B.4 French Environment

The French nuclear program coupled with decisions on nuclear waste recycling and transportation have made France the World's model for preservation of the environment while allowing for a continued high level of economic development.

Between 1980, when nuclear energy provided just around 15% of France's electricity requirements, and 1997, when this share rose to 75%, reductions in the overall emissions of several pollutants were reduced significantly. With the nuclear program the use of fossil fuels in power generation has been eliminated and the total level of carbon dioxide emission released has been reduced by 25% and stands at 1.5 tons per year per person compared to 5.5 tons per year per person in the US.

France's emission of total carbon dioxide per KWh of power produced is second only to Sweden in Europe. US emissions per KWh are 5 times higher than France.

<table>
<thead>
<tr>
<th>Country</th>
<th>CO2 Emissions (g/KWh)</th>
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<tbody>
<tr>
<