on the alternative fuel unless its use is not feasible. We expect that as more alternative fuel vehicles are placed in Federal and other fleets, refueling facilities will become more prevalent and alternative fuel use will be feasible under most circumstances for dual-fuel vehicles. Additionally, the General Services Administration, under EPACT, is required to develop methods to measure the use of alternative fuel use in dual-fuel vehicles. This action should provide good information on this issue.

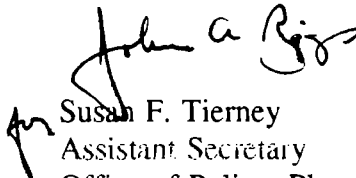
Your letter also suggested that Federal government alternative fuel refueling facilities should not be made accessible to the general public because such access will discourage private investment in alternative fuel refueling. The Department believes that it is unlikely that such a scenario will emerge. According to Section 304 of EPACT, Federal agencies must, to the maximum extent practicable, arrange for the fueling of alternative fuel vehicles at commercial fueling facilities that offer alternative fuels for sale to the public. Federal agencies, therefore, will focus their alternative fuel acquisition efforts on public, commercially-provided facilities rather than government-owned facilities. Given our discussions with alternative fuel providers, we believe that Federal agencies will be able to acquire alternative fuels from privately-funded, public-access alternative fuel refueling facilities. The Department believes that the Federal alternative fuel vehicle program provides adequate encouragement for infrastructure development when Federal agencies place a significant quantity of vehicles (100-200) within a specific location. This provides the necessary volumes of alternative fuel vehicles to stimulate private investment in refueling infrastructure. This philosophy underpins the approach that the Department's Clean Cities program is using to help coordinate and concentrate federal, state, local and private fleet acquisitions.

Your letter also expressed concern over a proposal made by Federal Fleet Conversion Task Force members Mr. Thomas Jorling, New York State Department of Environmental Conservation, and Ms. Jananne Sharpless, California Air Resources Board, to the Task Force regarding the procurement of alternative fuel vehicles for the Federal fleet. The Jorling/Sharpless proposal contains recommendations regarding the emission certification levels of alternative fuel vehicles acquired for the Federal fleet under the EPACT and Executive Order 12844 for fiscal years 1995-1997. The Department is presently in the midst of evaluating this proposal. In particular, we are identifying the types of vehicles that are likely to be able to meet the emission limits proposed, as well as the expected cost and availability of these vehicles.

Once this evaluation is completed, the Department will share this information with you and other members of the Task Force.

Thank you again for your contribution to the Task Force. Your strong commitment in this area will be extremely helpful as we move forward to reach the goals of the President's Executive Order.

Sincerely,



Susan F. Tierney
Assistant Secretary
Office of Policy, Planning
and Program Evaluation

cc:

Garry Mauro
Chairman
Federal Fleet Conversion Task Force

Tommy Foltz
U.S. Department of Energy

Federal Fleet Conversion Task Force Members

The White House

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First Interim
Report
of the
Federal Fleet
☆ Conversion
≡ Task Force

EXECUTIVE SUMMARY

The Federal Fleet Conversion Task Force was created by Executive Order 12844, signed by President Clinton on April 21, 1993. In the Order, the President directed that purchases of alternative fueled vehicles by the Federal Government be substantially increased beyond the levels required by current law. The Federal purchases and accompanying development of refueling and other infrastructure is intended to leverage the buying power of the Federal government in order to enhance United States energy security, stimulate the domestic energy industry and economy, and improve air quality. The President charged the Task Force with developing recommendations for carrying out the Executive Order, with special emphasis on setting a course that will lead to the widespread use of alternative fueled vehicles by Federal, State, and local government fleets, by private fleets and, ultimately, by individuals. The Task Force was further charged to make an interim report to the President and the Secretary of Energy outlining its recommended implementation plan. This report fulfills that directive.

The President appointed Texas Land Commissioner Garry Mauro as Chair of the Task Force. Secretary of Energy Hazel R. O'Leary designated Susan F. Tierney, Assistant Secretary of Energy for Policy, Planning, and Program Evaluation, to serve as Vice-Chair. The additional 33 members were selected to represent the many diverse interests that will be affected in the shift from gasoline and diesel to alternative automotive fuels. The effectiveness of the Task Force was enhanced by the creation of four Working Groups that, in conjunction with Task Force members and staff, identified and recommended solutions to the barriers impeding the widespread use of alternative fueled vehicles in the United States. The Task Force, expanding upon the findings of the Working Groups, has developed the recommendations to the President and the Secretary of Energy contained in this report.

The chief recommendation of the Task Force is the establishment of a Presidential Clean Cities Initiative. Such an initiative can provide the prestige and coordinated effort required to make significant progress toward national commercialization and integration of alternative fueled vehicles into the United States' public and private transportation fleets. The Initiative would have two components. The first is a locally-directed program to accelerate alternative fuel use by coordinating public/private

efforts both to acquire certified low-emitting alternative fueled vehicles and to establish the necessary refueling and service infrastructure to support their efficient use. The second element of the Initiative would be support of those locally- directed programs through coordination at the national level of efforts to aggregate purchases, ease or remove regulatory impediments, providing incentives for AFV use, and optimize use of available Federal funds.

To support creation of the Presidential Initiative, the Task Force identified 38 cities and regions, prioritized into three tiers, for concentrating the Initiative's efforts in Fiscal Years 1994 through 1996. This concentration of effort is key to the effectiveness of the Initiative. The 38 cities and regions would receive priority funding for Federal vehicle purchases and for infrastructure development. Priority cities and regions would also gain the benefit of a professional public relations campaign promoting the uses and benefits of alternative fuels. This campaign, and the Initiative, would provide credible, fair, fuel-neutral and reliable information about alternative fuels.

In addition, the Task Force has made specific recommendations for overcoming numerous regulatory, economic, and technical barriers that have slowed the introduction of alternative fueled vehicles into general use. Implementation of these recommendations will, in some cases, require legislative or administrative action by Federal or State authorities, and active cooperation of the automotive and fuel industries.

The Task Force continues to exist for an additional nine months. During that time, the Task Force will actively monitor progress, facilitate coordinated Federal, State, and local government as well as private sector efforts, and, where appropriate, assist in implementing those recommendations that are adopted by the President and the Secretary. The Task Force also determined the need for additional research and investigative tasks. A significant remaining short term objective is to review and make additional recommendations concerning the types of vehicles on which acquisitions of Federal fleet vehicles should be targeted and the emissions levels which such vehicles should be expected to meet.

THE FEDERAL FLEET CONVERSION TASK FORCE: MISSION AND PROCESS

EXECUTIVE ORDER 12844

Recognizing the significant environmental, economic and energy security benefits that will result from the use of alternatives to gasoline- and diesel-fueled motor vehicles, the President issued, on April 21, 1993, Executive Order 12844 (58 Fed. Reg. 21885 (1993)) (attached as Appendix A) to ensure that Federal agencies lead in the use of alternative fueled vehicles (AFVs). Authority for the order is found in the Energy Policy and Conservation Act, as amended (42 U.S.C. §6201 et seq.), the Motor Vehicle Information and Cost Savings Act, as amended (15 U.S.C. §1901 et seq.), the Energy Policy Act of 1992 (Public Law 102-486) and section 301, title 3, United States Code. The order is consistent with provisions of the Clean Air Act, as amended (42 U.S.C. §§7581, 7588) and the Federal Property and Administrative Services Act, (40 U.S.C. §§486, 491).

The Executive Order emphasizes that Federal action can stimulate the development and manufacture of AFVs, as well as the expansion of the refueling and service infrastructure necessary to support large numbers of privately-owned AFVs. The Executive Order directs Federal agencies to exceed substantially the AFV purchase requirements established by the Energy Policy Act of 1992, including the purchase of at least 7,500 AFVs in 1993, 11,250 in 1994, and 15,000 in 1995, subject to the availability of funds and considering life-cycle costs. The Executive Order directs the Federal agencies responsible for fleet vehicle acquisition to pursue policies that (a) continue reduction in the incremental costs associated with specific vehicle and fuel combinations; (b) move toward increasing availability of AFVs as standard manufacturers' models; and (c) minimize life-cycle costs in AFV acquisition.

The Executive Order also established, for a period not to exceed one year, a Task Force to be constituted by the Secretary of Energy to assist in implementation of the Executive Order. (The Task Force Charter is attached as Appendix B.) The Task Force was directed to issue a public report within 90 days, setting forth a recommended plan and schedule of implementation; and, within one year, to issue a progress report on implementation of the plan. This document is the first interim report of the Task Force.

**MISSION OF THE
TASK FORCE**

The primary mission of the Task Force is to develop and recommend a coordinated public and private sector plan for accelerating the commercialization, production and market acceptance of AFVs nationwide. The plan is not intended to focus simply on converting the Federal fleet to alternative fuel use. Rather, the plan is designed to leverage the buying power of the Federal government, one of the nation's largest fleet operators, by cooperating with State and local governments and the private sector to expand rapidly the manufacture of AFVs and the development of the refueling and service infrastructure necessary to support such vehicle use. This plan will be submitted to the President, the Secretary of Energy and other public and private sector entities to be involved in its implementation. Over the remaining nine months of its existence, the Task Force will actively monitor progress, exchange information, and facilitate coordinated Federal, State and local government and private sector efforts consistent with the plan as approved by the President and the Secretary. The Task Force will also periodically report to the President and Secretary on progress being made, impediments to implementation that have been encountered, and recommendations for additional actions by the Federal government or others.

**TASK FORCE
CHAIR AND
MEMBERS**

The President designated Garry Mauro, Texas Land Commissioner, as Chair of the Task Force. The Vice-Chair is Susan F. Tierney, Assistant Secretary for Policy, Planning and Program Evaluation, U.S. Department of Energy. The Task Force is comprised of thirty-five leaders from the public and private sectors. Members represent the full range of interests involved in the production of AFVs, the supply of alternative fuels, the purchase and management of fleet vehicles, and the development of Federal, State and local governmental policies affecting the introduction of alternative transportation fuels.

Federal government members represent the key agencies responsible for the development of environmental, energy and transportation policies, as well as those responsible for the purchase and use of Federal vehicles. Federal members are assisting in the development of a plan, consistent with existing law and the Executive Order, to coordinate Federal purchases of AFVs and related energy and environmental policies with

parallel actions by State and local governments and private industry. The State and local governmental officials selected to participate on the Task Force represent a wide range of regional, environmental, energy, and other perspectives.

Similarly, the representatives of the private sector chosen to participate on the Task Force reflect the full range of interests in alternative transportation fuels, including vehicle manufacturing and conversion; the production and distribution of natural gas, methanol, ethanol, propane and electricity; fleet operation; and environmental protection. A complete list of Task Force members and their respective affiliations or interests is attached as Appendix C.

STRATEGY

Members of the Task Force were asked to present the views of the industries, regions or policy perspectives with which they are most closely aligned. They have also been asked to return to their own institutional settings to obtain the support needed to implement the plan immediately.

By bringing together a broad range of public and private sector leaders ready to support the accelerated introduction of AFVs, the Task Force has been able to identify mechanisms for cooperative actions that will significantly magnify the independent actions of each of the participants and entities involved. Bringing all critical actors together has allowed the major issues surrounding the commercialization and expanded use of AFVs to be clearly defined. Identification of problems and ways to resolve them will allow market forces to act effectively, unimpeded by regulatory and technical barriers.

WORKING GROUP MISSION STATEMENTS

To develop within 90 days a workable plan, and to assist in the plan's ultimate implementation, the Task Force created four Working Groups. These Working Groups included public and private sector members and concentrated on specific areas including Federal, State, and local programs and regulations, refueling infrastructure and technology, vehicle production and conversion, and program economics.

Co-chairs, picked from the Task Force membership, were asked to direct each group. They were joined by other members of the Task Force who are knowledgeable regarding the issues to be considered by each Working Group and 30 to 40 additional subject matter experts. The discussions of the Working Groups provided many of the substantive, practical recommendations for this report. A complete list of Working Group participants and their respective affiliations or interests is included in this report as Appendix D. The reports of the four Working Groups are included as Appendices E, F, G, and H.

The primary mission of the Working Groups was to provide technical expertise to the entire Task Force in its effort to develop and recommend a coordinated public and private sector plan for accelerating the commercialization and market acceptance of AFVs nationwide. The individual mission statements, as adopted by the Working Groups, follow.

Federal, State and Local Programs and Regulations Working Group:

"The primary mission of the Federal, State and Local Programs and Regulations Working Group is to assist in identifying specific geographical areas for plan implementation based on the existence of State/local alternative fuel programs, the availability of refueling infrastructure, the concentration of Federal fleet vehicles, and the air quality status of the area. This group will focus on the coordination of governmental programs at all levels relating to AFVs. This Working Group will also identify aggressive and successful State programs and evaluate this information in an effort to replicate the successes of these States in other States with less active alternative fuels programs. An additional goal of this Working Group is to aggregate vehicle demand and promote consistency in implementation on Federal, State and local levels."

Refueling Infrastructure and Technology Working Group:

"The primary mission of the Refueling Infrastructure and Technology Working Group is to identify economic, regulatory, and technical barriers; identify existing, planned, and future refueling infrastructure; make recommendations regarding necessary refueling infrastructure investment; and assess and make recommendations regarding issues of standardization in the refueling industry."

Program Economics Working Group:

"The primary mission of the Program Economics Working Group is to bring together expert economic analysts and other technical experts to provide the economic rationale from both macro- and micro-economic perspectives necessary for immediate and consistent implementation of the Federal fleet conversion program. The Working Group can herald the economic potential of alternative fuels and warn of the potential costs of pursuing uneconomic approaches."

Vehicle Production and Conversion Working Group:

"The primary mission of the Vehicle Production and Conversion Working Group is to determine the immediate and long-term availability of original equipment manufactured (OEM) AFVs and vehicle conversions and to develop strategies for short term vehicle production and distribution. The Working Group will also identify barriers to alternative fueled vehicle production and solutions for removing those barriers."

**TASK FORCE
AND WORKING
GROUP MEETING
SCHEDULE**

The first meeting of the Task Force was held June 7 and 8, 1993, in Austin, Texas, in conjunction with the Texas General Land Office Alternative Vehicle Fuels Market Fair and Symposium. The agenda of the first meeting included presentations describing key provisions of the

Executive Order, the Clean Air Act (CAA), and the Energy Policy Act (EPACT), as well as other recent Federal legislative and regulatory actions affecting AFVs. Presentations on the status of State and local efforts to encourage the introduction of alternative fuels, especially in the context of State Implementation Plans (SIPs) required under the CAA, were also heard.

The second meeting of the Task Force was held in Washington, D.C., on July 19 and 20, 1993. The primary objective of this meeting was to complete the initial recommendations to the President and the Secretary of Energy for the coordinated implementation of the Executive Order with other Federal, State, local, and private actions. Proposals for obtaining the commitments necessary to ensure successful implementation of the recommended plan were discussed. Another topic was a Task Force plan to actively monitor and facilitate coordination of the implementation efforts, prepare additional reports to the President and Secretary on the implementation efforts and recommend changes where appropriate.

The first two Working Group meetings were held in Los Angeles, California, on June 21 and 22, 1993. The Working Groups focused, separately, on "Refueling Infrastructure and Technology" and "Federal, State and Local Programs and Regulations." The other two Working Groups met in Detroit, Michigan on July 12 and 13, 1993. These Groups focused, separately, on "Vehicle Production and Conversion" and "Program Economics."

Each meeting of the Task Force and Working Groups was open to the public and the press, and public testimony was solicited. The meetings were recorded on tape or by a stenographer, and transcriptions have been prepared.

**FUEL
NEUTRALITY**

Consistent with the provisions of the Energy Policy Act of 1992, the Task Force has adopted a policy of fuel neutrality among the available alternatives to petroleum-based transportation fuels. Proponents of methanol, ethanol, propane, electricity and natural gas options have been included both as Task Force and Working Group participants. Perspectives of all alternative fuel interests have been given full hearing, and the recommendations in this report are neutral with respect to specific fuels, to the greatest extent consistent with other policy objectives.

However, while embracing fuel neutrality as a matter of policy, the Task Force recognizes that, when switching to alternative fueled vehicles, fleet operators, vehicle manufacturers and fuel suppliers must opt for a specific fuel to be used in specific vehicles. The Task Force does not equate neutrality with passivity, believing instead that active efforts must be made to ensure that all alternative fuels are given full opportunity to compete in the marketplace to demonstrate both their environmental and economic viability.

NATIONAL POLICY OBJECTIVES

The increased use of motor vehicles powered by fuels other than gasoline or diesel can significantly reduce United States dependence on foreign oil, increase energy security by diversifying the transportation fuel supply, aid in revitalizing the domestic energy industry, stimulate the domestic economy, create American jobs and greatly improve environmental quality, particularly air quality in urban areas. Concentrated introduction of "certified low-emitting" AFVs into centrally fueled urban fleets and development of widely available refueling stations for personal and fleet vehicles are critical to realizing the benefits of AFV use.

The term "certified low-emitting" vehicles, as used in this report, refers to the entire range of AFVs that have been certified by appropriate governmental agencies to reduce emissions when compared to gasoline or diesel vehicles. Certified low-emitting vehicles are further classified by their specific level of emissions. An example of a low-emitting vehicle is a vehicle which has been tested and certified to meet Transitional Low-Emission Vehicle (TLEV) or lower emissions standards prescribed either by the Federal Clean Air Act, the Environmental Protection Agency (EPA) or the California Air Resources Board.

Introducing those vehicles by beginning with governmental and commercial fleets can maximize air quality benefits while cost-effectively utilizing an infant alternative refueling infrastructure. Conversion of the Federal fleet to alternative fuels should serve as a significant stimulus for widespread conversion of State and local government, and private sector fleets. Combining Federal, State and local government and private fleet purchase orders can encourage mass production of certain vehicle models, thus creating economies of scale which, in turn, will lower vehicle costs. Leveraging the buying power of the Federal government can provide meaningful market impetus to the development and manufacture of AFVs and expansion of the refueling infrastructure necessary to support large numbers of privately owned AFVs.

ENVIRONMENTAL ECONOMICS

Even the most ardent free-market advocates understand the market's limitations as sole arbiter in deciding the quality of the air we breathe or the water we drink. As economists are quick to point out, the purity of air and water is of general benefit to society. The impact of many economic activities on such "public goods" is often not properly taken into account, a situation which economists refer to as the failure to internalize environmental externalities. If such public goods are abused, their degraded quality is felt not just by those who overuse them, but also by everyone else. Unpolluted air and water come at a cost. In the absence of a marketplace where environmental costs are adequately accounted for in pricing decisions, a proper role of government is to help identify and in some cases allocate cost burdens, resources and rights, so that the economy and environment can beneficially coexist.

To work with market forces, rather than counter to them, and to reflect realistically the limitations imposed by the Federal budget, alternative fuel plans for the Federal fleet must result from a strategic alliance of government, environmental interests, fuel providers and vehicle manufacturers. This alliance must reflect common business sense, allowing government and industry to meet environmental goals in the most cost-effective manner possible by investing in products and technologies that also satisfy energy efficiency and operational objectives.

Those businesses which view meeting strong environmental standards as an opportunity and rapidly make the transition to cleaner energy sources will be at a competitive advantage over those who postpone the inevitable. Policy makers in industry and government should recognize that clean air, land, and water make both good governmental policy and good business sense.

ENERGY AND ECONOMIC SECURITY

Department of Energy (DOE) projections show oil consumption in the United States growing from about 17.4 million barrels per day today to 20.7 million barrels per day in 2005. Currently, over 50 percent comes from imports, with that percentage projected to rise as domestic production continues to decline. For each reduction in oil demand of 100,000 barrels/day in the year 2000, DOE estimates the annual oil

import bill would fall by nearly \$1 billion. In addition, various estimates indicate that each 100,000 barrel per day shift from imports to domestic fuels would translate into between 15,000 and 25,000 American jobs.

Use of domestic transportation fuels should be a major component of economic revitalization and energy security strategy for at least three reasons:

First, if developed, marketed and used properly, domestic alternatives to gasoline and diesel can be an important asset to our national energy security, while creating American jobs. A significant increase in the use of alternative fuels would enhance energy security by diversifying the supply of transportation fuels. National energy policy must seek to revive our domestic energy industry while simultaneously looking to other North American suppliers like Mexico and Canada.

Second, by using domestic transportation fuels innovatively, we can make some of our most plentiful and accessible natural resources a potent counterweight to our huge trade deficit, over half of which is attributable to imported oil.

Abundant reserves of natural gas and natural gas liquids (which can be used directly as vehicular fuel, converted into liquid methanol, or used to derive propane or produce electricity) and vast supplies of grain and other biomass (sources of ethanol and methanol) can help free the United States from dependence on foreign oil and reduce the U.S. trade imbalance. Alternative fuels must play a substantial role in planning for America's future. However, without government stimulation of the marketplace, it is unlikely that AFVs will be introduced in sufficient numbers to have any impact on United States energy security for at least two decades.

Third, Americans are increasingly concerned about the destruction of our environment. Already, 100 million Americans breathe polluted air that threatens their health. Cars, trucks and buses operating in American cities contribute up to 50 percent of urban air pollution.

While there has been substantial progress in improving environmental performance of new cars and trucks, the number of vehicle miles traveled has almost doubled in the last twenty years. This tremendous increase in miles traveled, combined with the high projected cost of additional

improvements in environmental performance of new vehicles, makes the use of alternative fuels a highly attractive option for further reductions in air pollution. Because of their clean-burning properties compared to gasoline and diesel fuel, use of alternative fuels such as ethanol, methanol, propane, compressed natural gas (CNG), liquefied natural gas (LNG), and hydrogen, along with electric powered vehicles, can significantly improve urban air quality.

MARKET OPPORTUNITY AND STRATEGY

The market for both Original Equipment Manufactured (OEM) and retrofitted alternative fueled vehicles, that have been validated, certified, and warranted to meet all relevant safety, durability, performance, driveability and emissions standards, is developing as a result of Federal, State and local laws and initiatives that seek to decrease dependence on foreign oil and improve air quality. The expanded use of such AFVs, that significantly exceed current emissions standards for gasoline vehicles, can provide a cost-effective means to achieve significant mobile source emissions reductions.

In the United States, there are approximately 14 million fleet vehicles, located primarily in the urban areas that have the greatest air pollution problems. Targeting this market provides a tremendous potential for introduction of AFVs. On average, commercial fleet vehicles travel over twice as many miles per year as passenger vehicles (23,000 miles per year compared to 10,700 miles). Thus, to improve air quality, using lower emitting vehicles to replace those traveling the most miles will maximize overall air pollutant reductions.

Introducing AFVs in the fleet vehicle market will also stimulate their increased use in the general passenger vehicle market by helping to coordinate refueling infrastructure development with vehicle placement. Targeting vehicles that travel regular routes or within limited geographic areas makes initial development of an alternative refueling infrastructure more economically viable during the early stages of vehicle introduction. In addition, higher mileage vehicles obviously use higher fuel volumes. This maximizes any fuel cost savings between alternative fuel and

gasoline use, which can help to offset the higher initial cost of some AFVs compared to gasoline vehicles. That incremental cost is currently estimated to range from zero up to approximately \$7,000 per vehicle, depending on vehicle type, fuel type, and desired range.

**CLEAN AIR ACT
AND THE SIP
PROCESS**

The Federal Clean Air Act (CAA) requires States and localities that do not meet Federal health-based air quality standards ("nonattainment areas") to develop State Implementation Plans (SIPs) to demonstrate the methods by which these areas plan to achieve compliance.

SIPs commit States to a broad range of specific air pollution control programs and estimate the emissions reduction benefits of each program. The CAA also requires SIPs to demonstrate "reasonable further progress" toward attainment. The first key compliance date in the SIP process is 1996, when Moderate, Serious, Severe, and Extreme ozone nonattainment areas (NAAs) must achieve a 15 percent reduction in volatile organic compound (VOC) emissions. SIP plans demonstrating how such areas plan to achieve this goal are due in November 1993. Beginning in 1996, Serious, Severe and Extreme areas must show an additional 3 percent reduction every year until they reach their stated goals. Plans demonstrating that a State's programs will result in attainment of specified air quality are to be submitted to the EPA in November 1994. Such requirements constitute a great challenge to States, with many States considering very restrictive regulations to get every possible percent of reduction.

Failure to develop and implement an effective SIP could result in sanctions such as withholding Federal funding for highway construction and/or stringent pollution offset requirements for new industries seeking to locate in an area. Such offset requirements can mandate elimination of pollution from existing sources, at up to a two-to-one ratio, prior to approval of new emitters.

**AFVS AND
STATE
IMPLEMENTA-
TION PLANS**

Use of AFVs is one of the control strategies available to States for use in developing their SIPs. Different clean vehicle programs (e.g., the California Low-Emission Vehicle Program or fleet use of AFVs) offer different levels of credit toward meeting SIP goals at different costs. EPA has responsibility for determining air quality credits and assigning specific emissions reduction values to be used in EPA air quality computer models for such programs.

EPA has also established a separate set of Federal vehicle standards that emphasize the very clean emissions potential of AFVs. These Inherently Low-Emission Vehicle (ILEV) standards require that vehicles meet stringent tailpipe emission standards and also have essentially no evaporative emissions throughout the useful life of the vehicle. These requirements should be achievable by dedicated AFVs, including those operating on neat alcohol fuels (M100 and E100), gaseous fuels (CNG, LNG, propane, and hydrogen), and electricity. Unlike the Federal standards which cover vehicles only in areas participating in the CAA Clean Fuel Fleet Program [e.g., Low-Emission Vehicle (LEV) standards], the ILEV standards would apply anywhere in the nation that elects to count on ILEV credits as a control strategy for SIP compliance.

Although dedicated AFVs achieve greater emissions reductions, it is recognized that in the near term, dual-fueled and flexible-fueled vehicles (FFVs) have a role to play in promoting the rapid development of alternative fuel infrastructure, improving air quality, and increasing energy independence.

Both dual-fueled vehicles and FFVs provide a crucial technology bridge, while the refueling infrastructure is developed with sufficient geographic distribution to sustain widespread dedicated vehicle use. FFVs and dual-fueled vehicles can help to provide the basis for refueling infrastructure investment necessary to build consumer confidence for purchase of dedicated vehicles.

**INTERMODAL
SURFACE
TRANSPORTATION
EFFICIENCY
ACT FUNDING**

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) authorized \$6 billion over the 1992-97 period to fund the Congestion Mitigation and Air Quality Improvement program (CMAQ). This program annually apportions \$1 billion to States with the stipulation that the money be spent in NAAs, including areas affected by ozone, carbon monoxide, and particulate matter (PM 10).

Department of Transportation policy allows CMAQ funding for converting publicly owned fleets (local, State, or Federal) if: either conversion is needed to meet CAA mandates for regions in Serious or higher nonattainment status (i.e., those implementing the Clean Air Act Clean Fuel Fleet Program); or fleet conversion is specifically identified as a SIP control strategy. CMAQ funding is also available for publicly owned (or leased) fueling facilities unless private fueling stations are reasonably accessible and convenient, in which case CMAQ funds may not be used since to do otherwise would interfere with private enterprise and needlessly use transportation/air quality funds to duplicate services already provided in the area.

Although some regional air quality officials are developing plans to include fleet AFV acquisitions or conversions and are aware that CMAQ funds are available, most of the CMAQ funds to date have been committed to traditional transportation projects or transportation control measures (TCM), such as high occupancy vehicles lanes (HOVs). Other items (such as ride sharing and inspection and maintenance facilities for the public) eligible to be funded are listed in the CAA. As a general rule, to qualify for CMAQ funds, programs must have demonstrable air quality benefits and reduce traffic congestion.

The CMAQ funding formula is specified by statute and is weighted by population and the severity of ozone pollution in particular NAAs. Every State is guaranteed a minimum of one-half of one percent of the total allotment. Unspent money can be carried forward for three years. Therefore, funding available through this program will not actually expire until 2000.

**GREENHOUSE
GAS AND
GLOBAL
CLIMATE
CHANGE
IMPLICATIONS**

The Task Force recognizes that some alternative fuels can significantly reduce greenhouse gas emissions because they contain less carbon than gasoline or diesel and thus emit less carbon when burned. Some alternative fuels can also produce higher engine efficiency than gasoline.

The EPA is preparing preliminary estimates of the greenhouse gas reductions that can be achieved through alternative energy use. These estimates are scheduled to be released in September, 1993.

Greenhouse gas emissions can also be reduced through energy efficiency improvements. Lower energy use, as a result of improved aerodynamic vehicle design, for example, can reduce emissions throughout the fuel and vehicle life cycle. Full life-cycle emissions analysis, including both fuel and vehicle, is particularly important in examining the potential benefits of alternative fuels.

The Task Force recognizes that Federal efforts are underway to analyze the role of AFVs in reducing greenhouse gas emissions. The President, on the same day that he established this Task Force, also established an interagency task force to identify means by which the nation can meet his commitment to reduce U.S. greenhouse gas emissions to their 1990 levels by the year 2000. That global climate mitigation group is scheduled to present recommendations to the President in the near future.

TASK FORCE RECOMMENDATIONS

MAJOR TASK FORCE RECOMMENDATIONS

The 90-day interim implementation plan recommendations of the Task Force focus on four major items:

- Establishment of a Presidential Clean Cities Initiative to serve as the impetus for a locally-based, grassroots process to develop specific plans for concentrated AFV purchase or conversion in designated geographic areas;
- Prioritization of geographic areas for concentration of funding for Federal fleet AFV purchases and placement in each of Fiscal Years 1994, 1995, and 1996;
- Determination of the continuing mission of the Task Force for the remaining nine months prior to the expiration of its mandate; and
- Continued identification of existing barriers to broad scale introduction of AFVs and means of overcoming those barriers.

PRESIDENTIAL CLEAN CITIES INITIATIVE

To achieve the broadest implementation of the goals of the Executive Order, the Task Force strongly recommends the establishment of a Presidential Clean Cities Initiative.

Even if the entire Federal vehicle fleet were converted to alternative fuel use, that number of AFVs would not be sufficient to accomplish fully the broad air quality, energy security, and economic stimulation objectives that motivated both the Energy Policy Act and Executive Order 12844. This fact, along with the fact that EPACT and Executive Order 12844 clearly do not envision that all Federal fleet vehicles would be converted to alternative fuels, means that these goals can be achieved only through greatly expanded use of AFVs by State and local governments, private fleet operators, and ultimately, private individuals. Such expanded use must initially be sufficiently concentrated to achieve the critical mass necessary to support a commercial alternative fuel refueling and service infrastructure. Thus, the primary goal of Federal fleet conversion is to

serve as a catalyst for broad acceptance of AFVs and for development of the technology and infrastructure necessary to actually place vehicles on the road.

The Task Force therefore recommends developing a locally-based, grassroots process to stimulate demand for, and to integrate AFVs into, public and private fleets in targeted geographic areas. Decisions regarding specific fuel use by specific fleets to achieve specific air quality and economic goals can be made most effectively at the local level by fleet users, fuel providers, air quality and energy regulators, and other directly affected parties, using criteria that emphasize local economic development and air quality improvement. No alternative fuel should be excluded from consideration for the programs, benefits, or incentives offered under the Initiative.

It is essential to use a locally-based decision making process, linking government with business, to leverage available public and private resources in order to maximize alternative fuel use and demand for AFVs. However, raising the program's status to a Presidential Initiative would lend Presidential prestige and ensure appropriate high-level supervision and dispute resolution (particularly among Federal agencies), as well as encourage public acceptance and participation by cities and regions. It would also provide a visible and continuing reminder of the President's commitment to reducing gasoline and diesel use and to improving air quality.

The principal focus of the Initiative would be to strengthen and expand efforts at all levels of government, and, with private vehicle owners or operators, manufacturers, and fuel providers, to move the national transportation system to broad use of AFVs. The Task Force has found that among the greatest impediments to large scale adoption of AFVs are lack of uniform standards, uncoordinated regulatory and incentive programs, and lack of understanding by the general public that AFVs are practical realities, not distant visions.

This Initiative, which would be implemented primarily through the DOE regional offices and in conjunction with the DOE Clean Cities program, would provide the framework for a local, consensus building process to coordinate elements of the CAA SIP process, ISTEA implementation, and public information/education campaign to convince the general public of the merits of alternative fuel use. The Presidential Clean Cities Initiative

would bring a clear national focus, coupled with aggressive local action, to the clean fuels effort.

The Initiative should include the following components:

- Recognition, through Presidential citation and preference for fleet conversion federal funding, of those cities, metropolitan areas, and other defined geographic areas (such as transportation corridors) that are willing to commit to a locally-directed implementation plan with specific alternative fuel fleet acquisition or conversion and infrastructure development goals established to meet local needs and situations.
- Concentration of initial program emphasis on those cities and locales where the accelerated introduction of AFVs will have the greatest impact on meeting air quality, vehicle demand, infrastructure development, and other goals. The Task Force has prioritized such localities into recommended Tiers, with Tier I areas to receive immediate attention and funding in Fiscal Year 1994.
- Direct and significant involvement of state air quality administrators and integration of alternative fuel objectives into SIP plans.
- Close coordination of AFV programs through existing institutions, such as DOE regional support offices, EPA regional offices, and General Services Administration (GSA) regional offices.
- Provision of Federal technical and human resource support to assist Tier II and Tier III areas in preparing plans for placement of Federal AFVs in Fiscal Years 1995 and 1996, and for achieving other program goals.
- Encouragement for State, local, and private fleets to exceed voluntarily the vehicle acquisition mandates of the CAA and EPACT, along with provision of financial and regulatory incentives to encourage elective action by government entities and private fleets.
- Implementation of an effective public information/education campaign to build public support locally and nationally for the Presidential Initiative and to strengthen and raise the visibility of

existing and planned Congressionally-mandated Federal public education programs.

**PUBLIC
INFORMATION/
EDUCATION
CAMPAIGN**

The objective of an expanded public information and education campaign is to provide credible, fair, fuel-neutral, and reliable information about both the benefits of and barriers to the use of AFVs. The campaign would assist in carrying out more fully the public information activities mandated by Congress under EPACT (P.L. 102-486, §405). Federal agencies involved in information and education could enlist the services of professional marketing and advertising firms to enhance the effectiveness of their efforts. The coordinated campaign should address issues such as the costs and burdens associated with air pollution; contribution of transportation sources to the problem; advantages of alternative fuel use in alleviating mobile source air pollution; energy security benefits from displacement of imported oil and petroleum products by alternative fuels; cost, convenience, and safety issues regarding alternative fuel use; and existing vehicle technology and fuel limitations.

The public information and education campaign should utilize the full range of media and should seek to provide the highest quality information available on the use of alternative fuels, in a manner most likely to mobilize public support. Such a campaign could provide great assistance to the elected officials and fleet operators who would establish local programs under the Initiative and help to ensure a coordinated and accurate national message. The availability of this kind of high quality product should also serve as an additional incentive to encourage locality participation in the Initiative.

**PRIORITIZATION
OF GEOGRAPHIC
AREAS**

The Task Force recommends that Federal agencies responsible for funding AFV purchases place the highest priority on targeting funds for Federal vehicle purchases to communities that are ready to leverage the funds, have air quality problems they are trying to remedy, and have infrastructure development underway.

Specifically, the Task Force recommends that DOE, in spending EPACT-

related funds appropriated to pay for incremental costs of AFVs purchased by the Federal government, spend those funds in the next few years in the targeted communities. Listed below are 38 geographic areas prioritized into three tiers for concentrating Federal fleet vehicle purchases and placement. In Fiscal Year 1994, funds and vehicles would be targeted to Tier I communities; in Fiscal Year 1995, Tier II communities would be added; and in Fiscal Year 1996, Tier III communities would be added.

The Task Force used the following five criteria to identify communities for prioritization:

1. severity and nature of air quality problems (including relative contribution of mobile sources to such problems);
2. concentration of Federal and other fleet vehicles;
3. existence or near-term planned development of alternative fuel refueling infrastructure;
4. existence of aggressive State and local air quality or energy programs mandating or encouraging the increased use of AFVs; and
5. geographic balance of communities within each Tier as well as promotion of alternative fuel development within specific travel corridors.

In analyzing the communities most appropriate for funding, the Task Force evaluated communities based on the first four criteria, and used that information along with the fifth criteria to assign them to Tier I, Tier II, or Tier III.

Communities that ranked the highest according to at least three of the first four criteria and had at least a medium rank on a fourth criterion were assigned Tier I status, except where that assignment led to undue geographic imbalance. When too many communities within a particular region or State would have been assigned to that Tier, some of the communities were assigned to Tier II. Also, geographic distribution for transportation corridor anchors was sought to ensure national availability of alternative fuels.

Communities ranking high on at least two criteria or medium on at least three of the first four criteria were assigned to Tier II, except where undue geographic imbalance resulted. Finally, communities with medium rankings on at least two criteria were assigned Tier III status.

Although this analysis was primarily based on objective data, the final assignment of communities to Tier I, Tier II, and Tier III relied on the judgment of the Task Force. The criteria used in determining geographic prioritization are designed to focus action in cities where such efforts can make the greatest impact, both economically and environmentally, in the shortest time.

In addition to placing AFVs in priority cities, the Initiative should allow DOE and other Federal agencies some discretion to provide limited AFV funding and staff support to other localities (including Department of Defense facilities, national parks, and rural areas) that demonstrate a particular commitment to or suitability for alternative fuels and vehicles. These additional locations should be evaluated based on a number of considerations that include community interest, available infrastructures, fleet suitability, and potential public visibility.

**RECOMMENDED
TIERS**

The Task Force unanimously adopted the following placement of cities/regions in the following Tiers:

Tier I - Fiscal Year 1994

Atlanta NAA	New York-Northern New Jersey- Long Island NAA
Boston-Lawrence-Worcester NAA	Philadelphia-Wilmington-Trenton
Chicago-Gary-Lake County NAA	Phoenix
Dallas-Fort Worth NAA	San Francisco-Bay NAA/Sacramento
Denver	Seattle-Tacoma NAA
Los Angeles/South Coast Air Basin	Washington, D.C. NAA
Miami- Ft. Lauderdale- West Palm Beach	

Tier II - Fiscal Year 1995

Bakersfield/San Joaquin Valley NAA	Las Vegas
Baltimore NAA	Milwaukee-Racine NAA
Baton Rouge NAA	Minneapolis-St. Paul
Detroit-Ann Arbor NAA	Norfolk-Virginia Beach-Newport
El Paso NAA	San Diego NAA
Houston-Galveston-Brazoria NAA	St. Louis NAA
Knoxville NAA	

Tier III - Fiscal Year 1996

Albuquerque	New Orleans
Charleston, SC	Pittsburgh-Beaver Valley NAA
Colorado Springs	Providence, RI NAA (includes all of Rhode Island)
Greater Connecticut NAA	Salt Lake City-Ogden NAA
Honolulu	Springfield (W. Mass) NAA
Louisville NAA	Tampa-St. Petersburg- Clearwater

**FUTURE ROLE OF
TASK FORCE**

Over the remaining nine months of its existence (August 1993 - April 1994), the Task Force will actively monitor and, where appropriate, assist in implementing the Presidential Initiative. Its role will be to exchange information about and facilitate efforts to remove regulatory, economic and technical barriers to the widespread introduction of AFVs and the development of the requisite refueling and service infrastructure.

Because Task Force members represent the major institutional participants in the efforts that lie ahead, the Task Force will play a critical role in assisting development of grassroots coalitions in different regions of the country in order to:

- Encourage Federal agencies to aggressively purchase and target the placement of large numbers of certified low-emitting vehicles in priority locations;
- Provide guidance for regional AFV implementation plans;
- Coordinate with OEMs for the sale of AFVs;
- Stimulate refueling infrastructure development;
- Coordinate communication between Presidential Clean Cities;
- Consolidate and disseminate data;
- Identify additional Federal, State, and local regulatory barriers to the greater use of alternative fuels;
- Devise/implement solutions to the barriers identified; and
- Serve as ombudsman/facilitator between affected parties.

**ADDITIONAL
RESEARCH AND
INVESTIGATION**

The Task Force recommends the following additional actions:

- Development of a comprehensive guide to all significant Federal, State, and local laws, regulations, and administrative policies that affect alternative fuels - either positively or negatively;
 - Continued assessment and quantification of the effects of fleet conversion on air quality;
 - Identification of government and private fleet locations, characteristics, and populations;
 - Evaluation of liability issues regarding retrofitted vehicles that fail in-use emissions testing and are recalled;
 - Full assessment of the benefits of AFVs in reducing oil imports and the economic impacts on various oil import reduction strategies; and
 - Identification of the economic and environmental benefits of various types of AFVs.
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BARRIERS AND SOLUTIONS

Interest in shifting from gasoline and diesel fuels and the basic technology to do so have existed for many years; however, a wide array of barriers have impeded significant use of AFVs. This situation has been compounded by the public perception that AFVs will be available only in the relatively distant future, along with questions regarding safety, reliability, and costs.

In order to develop effective strategies for implementation of both the short- and long-term goals established by the Executive Order, the Task Force and Working Groups undertook to identify existing barriers to the broad introduction of AFVs. Then, drawing on the significant expertise available, the Task Force and Working Groups further undertook to identify means of overcoming those barriers.

The Task Force has concluded that, despite the attractiveness of alternative fuels and their ability to make cost-effective contributions to environmental, energy security, balance of payment, and job creation objectives, existing regulatory, legislative, economic, and technical barriers significantly impair their current market viability. The Task Force believes that an aggressive applied research effort concentrated on alternative fuels and vehicles can quickly make technological improvements that will promote the rapid introduction of AFVs into governmental and commercial fleets, followed by penetration of such vehicles into the individual passenger vehicle market.

One of the greatest obstacles identified by the Task Force is the lack of widespread alternative refueling infrastructure, which creates a disincentive to purchasing and operating AFVs even when their total life-cycle costs compare favorably with conventional vehicles. Conversely, due to the lack of strong demand for AFVs, prompted partially by refueling infrastructure inadequacies, automobile companies have been unable to sell large volumes of AFVs, resulting in relatively high unit costs.

The Task Force recommends that an aggressive, coordinated effort be undertaken to resolve the infrastructure/vehicle availability conundrum. It further urges that the Federal government, together with State and local governments, take the leadership role in aggregating the demand for several models of certified low-emitting AFVs and in making a

commitment to purchase large numbers of such vehicles. Efforts to remove existing barriers must be undertaken promptly, supplemented by development of incentives for increased AFV use. To lead in these efforts, Federal funding should be concentrated on the acquisition of fully warranted and certified low-emitting vehicles. The Federal efforts described in this report should be continued until AFVs have made meaningful penetration into the transportation sector. While supporting preferences for alternative fuels, the Task Force recommends that fuel neutrality be maintained among all alternative fuels, consistent with the environmental, energy security, and economic benefits offered by each.

REGULATORY AND LEGISLATIVE

Universal use of the automobile as a means of transportation in the United States has focused attention on environmental, energy, and safety issues that have led to extensive statutory and regulatory controls. For example, Congress has passed detailed legislation designed to restrict polluting automotive emissions. These highly complex enactments are frequently inconsistent or even conflicting. Further complications are added by explicit, restrictive legislation and regulations governing the acquisition of vehicles by Federal, State, and local governments, and by widely varying State and local safety codes affecting the design and location of refueling facilities.

Three broad types of regulatory and legislative actions were identified by the Task Force as necessary to remove significant barriers to the large scale utilization of AFVs. These actions should result in consistent air quality incentives, increased vehicle acquisitions, and adequate funding. In addition, the Task Force believes that legislative action is needed to standardize regulations concerning vehicle and refueling equipment and facilities and to reform tax policy. Federal and State excise taxes often discourage, rather than encourage, the use of alternative fuels since different alternative fuels receive different tax treatment. (Standardization is discussed in detail in the "Technical" section of this report; tax policy reform in the "Economic" section.) All of these affect both vehicle production and acquisition, as well as the development of adequate refueling infrastructures.

Consistent Air Quality Incentives

A chief concern of the Task Force is the need for coherent, consistent regulations for the implementation of major legislation, such as CAA, ISTEA, and EPACT. Because Federal clean air requirements play such a large role in shaping the vehicle and fuel industries, administrative actions to reconcile regulatory inconsistencies and to implement authorized programs should be taken at the earliest possible date in order to remove regulatory uncertainty.

While completion of pending administrative rulemakings will help clarify the interrelationship of these acts and how they will be applied, further steps to reconcile legislative inconsistencies should also be undertaken. The Task Force recommends that:

- EPA should promptly provide clear procedures and criteria for SIP credits to be made available for AFV production and use. These should include credits to original equipment vehicle manufacturers (OEMs), including small volume manufacturers (SVM), and to qualified vehicle converters (QVC), as well as credits for the construction of alternative fueling infrastructure. Credits should be based on the air quality benefits associated with the use of specific alternative fuels and vehicles, including Transitional Low-Emission Vehicles (TLEV), Low-Emission Vehicles (LEV), Ultra Low-Emission Vehicles (ULEV), Inherently Low-Emission Vehicles (ILEV), and Zero-Emission Vehicles (ZEV).
- EPA should complete adoption of regulations and policies providing guidance for credit trading between mobile and stationary sources in order to allow mobile source emissions reduction credits to be used by stationary sources to satisfy their Reasonably Available Control Technology (RACT) and offset obligations, subject to reasonable trading ratios.
- DOE and the Department of Transportation (DOT) should promptly develop explicit policies with respect to the eligibility of AFVs for meeting the requirements of EPACT and ISTEA, with particular emphasis on providing ready access to funding under those programs.

- Incentives within Federal, State, and local regulatory structures which encourage market acceptance of AFVs should be developed. Such incentives should seek to provide a level playing field for different fuels and vehicles and must remain in place for a sufficient period of time to be effective, equitable, substantial, and reasonably accessible. Those incentives currently available were seen to be either unclear in application or insufficient to promote widespread AFV use.
- Existing HOV lane exemptions or credits should be expanded either to exempt from all TCMS or to provide credits for the use of AFVs meeting ILEV/ZEV standards.
- EPA should consider exempting ZEVs from emissions inspection and maintenance program requirements.

Increased Vehicle Acquisitions

Current Federal law and policies have the effect of discouraging the purchase of AFVs. Moreover, current law and policy inhibit the aggregation of demand for AFVs by prohibiting or discouraging cooperative purchasing by Federal, State, and local governments. Other acquisition barriers, such as incremental vehicle costs, were also considered.

The Task Force conducted extensive discussions, particularly during its July 19 and 20 meeting, about the merits of requiring Federal government agencies to purchase specified percentages of certified low-emitting alternative fueled vehicles. There was broad agreement that securing the greatest possible reductions in various pollutants emitted by vehicles, e.g., NO_x, VOCs and CO, was an important goal, and one to which the introduction of alternative fuels into vehicle fleets can make a unique contribution. There was also recognition that government fleets ought to function as leaders in the alternative fuels arena, generating demand for the best performing and least polluting vehicles.

There was disagreement, however, about whether large numbers of ILEVs/ZEVs would be available for purchase by government fleets in the next several years. Many Task Force members felt that, until the availability of those vehicles could be determined and until the Task Force

could collect data on the fuel choices of Federal agency AFV users and of communities slated for AFV purchases, prescribing specific purchase goals for large numbers of ILEVs and ZEVs was premature. Accordingly, the Task Force deferred for 60 days recommending specific goals for the purchase of ILEVs/ZEVs, in order to obtain better information about vehicle availability and AFV consumer demand. The Task Force will make further recommendations for vehicle acquisition goals not later than September 21, 1993.

An additional subject that prompted extensive debate among Task Force members was availability of refueling infrastructure. Some Task Force members believe that, even if substantial numbers of ILEVs and ZEVs are available now or in the very near future, large-scale Federal purchases of such vehicles would not be desirable because of deficiencies in the existing refueling infrastructure. Other Task Force members maintained that, once vehicle purchase commitments are made, the private sector will provide access to sufficient refueling infrastructure. Further information on refueling will also be sought during the next 60 days.

EPA is currently developing estimates of emissions reductions available from the various categories of fleet vehicles which could be procured in response to the fleet provisions of EPACT and CAA and the recommendations of this Task Force, i.e., Clean Air Act Tier I vehicles, TLEVs, LEVs, ULEVs, ILEVs, and ZEVs. The resulting estimates will for the first time account for differences between gasoline and alternative fueled vehicle emissions, and between fleet and non-fleet vehicle operations.

Pending further consideration, however, the Task Force recommends that the following steps be taken with respect to Federal policies affecting vehicle acquisition and refueling facilities:

- Federal fleet managers should take all feasible steps to ensure that acquisitions of AFVs pursuant to Executive Order 12844 meet the following goals for Fiscal Year 1994: Minimum 5 percent ILEV; balance TLEV, LEV, ULEV, ILEV, or ZEV.
- Government refueling facilities should be made accessible to other public and private fleets and the general public, where appropriate, as a transitional measure to privately owned, publicly available refueling facilities.

- Governmental AFV specifications, including alignment of Federal, State, and local specifications for AFVs, should be reviewed to promote standardization and demand aggregation,
- Data should be collected regarding the vehicle and fuel-related preferences of communities listed in Tiers I, II, and III and of the Federal agency AFV users in those communities.

Adequate Funding

Use of the Federal fleet as a catalyst for encouraging widespread adoption of AFVs requires a commitment to provide funds not only for direct Federal fleet acquisitions and refueling infrastructure development, but also to encourage State, local, and private fleet acquisitions and refueling infrastructure development. The Task Force recognizes that federal, State, and local budgets face severe pressures. Nevertheless, the economic and environmental benefits of AFV programs merit strong support.

The Task Force specifically recommends the following:

- Increased funding from current levels for DOE assistance to offset incremental purchase costs of AFVs for Federal fleets.
- Adequate funding of EPACT-authorized assistance programs, including those authorized by Titles III, IV, V, and VI, especially those providing funding for State and local programs.
- Provision of adequate resources for the successful implementation of the Presidential Clean Cities Initiative.
- Enhanced usage of Federal, State, and local grants, zero or low interest loans, and other financing techniques for infrastructure development and vehicle acquisition and conversion.
- Full funding of ISTEA-authorized programs and expanded use of CMAQ funds for programs using alternative fueled vehicles.

- Expanded commercialization of existing alternative fuel and vehicle technologies and effective use of Federal funds in government/industry/education partnerships.
 - Full funding of DOE information services programs, including walk-in and electronic library programs.
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ECONOMIC

The successful introduction of new or alternative technologies in a market economy is necessarily based on the ability of producers of those technologies to earn a profit on their investments. New entrants in long-established and highly competitive industries face many barriers in reaching profitability. This is particularly well illustrated by the automobile industry, where efforts to shift to AFVs encounter the dominance of gasoline and diesel as the fuels of choice in the United States.

Success for alternative fueled vehicles can be achieved through the gain of a relatively small market share of overall vehicle sales. However, a critical mass must be achieved, as low sales volumes will not support mass vehicle production. Also, substantial investment in refueling facilities will not be made without the assurance of significant numbers of vehicles on the road.

Consideration of the true economic impact of traditionally powered vehicles on health and environmental quality has led to a resurgence of interest in other sources of power for the vehicles that have become such an integral part of North American life. Moreover, the maturity and inevitable decline of the United States as an oil producer, resulting in its becoming a net importer of increasingly large amounts of oil, much of which is used for transportation fuel, is also a key factor in the new look toward alternative fuels.

The desirability of using domestically produced alternative fuels leads to the examination of the economic barriers that must be surmounted in order to overcome the position of oil as virtually the only source of transportation fuel in this country. This section of the report examines those barriers and possible solutions to them.

Four specific types of economic actions were identified by the Task Force as necessary to remove significant barriers to the large scale utilization of AFVs. These economic actions include:

- Increasing concentration/production of vehicles;
- Improving resale markets for AFVs;
- Removing financial disincentives and providing adequate incentives; and
- Providing adequate warranty protection.

Increased Concentration/Production of Vehicles

A major barrier to widespread use of AFVs is their normally higher incremental cost. That incremental cost can be reduced by encouraging OEMs to mass produce more AFVs in the long term and by increasing Federal funding for the purchase of government fleet AFVs in the short term. Implementation of the Presidential Clean Cities Initiative must aggregate demand by combining Federal, State, and local government, and private fleet vehicle purchases to facilitate mass production and resulting economies of scale. The Working Groups also identified other ways to increase AFV production and concentration.

The Task Force recommends that:

- Federal acquisitions of AFVs should ultimately be based on life-cycle costs, including fuel costs, vehicle costs, resale values and refueling infrastructure costs.
- Where practical, consideration should be given to varying vehicle replacement cycles to accelerate vehicle purchases in the near term or to maximize life-cycle cost benefits in the long term.
- Federal acquisitions of mid-size or other vehicles that may be larger than the normal fleet vehicles purchased should be allowed if the incremental costs are such that the larger vehicles offer more cost-effective pollution reduction than smaller vehicles.

- GSA policies prohibiting the retrofit of interagency fleet management system vehicles to use alternative fuels should be reviewed.
- Private converters should be allowed to convert Federal vehicles through contracts that require no initial outlay of Federal funds and permit the recovery of conversion costs through refueling charges.
- OEMs should be encouraged to form strategic partnerships with SVMs and QVCs to bring fully warrantied and certified low-emitting vehicles to market at the least possible cost.
- Regulatory agencies should be encouraged to work with automobile manufacturers to provide for simpler, low-cost testing, certification, and compliance procedures for AFVs.
- Ways should continue to be sought to help offset large incremental cost items such as battery replacement and home natural gas compressors.

Because the refueling infrastructure for AFVs is not as widespread (except for residential electricity and natural gas service) as that for gasoline and diesel fuel, solving this part of the problem is crucial. Even when alternative fueled vehicles are available, customers are currently more comfortable with dual-fueled or flexible-fueled vehicles because of backup fuel security. Increasing the quantity and concentration of AFVs will make the construction of refueling stations more cost-effective and therefore more available. The Task Force recommends that the following steps be taken to reduce infrastructure costs:

- Encourage the coordination of public and private infrastructure construction and use; and
- Explore innovative commercial leasing approaches for "cash-short" entities that want to construct refueling facilities.

Improved Resale Market for AFVs

Maximizing both the ability to resell AFVs and their resale value is necessary to expand their use. Once government fleet managers purchase AFVs, they want the assurance of resale value. Private fleet owners, especially those who come under the mandatory provisions of the CAA Clean Fuel Fleet Program, want the same assurance. Many problems are associated with resale, almost all of which can be addressed by making it easier for vehicles to move into non-fleet secondary markets. The Task Force recommends that the following steps be taken to improve the resale market:

- Credits and other incentives for AFV purchase and use should extend, where possible, to the secondary, used vehicle market.
- The Federal government should establish data collection procedures to track and analyze the resale values of Federal fleet AFVs.

Removal of Financial Disincentives and Provision of Adequate Incentives

In many instances providing incentives for private business in a market-driven economy is a far more effective means of reaching a goal than is mandating production of certain products. As discussed above, this is true for regulatory incentives that ultimately can be translated into profits. It is perhaps even more true for direct financial incentives in areas such as taxation. As with regulatory incentives, the Task Force believes that current financial incentives are either unclear in application or insufficient.

Incentives should be provided immediately, in the early years of alternative fuel development, to aid in creating a self-sustaining market. Incentives must be broad based, equitable for all fuels and kept in place long enough for market forces to take hold. The Task Force therefore recommends the following:

- Significantly reduce or eliminate where possible Federal and State excise taxes on all alternative transportation fuels. In

some cases, excise taxes on alternative fuels are higher than the rate on gasoline. Also, some alternative fuels are taxed at much higher rates than others on an energy content basis. This discrepancy should be eliminated as soon as possible and tax parity achieved at the Federal, State, and local levels. Excise tax reduction or elimination on all alternative fuels would be an equitable and effective means of stimulating demand and creating new infrastructure;

- Provide meaningful investment tax or other credits for the conversion of private fleets to alternative fuels and the construction of alternative refueling facilities;
- Provide tax incentives to encourage companies to supply fuel or vehicles, and to incur the significant costs of infrastructure development;
- Encourage development, availability, and maximum flexibility in trading of emissions reduction credits to help offset all or part of the costs of developing and producing AFVs and refueling infrastructures; and
- Allow additional alternative fuel programs that result in significant environmental benefits to qualify for CMAQ funding, even if they do not affect traffic congestion.

Adequate Warranty Protection

OEMs are reluctant to warrant converted vehicles in the absence of a working agreement with a particular conversion company. The Task Force recommends the following measures to secure adequate warranty protection for purchasers of AFVs:

- Appropriate Federal agencies should facilitate discussions and agreements between automobile manufacturers and "after-market" retrofit companies to assure full warranty coverage of conversions.
 - Adequate AFV warranties should be available for the secondary market.
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TECHNICAL

Although use of most alternative fuels is at present technically feasible, there is a substantial gap between technical feasibility and widespread use. Vehicles intended for widespread use must be familiar and "friendly" to users who have become accustomed to a high degree of standardization in vehicles, despite numerous superficial differences among makes and models. Refueling facilities should have similar characteristics in order to be acceptable to users. The alternative vehicle and fuels industries have yet to achieve the requisite levels of standardization and acceptance. The Task Force identified lack of the following as technical barriers:

- Standardization of vehicles, refueling and fuels;
- Training; and
- Information sharing.

Standardization of Vehicles, Refueling and Fuels

The lack of generally accepted standards for AFVs, fuels, and refueling systems was a primary concern in Task Force and Working Group meetings. Lack of standardization increases costs and reduces consumer confidence and acceptance. The Federal government, together with recognized industry groups such as the Society of Automotive Engineers, can advance standardization efforts through recognition and promulgation of standards and specifications for vehicles, refueling systems, and fuels. Federal assistance for applied research and the rapid and widespread dissemination of research findings would greatly accelerate

standardization. Also, through standardization, inconsistent State and local requirements that discourage the use of alternative fuels can be displaced. Care should be taken to ensure that standards are promulgated or recognized in a timely manner and that they are not unnecessarily prescriptive.

The unsettled regulatory environment regarding alternative fuel quality, measure and labeling, refueling facility componentry (nozzles), and on-board diagnostic systems (OBD), along with unfamiliar or "unfriendly" refueling procedures hinders the widespread use and commercialization of AFVs.

To address these problems, the Task Force recommends the following:

- **AFV safety standards should be established promptly by the National Highway Traffic Safety Administration (NHTSA), following the recommendations of the Society of Automotive Engineers and similar groups. NHTSA should avoid setting overly prescriptive standards that would inhibit future innovative designs for natural gas vehicles (NGV) and CNG/LNG fuel cylinders;**
- **EPA should develop clear and consistent SIP credits for OEMs and certified vehicle converters;**
- **EPA should quickly finalize regulations regarding emission standards and OBD II requirements;**
- **U.S. Conference on Weights and Measures, together with the National Institute on Standards and Technology, should adopt the "gasoline gallon equivalent" as a unit of measurement and pricing for vehicular gaseous fuels and other alternative fuels;**
- **Federal Trade Commission should accelerate its promulgation of standards for fuel labeling, including a "gasoline gallon equivalent price" posting requirement;**

- EPA should finalize proposed regulations establishing fuel specifications for certification of AFVs, and should continue to develop in-use fuel quality standards;
- National standards for emissions testing and performance of after-market retrofit kits and installations should be adopted;
- National standards for emissions from, and performance of, refueling systems should be established. These standards should include standards for equipment interfaces, such as nozzles for gaseous fuels, plug-in devices for electric refueling, refueling pressures for gaseous fuels, and fuel quality;
- Federal guidance to harmonize State and local laws, regulations, and standards affecting AFVs and refueling facilities should be considered, if efforts to encourage efficient permitting procedures at the local level are not successful;
- National programs for overcoming unfamiliar or "unfriendly" refueling practices, such as the lack of public access to fleet refueling stations and inadequate or non-interfacing credit card access systems, should be developed; and
- Community involvement in siting and permitting refueling facilities should be encouraged.

Training

Another major technical barrier is the lack of accredited, consistent training and certification programs for AFV conversion and maintenance. Because of the dominant role of commercial facilities in vehicle maintenance and repair, the primary responsibility for overcoming this barrier rests with the private sector, with appropriate Federal participation and encouragement.

The Task Force recommends that:

- Vehicle manufacturers and the conversion industry should be encouraged to develop a standard mechanic certification process, including continuing education, in conjunction with appropriate Federal, State, and local agencies and educational institutions and private organizations; and
- Existing training programs must be evaluated and coordinated to ensure consistency in the certification of mechanics.

Information Sharing

The final technical barrier identified by the Task Force is the lack of information sharing between the OEMs, SVMs, and after-market converters, as well as among regulatory jurisdictions. Inconsistent and often inaccurate information regarding costs, performance, safety, environmental benefits, and energy issues presents an obstacle to the alternative fuel industry as a whole. Avenues for sharing information and innovations should be developed with Federal assistance.

The Task Force recommends:

- That DOE gather, develop (where necessary), evaluate, and disseminate accurate and objective data regarding alternative fuel issues. This will help to minimize misinformation and "fuel politics," thereby enabling fleet operators, Federal, State, and local governments, and others to make better informed alternative fuel and AFV decisions; and

- That the application and timing of implementation of OBD II requirements be evaluated and clarified promptly. If OBD II requirements are extended to small-volume manufacturers and after-market converters, it is recommended that OEMs work with such manufacturers and converters to facilitate interpretation of OBD II codes, in order to reduce the expense and quicken the introduction of after-market retrofit and diagnostic software.
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EXECUTIVE ORDER 12844

Presidential Documents

Executive Order 12844 of April 21, 1993

Federal Use of Alternative Fueled Vehicles

By the authority vested in me as President by the Constitution and the laws of the United States of America, including the Energy Policy and Conservation Act, as amended (42 U.S.C. 6201 et seq.), the Motor Vehicle Information and Cost Savings Act, as amended (15 U.S.C. 1901 et seq.), the Energy Policy Act of 1992 (Public Law 102-486), and section 301 of title 3, United States Code, it is hereby ordered as follows:

Section 1. Federal Leadership and Goals. The use of alternative fueled motor vehicles can, in some applications, substantially reduce pollutants in the atmosphere, create significant domestic economic activity and stimulate jobs creation, utilize domestic fuel sources as defined by the Energy Policy Act of 1992, and reduce vehicle maintenance costs.

Moreover, Federal action can provide a significant market impetus for the development and manufacture of alternative fueled vehicles, and for the expansion of the fueling infrastructure necessary to support large numbers of privately owned alternative fueled vehicles.

The Federal Government can exercise leadership in the use of alternative fueled vehicles. To that end, each agency shall adopt aggressive plans to substantially exceed the alternative fueled vehicle purchase requirements established by the Energy Policy Act of 1992.

Sec. 2. Alternative Fueled Vehicle Requirements. The Federal Government shall acquire, subject to the availability of funds and considering life cycle costs, alternative fueled vehicles in numbers that exceed by 50 percent the requirements for 1993 through 1995 set forth in the Energy Policy Act of 1992. The Federal fleet vehicle acquisition program shall be structured with the objectives of: (a) continued reduction in the incremental cost associated with specific vehicle and fuel combinations; (b) long-term movement toward increasing availability of alternative fueled vehicles produced as standard manufacturers' models; and (c) minimizing life cycle costs in the acquisition of alternative fueled vehicles. In addition, there is established, for a period not to exceed 1 year, the Federal Fleet Conversion Task Force, a Federal inter-agency implementation committee to be constituted by the Secretary of Energy, in consultation with a Task Force Chairman to be named by the President. The Task Force will advise on the implementation of this Executive Order. The Task Force will issue a public report within 90 days, setting forth a recommended plan and schedule of implementation and, no later than 1 year from the date of this order, in cooperation with the Secretary of Energy, file a report on the status of the conversion effort.

Sec. 3. Alternative Fueled Vehicle Acquisition Assistance. Within available appropriations, and as required by the Energy Policy Act of 1992, the Secretary of Energy shall provide assistance to other agencies that acquire alternative fueled vehicles. This assistance includes payment of incremental costs of alternative fueled vehicles, including any incremental costs associated with acquisition and disposal. All vehicles, whether conversions or purchases as original equipment manufacturer models, shall comply with all applicable Federal and State emissions and safety standards, consistent with those requirements placed on original equipment manufacturers, including years and mileage.

Sec. 4. *Alternative Fueled Vehicle Purchase and Use Incentives.* The Administrator of the General Services Administration, to the extent allowed by law, may provide incentives to purchase alternative fueled vehicles, including priority processing of procurement requests, and, with the Secretary of Energy, provide any other technical or administrative assistance aimed at accelerating the purchase and use of Federal alternative fueled vehicles.

Sec. 5. *Cooperation with Industry and State and Local Authorities on Alternative Fueled Vehicle Refueling Capabilities.* The Secretary of Energy shall coordinate Federal planning and siting efforts with private industry fuel suppliers, and with State and local governments, to ensure that adequate private sector refueling capabilities exist or will exist wherever Federal fleet alternative fueled vehicles are sited. Each agency's fleet managers are expected to work with appropriate organizations at their respective locations on initiatives to promote alternative fueled vehicle use.

Sec. 6. *Reporting.* The head of each agency shall report annually to the Secretary of Energy on actions and progress under this order, consistent with guidance provided by the Secretary. The Secretary shall prepare a consolidated annual report to the President and to the Congress on the implementation of this order. As part of the report, the Secretary and the Director of the Office of Management and Budget shall complete a thorough, objective evaluation of alternative fueled vehicles. The evaluation shall consider operating and acquisition costs, fuel economy, maintenance, and other factors as appropriate.

Sec. 7. *Definitions.* For the purpose of this order, the terms "agency" and "alternative fueled vehicle" have the same meanings given such terms in sections 151 and 301 of the Energy Policy act of 1992, respectively.

Sec. 8. *Exceptions.* The Secretary of Defense, the Secretary of the Treasury, and the Attorney General, consistent with the national security and protective and law enforcement activities of their respective agencies, shall determine the extent to which the requirements of this order apply to the national security and protective and law enforcement activities of their respective agencies.

Sec. 9. *Judicial Review.* This order is not intended to create any right or benefit, substantive or procedural, enforceable by a non-Federal party against the United States, its officers or employees, or any other person.

William Clinton

THE WHITE HOUSE,

April 21, 1993.

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Editorial note: For the President's remarks on Earth Day, see issue 16 of the *Weekly Compilation of Presidential Documents*.

**FEDERAL STATE AND LOCAL
PROGRAMS AND REGULATIONS
WORKING GROUP REPORTS**

Recommendations to the Federal Fleet Conversion Task Force by the Federal, State and Local Programs and Regulations Working Group

I. OVERVIEW

The Working Group agreed that the Department of Energy's Clean Cities Program is a useful starting point for a national program in which federal, state, local and private organizations cooperate on the deployment of alternative transportation fuels.

The objectives of the national program should be threefold: to advance the goals of clean air, economic growth and energy security.

The Working Group had these specific suggestions for amending the Clean Cities Implementation Plan developed by DOE's Office of Alternative Fuels:

- Without losing its focus on cities, the scope of the Clean Cities program should be broadened to include smaller communities (including organizations like airports, port authorities and national parks), larger communities (metropolitan areas, counties and regions) and alternative fuel corridors between clean cities. One example: A "National Security Highway System" has been proposed in the northeast to provide alternative fuels along a key transportation corridor.
- The name of the program should be changed to accept this wider focus. (In the interest of achieving the most inclusive possible focus, staff considered such names as Clean Communities and Clean Localities).
- The organization that implements a Clean Cities program should coordinate closely with states and cities, and organizations that represent them such as the National Association of State Energy Officials, the Urban Consortium, the State and Territorial Air Pollution Program Administrators, and others.
- The private sector—including both the users and providers of alternative fuel infrastructure—should be viewed and identified not as a secondary partner in a Clean Cities initiative, but as a co-champion.
- The Clean Cities program should invite a far stronger state role. The State Implementation Plan process provides the mechanism for coordination of state

clean fuel initiatives. SIP Administrators should be directly involved in the Clean Cities process. States can be helpful in creating financial incentives and alternative fuel programs through their own budget initiatives and in helping coordinate and gather data about alternative fuel users within their boundaries, as well as in purchasing and operating fleet vehicles that help support Clean Cities initiatives.

- The Clean Cities Program will be coordinated by a new National Clean Cities Task Force composed of representatives of federal, state and local agencies, as well as businesses and industries involved in deployment and use of alternative fuels and vehicles, including representatives from the Federal Fleet Conversion Task Force.
 - Discussion must be given to the limited life of the FFCTF and continued representation.
- The Clean Cities Program will use criteria defined by the Federal Fleet Conversion Task Force to approach prospective priority areas. However, all areas will be welcomed to participate. Final decisions on allocating resources to priority areas will rest with the National Clean Cities Task Force.
- Although the Clean Air Act Amendments and the Energy Policy Act of 1992 establish requirements for certain states, cities and private fleets to acquire clean or alternatively fueled vehicles, participation in the Clean Cities Program will be voluntary. Among other things, a community's participation in the program will imply a voluntary willingness to accelerate its compliance with existing mandates, to exceed compliance, to coordinate its fleet and infrastructure development with other nearby fleets and to share information about its program with other Clean City participants.
- Beyond the definitions of clean and alternative fuels and vehicles established by the Clean Air Act and the Energy Policy Act, the Federal government will remain fuel-neutral. However, the Clean Cities program will encourage cities, states, regions, corridors and other communities to select one or more specific fuel types of their choice and to focus on that choice with the objective of achieving sufficient market penetration with that fuel to reach economic viability in the target area.

- The Clean Cities program should incorporate action already taken by states, cities, etc., including work on State Implementation Plans under the Clean Air Act.

Working Group Members also agreed on these principles:

- The Working Group recommends that the Task Force promote voluntary commitments to acquiring clean-fueled vehicles by federal, state, regional, local and private fleets.
- Federal vehicle acquisition can be an excellent impetus, at local levels, to motivate a similar commitment by state, regional, and local governments and private fleets. To maximize the impact of Federal acquisitions, such resources should be directed toward states and cities which agree to an appropriate quid pro quo.
- Incentives are a real-world necessity in the earliest years. Financial and regulatory incentives can encourage voluntary action of government entities, private companies which must invest in infrastructure, and private fleet operators and individuals.

II. BARRIERS AND WAYS TO OVERCOME THEM

A. Federal, state, and local administrative actions and initiatives

1) Limited refueling access

- Selecting sites for widest access by all sectors;
- Effect quick permitting process at local level;
- Gather and disseminate existing safety information and voluntary standards; and
- Have FTC continue working on standard labeling for fuels and equipment.

2) Lack of training and certification programs

- Federal vehicles purchased by GSA (25% of the federal fleet) are repaired at commercial facilities. Thus, the federal government depends upon a well-trained private service infrastructure for alternative fuel vehicles and a federal investment in the quality of this infrastructure may be justified.
- Develop training that covers operators, motor pools and other maintenance personnel, repair operations and incorporates existing after market training programs;
- Coordinate with existing training and certification programs operated by professional associations and auto manufacturers; and
- DOE will gather curricula and certification standards under EPACT.

3) Lack of uniform standards for fuels, vehicle conversions and fueling facilities

- Encourage the development of equipment standards by NHTSA, SAE and others;
- FTC working on standard labeling for fuels; and
- EPA has proposed regulations that will establish fuel specifications for vehicle certification for gaseous fuel vehicles. EPA does not believe in-use fuel quality controls are needed at this time.
- EPA should establish standards for testing of conversion kits and installation of conversions, including warranty, liability and pre- and post-delivery testing.

4) Uncoordinated federal requirements

- Identify and coordinate interacting or conflicting federal regulations;

- Seek resolution of conflict between legislative requirement that federal agencies buy smallest vehicles and need for federal agencies to buy available alternative vehicles;
- Consider change in specific purchase requirements in an effort to facilitate conversion of the federal fleet to alternative fuels; and
- Review government vehicle specifications to promote standardization.
 - Evaluate existing DOE five year plans for states.
- Seek vehicle specification alignment among federal, state and local purchases of AFVs to aggregate demand for specific vehicle types and sizes.

5) Unfriendly Refueling Procedures

- Seek full public access to refueling facilities;
- Make refueling at least as convenient and, when possible, more convenient than gasoline refueling;
- Expand credit card access system; and
- Encourage community involvement in the facility siting process.

6) Difficulty overcoming "chicken-egg" problem

- Through Clean Cities Program, coordinate federal/regional/state/local/private investments in vehicles to reach "critical mass" of business for infrastructure components;
- Initial priority should be on areas with greatest air quality problems; however, some resources should be set aside for areas with special desire, unique approaches, etc.

- Through Clean Cities program, focus federal and state assistance upon specific geographic areas with potential for achieving critical mass; and
- Develop state guidance document including a menu of proven approaches based on success stories from "aggressive" states. The menu should include contact information, legislation outlines, incentive program details, etc.

7) Inconsistent state/local safety requirements

- Explore possibility of a federal pre-emption of state and local AFV safety requirements;
- Share safety information and findings between jurisdictions; and
- Seek federal assistance in researching safety factors and developing rational policies to identify inappropriate barriers and seek remedies through existing standards groups.

B. Solutions requiring congressional action

- 1) Seek resolution of current conflict between federal requirement that to purchase smallest vehicles and mandate to acquire maximum number of AFVs.

C. Integration of existing programs and incentives, including EPACT, State Implementation Programs and other state and local programs

1) Low level of public awareness/education/information

- Develop communication strategy;
- Disseminate data collected under EPACT Section 407 for each Clean Cities Program Location;

- Educate potential vehicle purchasers on factors to consider so they are knowledgeable consumers on qualifications for available incentives, emissions benefits, acquisition and operating costs, etc.;
- Produce and seek cosponsorship from utilities and fuel suppliers for Public Service Announcements;
- Provide success stories from other cities;
- DOE to coordinate communication among Clean Cities;
- Find innovative ways to disseminate new information DOE will generate because of EPACT;
- Identify and use education/information tools already in place among associations, state and local governments and federal agencies;
- Seek highest possible level of DOE involvement in public communications events surrounding Clean Cities developments at the local level;
- Target public policy and decision makers with education/information activities;
- Plan "demonstration days", regional expos, etc. to allow for public accessibility to AFVs and related technologies; and
- Place federal fleets in highly visible public places.

2) Lack of federal/regional/state/local coordination

- Implement a national Clean Cities Program that provides coordination structure.

3) Unclear or insufficient incentives for local deployment of alternative fuel vehicles

- Recommend that EPA develop criteria for valuing state SIP credits for alternative fuel programs;
 - Create federal/state regulatory "carrots" as well as removing federal/state regulatory barriers;
 - Provide incentives in early years, with the intent of creating a self-sustaining market;
 - Sustain incentives long enough for market forces to take hold—at least five years;
 - Make incentives broad-based, applying to the private sector as well as government fleets;
 - Make incentives equitable, helping to create and maintain a level playing field for different fuels and vehicles; and
 - Make incentives substantial enough to make a difference.
- 4) Higher cost of many alternative fuels and vehicles
- Increase current assistance for incremental costs from DOE budget;
 - Work to see EPACT financial assistance programs fully funded by Congress;
 - Use tax incentives or avoid tax penalties; and
 - Apply incremental cost assistance to fuels and infrastructure as well as to vehicles.
 - Work with utilities to help offset large incremental costs such as battery replacement and home gas compressors.
- 5) Unclear connection between EPACT, CAAA, ISTEA

- EPA should provide clear guidance and develop criteria on how acquisition of AFVs can result in SIP credits; and
- DOE and DOT should provide explicit statement of eligibility of AFVs under EPACT and ISTEA and how the two programs are accessed.

III. ISSUES THAT REQUIRE FURTHER INVESTIGATION BEFORE ADEQUATE SOLUTIONS CAN BE IDENTIFIED

- A. Precisely what types of clean vehicles should qualify under the Clean Cities program?

The Clean Cities program should create stronger linkage between alternative fuel and clean air programs, in part by clearly defining what types and numbers of alternative fuel vehicles are needed to qualify for SIP credits by EPA. It was the clear majority view that credits should be considered for LEV, ULEV, ZEV and ILEV; opinions were more diverse on a credit for TLEV. It was agreed that purchasers should be provided incentives which reflect the relative contribution of different AFVs to clean air. However, the marriage between clean air and alternative fuel goals has to be carried out carefully so as not to slow the deployment of alternative fuel vehicles or to limit model availability.

- B. Should the Federal Fleet Conversion Task Force name specific urban areas as targets of a national initiative?

Some working group members argued that it should, selecting top priority cities. Others argued that a national program should allow cities to be self-selecting, offering them sufficient benefit to enroll in the program voluntarily. By naming specific cities as top priority, these working group members believe, other communities with potentially excellent programs will be discouraged from pursuing those programs, while non-priority communities already making progress on the deployment of alternative fuel vehicles might roll back their commitment.

C. Should the four criteria selected by the Task Force in Austin be modified?

Some working group members felt the criteria should include economic development and energy security, which are part of the Task Force mission. They argued that some cities not in non-attainment areas could propose Clean Cities initiatives with important benefits in terms of national visibility, new fuel and vehicle choices, demonstrating unusual intensity of commitment, or helping produce national aggregations of fuel and vehicle demand that would help the national market achieve economies of scale, resulting in lower costs.

D. Recommendation for Vehicle Production Working Group to consider the OEM/conversion warranty issue in Detroit, July 12-13

E. Should conditions be imposed on areas targeted by the FFCTF to receive federal fleet vehicles?

IV. IDENTIFICATION OF THE TYPE OF ENTITY THAT CAN PLACE THE ABOVE THREE ISSUES IN A LOCAL CONTEXT AND MOBILIZE ALL RELEVANT CONSTITUENCIES

A. Create National Clean Cities Task Force.

B. Create local Clean Cities Working Groups in each participating area.

V. IDENTIFY APPROPRIATE FEDERAL AND STATE AGENCIES THAT CAN CARRY OUT NEEDED COORDINATION ACTIVITIES BETWEEN THE LOCAL IMPLEMENTING GROUP AND THE RELEVANT STATE AND FEDERAL AGENCIES AND PROGRAMS.

A. See No. IV

B. SIP Administrators

VI. MISCELLANEOUS

- A. The Working Group endorses plans by GSA to ensure that the integrity of alternative fuel vehicles is maintained after fleet vehicles are sold. (GSA is replaces federal fleet passenger sedans every three years; the first sale of used alternative fuel vehicles from the federal fleet is scheduled to occur next year.)**
- B. Examination of examination of resale market specifically including GSA resale pricing.**

**REFUELING INFRASTRUCTURE
AND TECHNOLOGY
WORKING GROUP REPORT**

Recommendations to the Federal Fleet Conversion Task Force by the Refueling Infrastructure Technology Working Group

I. INTRODUCTION

This report outlines the major barriers identified by the Refueling Infrastructure and Technology Working Group of the Federal Fleet Conversion Task Force (FFCTF). These barriers are seen to inhibit the development of a national Alternative Fuel Vehicle (AFV) refueling infrastructure. They are categorized into three major areas: (1) economic barriers, (2) regulatory barriers, and (3) technical barriers. Each of these areas was discussed in detail by the Working Group at their meeting held on June 21-22 in Los Angeles, CA.

The information contained in this report supports the general mission statement of the Working Group; that is,

The primary mission of the Refueling Infrastructure and Technology Working Group is to identify economic, regulatory, and technical barriers; identify existing, planned, and future refueling infrastructure, make recommendations regarding necessary refueling infrastructure investment, and assess and make recommendations regarding issues of standardization in the refueling industry.

In Section II of this report, the barriers are presented along with the Working Group's suggestions for overcoming these barriers. Section III suggests the Clean Cities concept as a model for overcoming these barriers by mobilizing public and private resources and developing partnerships for coordinated infrastructure planning. The last section suggests ways in which the Working Group's implementation plans can be incorporated into the broader mission of the Federal Fleet Conversion Task Force.

II. BARRIERS AND RECOMMENDATIONS FOR OVERCOMING THESE BARRIERS

A. Economic Barriers

Economic Barrier #1. Inadequate concentration of AFVs to make refueling investment cost-effective.

Overcoming Economic Barrier #1. Encourage coordinated planning and purchasing among public and private sector fleets to concentrate vehicles and refueling infrastructure in urban regions and transportation corridors in an economically sustainable manner. Such planning should reduce the economic risks to the investing firm, and help achieve returns for the infrastructure developer and vehicle manufacturer.

Economic Barrier #2. Inadequate incentives available to develop infrastructure.

Overcoming Economic Barrier #2. Encourage tax incentives (federal, state, and local) that go beyond the Energy Policy Act (EPACT) deductions/credits for alternative fuels and refueling structure. Encourage federal, state, and local grants to provide funds for coordinated infrastructure development and vehicle acquisition and conversion (e.g., support EPACT's State and Local Programs and other supportive legislation). Encourage the development of credit markets (e.g., AFV credits, Clean Fuel Fleet credits, emission reduction credits) that can be used to offset the initial capital costs of a clean-fueled AFV production, distribution and refueling infrastructure. Maximize availability of and flexibility in trading of emission reduction credits.

Economic Barrier #3. Lack of recognition of tax disparities as well as environmental and social externalities (employment, national security, trade deficit) into market prices of fuels.

Overcoming Economic Barrier #3. Encourage and "market" the benefits derived from domestic alternative fuels, and base financial incentives directly on these benefits. Promote decisions on tax policy, government regulations and government resource allocations, based on fuel neutrality, balance of trade, jobs creation, energy independence, environmental benefits and transportation funding systems.

B. Regulatory Barriers

Regulatory Barrier #1. Administrative procurement barriers of AFVs prohibit combined procurement by Federal, State and local governments.

Overcoming Regulatory Barrier #1. Encourage Congress to allow combined procurement by Federal, State and local governments.

Regulatory Barrier #2. Administrative Policy of GSA restricting conversions of interagency fleet management system vehicles (leased vehicles).

Overcoming Regulatory Barrier #2. Revise GSA's policy prohibiting conversion of vehicles.

Regulatory Barrier #3. Failure of OEM's to warrant conversion of new vehicles.

Overcoming Regulatory Barrier #3. Promulgate regulations through appropriate agencies to alleviate barriers for conversion to Alternative Fuels.

Regulatory Barrier #4. EPACT not being funded at authorized levels.

Overcoming Regulatory Barrier #4. Increase appropriations to authorized levels for Titles III, IV, V, and VI.

Regulatory Barrier #5. Limited accessibility of government refueling facilities to the public.

Overcoming Regulatory Barrier #5. Encourage appropriate government refueling facilities to offer alternative fuels and to make them accessible to the general public.

C. Technical Barriers

Technical Barrier #1. Lack of standardization of equipment and fuel (including fuel quality, vehicle emissions testing procedures, fuel pressures for gaseous fuels, and connectors and nozzles)

Overcoming Technical Barrier #1. Appropriate governmental agencies should adopt standards within strict timelines based upon conclusions of industry consensus organizations wherever possible.

Technical Barrier #2. Lack of standardization for public retail point-of-sale, billing and payment procedures for all fuels.

Overcoming Technical Barrier #2. Encourage the development and use of standard electronic billing and payment procedures for all fuel types. Establish procedures for the standard measure of fuel (e.g., gallon gasoline equivalent).

Technical Barrier #3. Inconsistent and cumbersome permitting process for refueling infrastructure among jurisdictions.

Overcoming Technical Barrier #3. Encourage an expedited and consistent permitting process for the nation which may include standards recommended by SAE and NFPA committees. Establish an education program for Fire Marshalls and other local officials within recognized fire protection schools and address any unique requirements for safety standards and user training requirements relative to alternative fuel vehicles and refueling stations. Explore the creation of an omnibus permitting entity for AFV stations by each targeted community.

III. CLEAN CITIES AS A VEHICLE FOR MOBILIZATION

In light of the barriers mentioned above, the Working Group identified the need for an organizational structure that will assist in overcoming these barriers. The Clean Cities concept, developed by the U.S. Department of Energy, is suggested as a model

to achieve these needs but must be coordinated with the Clean Air Act State Implementation Plan (SIP) process and other State and local programs.

The Clean Cities concept is designed to access the financial, informational, technical and planning resources of the public and private sector in order to accelerate the use of AFVs in urban regions. The concept is described in detail in a document entitled "Clean Cities Implementation Plan". The strength of the concept lies in its ability to build partnerships (networks) among potential AFV users, fuel providers, and regulators. The benefits of such partnerships and the AFV projects they undertake are especially apparent in urban regions within non-attainment areas that are required under law to reduce their mobile source emissions. Such benefits would also accrue to cities who seek to increase the use of AFV's for other purposes. Clean Cities assists in achieving these requirements in a timely and economically efficient manner.

However, there are several issues that must be addressed by the FFCTF. First, cities must be evaluated under a set of criteria that will ensure that AFV efforts will achieve substantially reduced pollutants, create significant domestic economic activity, stimulate job creation, utilize domestic fuel sources and reduce vehicle maintenance costs. Second, cities that become involved in the Clean Cities program must develop a broad based inclusive organizational structure, including a "champion," that will push the activities of the Clean Cities coalition forward. Third, the fuel neutrality issue must be addressed, recognizing that for many urban regions, a "fuel of choice" may have been identified. A method for Clean Cities to fit into such situations without fuel bias needs to be developed.

IV. INTEGRATION INTO FFCTF's MISSION

The recommendations presented by the Refueling Infrastructure and Technology Working Group are not designed to stand alone, but are to be incorporated, along with recommendations from other working groups, into a broader, more complete recommendation package. That package addresses not only the refueling issues, but also the vehicle technologies, economic issues, and state and local government activities that will make an AFV future possible.

The Refueling Infrastructure and Technology Working Group sees both the short-term mission of the FFCTF (i.e., to implement the required number of federal AFV as identified in EPACT and Executive Order 12844) and the long-term mission (i.e., to accelerate the use of AFVs within the nation as a whole) achievable through education, research and the activities of proactive and complementary public and private sector entities.

PROGRAM ECONOMICS WORKING GROUP REPORT

Recommendations to the Federal Fleet Conversion Task Force By the Program Economics Working Group

I. Introduction

In Section 1, *Federal Leadership and Goals*, Executive Order 12844 states:

The use of alternative fueled motor vehicles can, in some applications, substantially reduce pollutants in the atmosphere, create significant domestic economic activity and stimulate jobs creation, utilize domestic fuel sources as defined by the Energy Policy Act of 1992, and reduce vehicle maintenance costs.

The primary mission of the Program Economics Working Group is to bring together expert economic analysts and other technical experts to provide the economic rationale from both macro- and micro-economic perspectives necessary for immediate and consistent implementation of the Federal fleet conversion program. This working group can herald the economic potential of alternative fuels¹ and warn of the potential costs of pursuing uneconomic approaches.

The working group has identified macro- and micro-economic barriers to the introduction of alternative fuels and potential solutions to those barriers. These are presented below. Emphasis was on identifying barriers to alternative fuel use, with less emphasis on quantifying agreed upon benefits. The working group agreed that use of domestic alternative fuels improves air quality and energy security by reducing dependence on imported oil and can help create domestic jobs, yet was unable to assign specific dollar values to these benefits.

Despite these uncertainties, the Congress through the EPACT, and the President, in Executive Order 12844 have established in no uncertain terms that pursuit of alternative fuel options is in the national interest to promote energy security, clean air, and jobs creation. Our working group goal is to offer recommendations that help support the widespread introduction of alternative fuels.

¹ Alternative fuels as defined by the Energy Policy Act and Executive Order 12844.

II. Economic Barriers and Potential Solutions

A. Macro-Economic Barriers

1. **Barrier: Petroleum use is entrenched and receives numerous advantages.**

- There is general agreement that the use of petroleum is supported by virtue of its entrenchment in the market, and has significant inertia that forms a barrier for the entry of alternative fuels. The extent of these advantages is very difficult to quantify, however, as are the economic consequences.
- Environmental externalities and other hard to quantify societal costs are not included in the price end-users pay for petroleum products. In the absence of a level playing field, the competitive forces of the market will not be sufficient to promote alternative fuels.

Solutions:

- a. If existing advantages for petroleum usage can be specifically identified appropriate action should be considered to equalize the treatment of alternative fuels and petroleum.
- b. Specific incentives for alternative fuel use (e.g. State and Federal taxes) should be introduced or perfected to improve the ability of alternative fuels to compete in the market place.
- c. Additional analysis is required to identify and quantify any additional specific subsidies for petroleum. (See Section II A).

2. **Barrier: Uncertainty over the economic costs and benefits of AFVs is a barrier to their introduction.**

- When the costs and benefits of alternative fuels are uncertain, convincing end-users to adopt them is made more difficult. End-users are wary of committing to large purchases.
- Benefits that are hard to articulate or communicate to the end-user don't help sell the AFV.
- Costs that we are unable to quantify will still be factored in by the end-use decision-makers, but benefits will not be.

Solutions

- a. Improve information exchange between Federal, State, local and industry programs.
- b. Gather additional data from real world experience with AFVs and perform additional studies (e.g. full fuel cycle analysis) to quantify the costs and benefits of alternative fuels versus petroleum.
- c. Identify critical areas where political support is needed to promote national interest in alternative fuels at the local level.

3. **Barrier: Confidence in emerging alternative fuel industry will be inadequate unless long-term sustainability is assured.**

- Private investors must be assured of the opportunity for adequate return on investment.
- Premature support for economically inefficient alternative fuel choice(s) will lead to unsustainability and loss of markets to foreign competitors.

Solutions

- a. All alternative fuels should receive equal road tax treatment and receive a competitive advantages over petroleum so that the most efficient alternative fuels will be chosen in the market place.

B. Micro-Economics Barriers

1. **Barrier: High infrastructure costs inhibit adequate facility construction.**

- Lack of adequate refueling infrastructure inhibits investment in AFVs because there is limited confidence in fuel availability.
- Tax deductions in the Energy Policy Act offer widely varying incentives for infrastructure development.

Solutions

- a. The Federal fleet can be used to provide a baseload demand for public refueling sites in some cases.

- b. Encourage coordination of public and private infrastructure construction and usage.
- c. Concentrate placement of vehicles to achieve sufficient numbers to make public refueling sites economically attractive.
- d. Alternatives to improve competitive access to capital markets should be explored for both regulated and unregulated entities.
- e. The preference should be reliance on private markets and industry to provide innovative funding or leasing options for infrastructure development.
- f. Recommend ISTEA/CMAQ funds in local areas be spent on funding alternative fuel infrastructure.

2. Barrier: Current high cost of alternative fuels to end-use customers hinders their use.

- Existing fuel tax structures are different for different fuels, thus perpetuating a non-level playing field.
- Differences in tax treatments (especially at the State level) have a major impact on alternative fuel utilization.
- End-users cannot easily compare unit costs of different alternative fuels with each other or with gasoline.

Solutions

- a. Incentives are needed that will make alternative fuels attractive to end-users and generate increased market demand for fuels and vehicles.
- b. Costs per unit should be standardized to allow easy comparison among fuels.
- c. States should be encouraged to consider approaches to road tax policy for alternative fuels.

3. Barrier: Potential conflicts between environmental and energy security goals can hinder the adoption of AFVs.

- Environmental goals of improved air-quality would call for AFVs to be as low emitting as possible. Energy security goals require promotion and expansion of alternative fuel infrastructure, which is dependent on increasing the total number of vehicles capable of using the alternative fuel.

- Lack of air-quality credits for dual-fuel/flexible-fuel vehicles may slow their adoption.
- Exclusive commitment to Inherently Low Emitting Vehicles (ILEV) or dual-fuel/flexible-fuel vehicles at the exclusion of the other could lead to delays in achieving air-quality or energy security goals.
- Requirements for ultra-clean AFVs could add another economic barrier by raising incremental costs.

Solutions

- a. Use dual-fuel and flexible-fuel vehicles to promote rapid development of alternative fuel infrastructure.
- b. Use coordinated Federal/State/Local and private programs to encourage dedicated and ILEV vehicles to areas with severe air-quality problems and adequate infrastructure to support them.
- c. Conduct additional testing and analysis to determine extent that dual-fuel/flexible-fuel vehicles could qualify for air-quality credits under the Clean Air Act Amendments.
- d. Conduct additional research/discussion with industry on the accelerated development of dedicated vehicles and hybrid-electrics (such as the Clean Car Initiative).

4. Barrier: Currently there is a lack of resources to fund alternative vehicle procurement.

- Without adequate funds, Federal agencies are unable to accelerate procurement of alternative fuel vehicles.
- State/local agencies may also require additional funding to meet acquisition, training and other needs.

Solutions

- a. Recommend full funding of EPACT provisions on alternative fuels (allow for Executive Order increased numbers of vehicles).
- b. Recommend ISTEA/CMAQ funds in local areas be spent on funding alternative fuel fleets.

- c. Innovative programs (such as zero interest loan programs in some states) should be explored to promote AFV purchases.
 - d. Explore exemptions from TCM's for alternative fuel fleets.
5. **Barrier: Local permitting requirements add economic costs**
- Uncertain building, health, safety, fire certification and permit requirements create a barrier for alternative fuels by adding time and cost.
 - Lack of information and experience at local levels, and lack of standardization across the country, reduces opportunities to streamline development of infrastructure and placement of vehicles.

Solutions

- a. Improve information exchange at the Federal, State, and local level to communicate successful approaches to permitting.
 - b. Document permitting/standards issues that can be addressed at national levels (e.g. National Fire Protection Association).
 - c. Dramatically improve public information program to meet needs of public health and safety officials.
6. **Barrier: Federal, State, local and industry procurement practices pose significant barriers that add cost to AFV acquisition.**
- Current procurement and bureaucratic practices at all levels of government and within industry can often hinder AFV use.
 - Adoption of new and relatively untested AFV technology poses a special problem for inflexible procurement approaches.
 - Efforts to expand orders for AFVs are hindered by conflicts in Federal, State, and local procurement practices.

Solutions

- a. Raise additional interest in AFVs to the highest levels to promote existing institutional solutions and overcome procurement barriers.

- b. Coordinate Federal/State activities through programs such as Clean Cities to achieve substantial benefits of joint procurements without administrative complications.
- c. Improve information exchange on successful approaches around the country.
- d. Study the feasibility of innovative commercial leasing approaches to help "cash-short" entities to aggressively introduce AFVs.

7. Barrier: Uncertainty over resale costs is a barrier to early procurement of AFVs.

- Will fleets recover enough of their costs of AFV through resale markets?
- Fleets do not resell vehicles at same age/mileage, so no "standard" resale analysis will be applicable to all
- Some companies have historically removed conversion equipment prior to resale, removing benefits of AFVs from secondary market
- There is a lack of empirical data on actual resale costs for AFVs.

Solutions

- a. Additional data collection and information exchange are required before full impacts of resale issues can be assessed.

III. Areas for Further Investigation

A. Macro-Economic

- 1. Additional analyses to assess existing advantages for petroleum, gasoline, and diesel to better understand the competition for alternative fuels.
- 2. Evaluate consequences of reducing imported oil.

B. Micro-Economic

- 1. Evaluate means for public utilities to promote use of alternative fuel vehicles.

IV. Model Entity

The economics group did not address this question directly on July 12th. Based on the issues and themes raised during the discussion, the following is proposed by the drafting team:

- Significant economic barriers faced by alternative fuels and vehicles should be addressed through coordinated Federal/State/local and industry action.
- Coordination should extend to purchase and placement of alternative fuel vehicles; shared development of incentives for expanded alternative fuel use and extensive information development and distribution.
- Identification of local economic issues and concerns, along with environmental and energy security goals, should help guide the implementation of the Federal program.
- State implementation Plans and the Clean Cities program both offer elements for achieving the needed coordination.

V. Appropriate Federal/State Entities to Implement Program

Tax Issues

- Department of Treasury
- Congress
- Appropriate State Legislatures

Environmental Issues

- EPA
- Appropriate State Environmental Agencies
- Regional Air Quality Boards

Procurement Regulations

- GSA
- OMB
- State/local

Information/Coordination

- DOE
- State/local

Regulatory Issues

- NHTSA (vehicle fuel systems integrity)
- NFPA
- NEC

State/Local Codes (permitting)

VI. Comment on Criteria for Prioritization

[Working group did not have time to address this issue]

VII. Role of Federal Fleet Conversion Task Force

[Working group did not have time to address this issue]

VIII. Miscellaneous Comments

On the subject of after-market conversions, authorized upfitting that allows OEMs and conversion companies to provide full warranty coverage and dealer servicing will significantly increase the market penetration of conversions by lowering economic barriers to introduction of multiple vehicle and fuel types.

**VEHICLE PRODUCTION
AND CONVERSION
WORKING GROUP REPORT**

Recommendations to the Federal Fleet Conversion Task Force by the Vehicle Production and Conversion Working Group

I. INTRODUCTION

This report provides a listing and discussion of barriers identified by the Vehicle Production and Conversion Working Group of the Federal Fleet Conversion Task Force. These barriers are seen to inhibit the development of a well organized and self sufficient Alternative Fuel Vehicle production/conversion effort that meets the needs of both fleets (governmental and private) and individual purchasers. This report is organized into three sections: Barriers, recommendations for overcoming the barriers, and an approach for incorporating the input from this working group into the overall task force report.

The primary mission of the Vehicle Production and Conversion Working Group is to determine the immediate and long-term availability of original equipment manufactured (OEM) alternative fuel vehicles and vehicle conversion and to develop strategies for short term vehicle production and distribution. The Working Group will also identify barriers to alternative fuel vehicle production and solutions for removing those barriers.

II. BARRIERS AND RECOMMENDATIONS FOR OVERCOMING THESE BARRIERS

A. Economic Barriers

Economic Barrier #1:

- **Unit cost is too high due to the "high cost of low volume production" scenario.**

Overcoming Economic Barrier #1:

- Federal government should coordinate with state and local governments to concentrate AFV procurement requests into specific model types that will have the highest potential for future private marketability and for lowering vehicle emissions.
- OEMs are encouraged to form strategic partnerships with small volume manufacturers (SVMs) and qualified vehicle converters (QVCs) in order to bring vehicles to the market for the least cost. These SVMs and QVCs experience lower overhead and fewer regulatory restrictions than do large volume manufacturers.
- Consider reducing regulatory requirements that currently result in higher cost to manufacturers.

- Consider air quality benefits and costs of providing assigned deterioration factors for sales volumes higher than currently allowed.
 - Utilize government cost sharing of investment to minimize risk on new programs (or guarantee a minimum return).
 - Coordinate purchases to increase volumes and reduce costs for put models offered.
- Investigate federal government's vehicle replacement policy. Federal government could shorten vehicle replacement cycles for the near term in order to achieve consistency with an effort to concentrate federal vehicle purchases initially in non-attainment areas. The economics of this policy need to be resolved by the federal government.

Economic Barrier #2:

- **Lack of certainty regarding conversion warranty.**

Overcoming Economic Barrier #2:

- Federal government must standardize specifications for a factory authorized warranty regarding safety, performance, durability and emissions. These specifications can be met by either OEMs, SVMs or converters.

Economic Barrier #3:

- **Insufficient federal funds available for AFV procurement.**

Overcoming Economic Barrier #3:

- There needs to be a restructuring of available DOE and other federal funding to emphasize federal AFV purchasing.
- Direct a portion of ISTEA Congestion Mitigation Air Quality (CMAQ) funding to AFV purchases.
- There should be full funding of EPACT and ISTEA authorizations.

Economic Barrier #4:

- **Insufficient federal funds available for applied AFV research and commercialization projects.**

Overcoming Economic Barrier #4:

- Recommend a redistribution of a portion of available federal funding to emphasize applied research and near term commercialization of advanced alternative fuel and AFV technology.
- DOE and other federal entities should support government and industry partnerships to commercialize alternative fuel and AFV technology.

Economic Barrier #5:

- **Insufficient incentives for vehicle manufacturers and private fleets.**

Overcoming Economic Barrier #5:

- Clarify and expand current AFV credit programs.
- Provide meaningful investment tax credit and income tax credit for private fleets to convert to AFVs.
- Encourage Transportation Control Measures (TCMs) relief for AFVs based on environmental performance of vehicles.

Economic Barrier #6:

- **Undetermined used vehicle market.**

Overcoming Economic Barrier #6:

- Federal government should establish data collection procedures to track and analyze resale values of federal fleet AFV's.
- Adequate warranties should be available for the secondary market.
- Federal government to initiate a consumer information campaign to encourage purchases of AFV's in the consumer retail market.
- Extend credits and incentives when possible to secondary used vehicle market.

B. Regulatory Barriers

Regulatory Barrier #1:

- Evolving regulatory environment discourages market entry (eg., refueling pressures, alternative fuel quality, nozzles, EPA emissions

credits, OBD II and unique bi-fuel issues such as fuel system safety, emissions/deterioration (aging), lack of alternative fuel quality standards, SIP credits and CAFE credits).

Overcoming Regulatory Barrier #1:

- Determine national standards for above listed actions as soon as possible.
- EPA to develop clear, consistent SIP credits applicable to both OEMs and certified vehicle converters.
- EPA and NHTSA must quickly finalize pertinent regulations regarding emission and safety standards for CNG and OBD to remove the regulatory uncertainty.

Regulatory Barrier #2:

- Non-uniform safety and emission certification standards at the state level.

Overcoming Regulatory Barrier #2:

- EPA to establish national emission certification standards for converted vehicles.
- NHTSA to expedite establishment of national safety standards for all AFVs.

C. Technical Barriers

Technical Barrier #1:

- On-board diagnostic (OBD) regulations are complicated and expensive.

Overcoming Technical Barrier #1:

- Investigate application and timing of OBD II requirements for AFVs.

Technical Barrier #2:

- The current lack of information sharing between OEMs and aftermarket manufacturers hinders the efficient integration of aftermarket conversions into OEM systems.

Overcoming Technical Barrier #2:

- Recommend OEMs work with major aftermarket manufacturers to assist in interpretation of OBD II codes to expedite engineering of aftermarket equipment software.

Technical Barrier #3:

- Absence of consistent, reliable or adequate mechanic training and certification as well as lack of knowledge regarding existing programs.

Overcoming Technical Barrier #3:

- Vehicle manufacturers to coordinate with DOE mechanic certification program (EPACT).
- Vehicle manufacturers and conversion industry to develop a standard mechanic certification process including continuing education in coordination with the appropriate federal, state and local agencies, and private organizations.
- Manufacturers need to ensure that service and warranty support exists for vehicles they produce.

Technical Barrier #4:

- Inconsistent and contradictory cost performance, safety, environmental, energy and other data on alternative fuels and alternative fuel vehicles.

Overcoming Technical Barrier #4:

- DOE to develop/gather/disseminate and centralize accurate and objective AFV reports on costs, performance, safety, environmental energy and other data on alternative fuels and AFVs, thereby enabling more informed decisions by fleets and minimizing "fuel politics"

III. ISSUES WHICH REQUIRE FURTHER INVESTIGATION

- Identify federal fleet populations, including model types, within nonattainment areas.
- Evaluate liability issues regarding converted vehicles that fail certification and are recalled.

IV. DESCRIBE LOCAL PROCESS FOR MOBILIZING RELEVANT CONSTITUENCIES

The federal fleet, through a locally based "Clean Cities" mechanism should be encouraged to provide a forum that will allow state, local and private fleet owners in targeted areas to coordinate their activities. Such coordination may include:

- Vehicle type
- Coordinated refueling
- Fuel types
- Joint publicity media
- SIP requirements

This forum should be harmonized with the needs and particular circumstances in each community.

Since public acceptance, use and purchase of alternative fuel vehicles is a primary objective, a public information/media campaign in these communities where significant fleet activity will occur should be developed and implementation facilitated.

The public information/media campaign should help the public understand current benefits and drawbacks to alternative fuel use. The intent of this information and media process is to avoid the creation of unrealistic expectations and the proliferation of inaccurate information among the public. This process will provide credible realistic information upon which fleets can make their own use and purchase decisions regarding alternative fuels.

**FEDERAL FLEET ALTERNATIVE
FUEL VEHICLE SUMMARY,
ACQUISITIONS AND PLANNED
ACQUISITIONS THROUGH FY 1993**

**Federal Fleet Alternative Fuel Vehicle Summary
Acquisitions and Planned Acquisitions
Through Fiscal Year 1993**

Vehicle Make/Model	Fuel	Quantity	Status
Chrysler Passenger Van/Cargo Van	CNG	276	In operation
Chrysler Dodge Spirit Sedan	M85	5,062	In operation
Ford Taurus Sedan	M85	354	In operation
Ford Econline Passenger Van	M85	20	In operation
GM Chevorlet C-20 Pickup	CNG	600	In operation
GM Chevorlet Lumina Sedan	M85	75	In operation
GM Chevorlet Lumina Sedan	E85	114	In operation
Long Life Vehicles and Jeeps (USPS)	CNG	1,075	In operation
Conversions (DOE/NREL)	CNG	1,000	Contracts about to be issued
Conversions (USPS)	CNG	1,463	Bids under evaluation
Conversions (ARPA)	CNG	865	Solicitation to be issued soon
Subtotals		CNG 5,279 Alcohol 5,625	
Grand Total		Total 10,904	

**DRAFT SUMMARY OF FISCAL YEAR
1994 FEDERAL REQUESTS FOR
ALTERNATIVE FUEL VEHICLES**

Federal Agency Alternative Fuel Vehicle Requests
Draft Summary Fiscal Year 1994
Energy Policy Act Sec. 303 and Executive Order 12844

Agency	Original Equipment Manufacturer (OEM) Purchases ¹	Candidates for Conversion ²	Natural Gas	Alcohol	LPG
Commerce	10		10		
DOD - USAF	150	1,300	1,400		50
DOD - USN	100	1,200	1,270	30	
DOD - USMC	65	1,000	1,040		25
DOE	66	330	366		30
EPA	14		4		10
GSA	6,914		3,439	3,475	
Interior	131	142	163	50	60
NASA	6	3	3	6	
USDA	143	21	70	79	15
USPS		2,000	2,000		
Subtotals	7,599	5,996	9,765	3,640	190
Total		13,595			13,595

¹Some OEM vehicles requested may not be available in 1994.

²Not all candidates for conversion will be converted in 1994.

**FY 1994 ESTIMATED ALTERNATIVE
FUEL VEHICLE COSTS**

FY 1994 Vehicle Availability & Cost

Based on GSA 11/26/93 Award and Estimated Base Vehicle Prices*

Requested Vehicles				Awarded Vehicles			Base Vehicle			Incremental Cost Includes 1.6% Chg	Order Deadline
Vehicle Type	Std. Item No.	Alternative Fuel Type		Model/Make	Std. Item No.	Price	Description	Std. Item No.	Price		
Long Life Vehicle		Dual	CNG	N/A							
Pickup - Full Size	41	Dual	CNG	GM Chevorlet C20	44	\$17,591	TBD	44	\$10,629	\$7,073	12/10/93
Pickup - Full Size	41	Dedicated	CNG	Still under evaluation+							
Pickup - Full Size	42	Dual	CNG	GM Chevorlet C20	44	\$17,591	TBD	44	\$10,629	\$7,073	12/10/93
Pickup - Full Size	42	Dedicated	CNG	Still under evaluation+							
Pickup - Full Size	44	Dual	CNG	GM Chevorlet C20	44	\$17,591	TBD	44	\$10,629	\$7,073	12/10/93
Sedan - Compact	9C	Dual	CNG	GM Chevorlet Corsica	9C	\$13,371	Chrysler Dodge Spirit	9C	\$8,638	\$4,809	12/10/93
Sedan - Full Size	11B	Dual	CNG	GM Chevorlet Caprice	11B	\$16,178	Ford Crown Victoria	11B	\$12,333	\$3,907	12/10/93
Sedan - Full Size (Law)	17A	Dual	CNG	GM Chevorlet Caprice (Law)	17A	\$17,396	Ford Crown Victoria (Law)	17A	\$12,880	\$4,588	12/10/93
Van - 8 Passenger	21	Dedicated	CNG	Chrysler Dodge B250 Van	21	\$17,893	TBD	21	\$11,849	\$6,140	4/1/94
Van - 12 Passenger	22	Dual	CNG	GM Chevorlet G30	22	\$19,692	TBD	22	\$13,141	\$6,656	12/10/93
Van - 15 Passenger	24	Dedicated	CNG	Chrysler Dodge Maxi-Van	24	\$21,941	TBD	24	\$14,245	\$7,819	4/1/94
Van - Cargo	31	Dedicated	CNG	Chrysler Dodge B250 Van	32	\$16,161	TBD	31	\$10,798	\$5,449	4/1/94
Van - Cargo	32	Dedicated	CNG	Chrysler Dodge B250 Van	32	\$16,161	TBD	31	\$10,798	\$5,449	4/1/94
Van - Cargo	31	Dual	CNG	GM Chevorlet G30	34	\$17,332	TBD	34	\$10,778	\$6,659	12/10/93
Van - Mini	20	Dedicated	CNG	Chrysler Dodge	20	\$20,283	TBD	20	\$11,322	\$9,104	1/31/94
Sedan - Compact	9C	Flexible	M85	Chrysler Dodge Spirit	9C	\$9,157	Chrysler Dodge Spirit	9C	\$8,638	\$527	12/8/93
Sedan - Mid Size	10B	Flexible	E85	N/A							
Sedan - Mid Size	10B	Flexible	M85	Ford Taurus	10B	\$13,101	Ford Taurus	10B	\$12,559	\$551	1/14/94

*Incremental costs are calculated as the difference between the alternative fuel vehicle cost and the base vehicle of the same configuration operating on conventional fuel. Not all conventional vehicles have been awarded for FY 1994 yet and base vehicle prices have been estimated. These prices are for vehicles on the GSA contract. After-market conversions performed on existing vehicles range from \$3,500-\$4,500 without rebates.

+These vehicles may qualify as conversions.

Order deadlines are subject to negotiation.

Department of Energy, EE-33, 12/3/93

WHITE HOUSE OFFICE ON ENVIRONMENTAL POLICY

TO:

Jim Doyle

FROM:

Trey Lindseth

DATE:

12-9

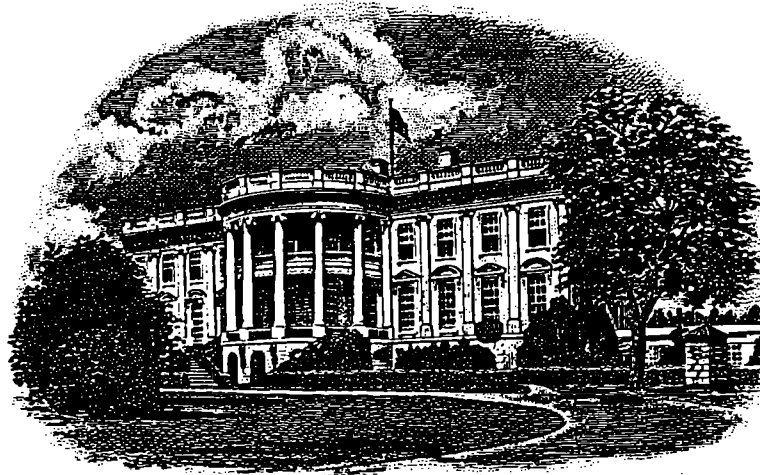
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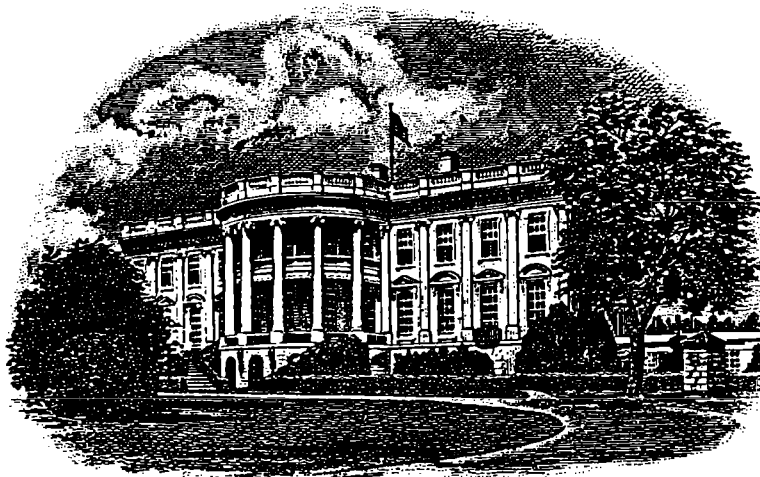
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OLD EXECUTIVE OFFICE BUILDING, ROOM 360
WASHINGTON, DC 20501

WHITE HOUSE OFFICE ON ENVIRONMENTAL POLICY

TO: Rich Rosenzweig
FROM: Marc Chapman
DATE: _____
FAX: 586-7644

Number of pages including cover: _____

COMMENTS: THIS IS THE PRESIDENT'S
BRIEFING MEMO. I HAVE NO IDEA
WHY THEY PUT HAZEL DOWN FOR 1-2
MIN -> EVERY SPEAKER GETS FIVE
- M.



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EXECUTIVE SUMMARY

The Federal Fleet Conversion Task Force was created by Executive Order 12844, signed by President Clinton on April 21, 1993. In the Order, the President directed that purchases of alternative fueled vehicles by the Federal Government be substantially increased beyond the levels required by current law. The Federal purchases and accompanying development of refueling and other infrastructure is intended to leverage the buying power of the Federal government in order to enhance United States energy security, stimulate the domestic energy industry and economy, and improve air quality. The President charged the Task Force with developing recommendations for carrying out the Executive Order, with special emphasis on setting a course that will lead to the widespread use of alternative fueled vehicles by Federal, State, and local government fleets, by private fleets and, ultimately, by individuals. The Task Force was further charged to make an interim report to the President and the Secretary of Energy outlining its recommended implementation plan. This report fulfills that directive.

The President appointed Texas Land Commissioner Garry Mauro as Chair of the Task Force. Secretary of Energy Hazel R. O'Leary designated Susan F. Tierney, Assistant Secretary of Energy for Policy, Planning, and Program Evaluation, to serve as Vice-Chair. The additional 33 members were selected to represent the many diverse interests that will be affected in the shift from gasoline and diesel to alternative automotive fuels. The effectiveness of the Task Force was enhanced by the creation of four Working Groups that, in conjunction with Task Force members and staff, identified and recommended solutions to the barriers impeding the widespread use of alternative fueled vehicles in the United States. The Task Force, expanding upon the findings of the Working Groups, has developed the recommendations to the President and the Secretary of Energy contained in this report.

The chief recommendation of the Task Force is the establishment of a Presidential Clean Cities Initiative. Such an initiative can provide the prestige and coordinated effort required to make significant progress toward national commercialization and integration of alternative fueled vehicles into the United States' public and private transportation fleets. The Initiative would have two components. The first is a locally-directed program to accelerate alternative fuel use by coordinating public/private

efforts both to acquire certified low-emitting alternative fueled vehicles and to establish the necessary refueling and service infrastructure to support their efficient use. The second element of the Initiative would be support of those locally- directed programs through coordination at the national level of efforts to aggregate purchases, ease or remove regulatory impediments, providing incentives for AFV use, and optimize use of available Federal funds.

To support creation of the Presidential Initiative, the Task Force identified 38 cities and regions, prioritized into three tiers, for concentrating the Initiative's efforts in Fiscal Years 1994 through 1996. This concentration of effort is key to the effectiveness of the Initiative. The 38 cities and regions would receive priority funding for Federal vehicle purchases and for infrastructure development. Priority cities and regions would also gain the benefit of a professional public relations campaign promoting the uses and benefits of alternative fuels. This campaign, and the Initiative, would provide credible, fair, fuel-neutral and reliable information about alternative fuels.

In addition, the Task Force has made specific recommendations for overcoming numerous regulatory, economic, and technical barriers that have slowed the introduction of alternative fueled vehicles into general use. Implementation of these recommendations will, in some cases, require legislative or administrative action by Federal or State authorities, and active cooperation of the automotive and fuel industries.

The Task Force continues to exist for an additional nine months. During that time, the Task Force will actively monitor progress, facilitate coordinated Federal, State, and local government as well as private sector efforts, and, where appropriate, assist in implementing those recommendations that are adopted by the President and the Secretary. The Task Force also determined the need for additional research and investigative tasks. A significant remaining short term objective is to review and make additional recommendations concerning the types of vehicles on which acquisitions of Federal fleet vehicles should be targeted and the emissions levels which such vehicles should be expected to meet.

THE FEDERAL FLEET CONVERSION TASK FORCE: MISSION AND PROCESS

EXECUTIVE ORDER 12844

Recognizing the significant environmental, economic and energy security benefits that will result from the use of alternatives to gasoline- and diesel-fueled motor vehicles, the President issued, on April 21, 1993, Executive Order 12844 (58 Fed. Reg. 21885 (1993)) (attached as Appendix A) to ensure that Federal agencies lead in the use of alternative fueled vehicles (AFVs). Authority for the order is found in the Energy Policy and Conservation Act, as amended (42 U.S.C. §6201 et seq.), the Motor Vehicle Information and Cost Savings Act, as amended (15 U.S.C. §1901 et seq.), the Energy Policy Act of 1992 (Public Law 102-486) and section 301, title 3, United States Code. The order is consistent with provisions of the Clean Air Act, as amended (42 U.S.C. §§7581, 7588) and the Federal Property and Administrative Services Act, (40 U.S.C. §§486, 491).

The Executive Order emphasizes that Federal action can stimulate the development and manufacture of AFVs, as well as the expansion of the refueling and service infrastructure necessary to support large numbers of privately-owned AFVs. The Executive Order directs Federal agencies to exceed substantially the AFV purchase requirements established by the Energy Policy Act of 1992, including the purchase of at least 7,500 AFVs in 1993, 11,250 in 1994, and 15,000 in 1995, subject to the availability of funds and considering life-cycle costs. The Executive Order directs the Federal agencies responsible for fleet vehicle acquisition to pursue policies that (a) continue reduction in the incremental costs associated with specific vehicle and fuel combinations; (b) move toward increasing availability of AFVs as standard manufacturers' models; and (c) minimize life-cycle costs in AFV acquisition.

The Executive Order also established, for a period not to exceed one year, a Task Force to be constituted by the Secretary of Energy to assist in implementation of the Executive Order. (The Task Force Charter is attached as Appendix B.) The Task Force was directed to issue a public report within 90 days, setting forth a recommended plan and schedule of implementation; and, within one year, to issue a progress report on implementation of the plan. This document is the first interim report of the Task Force.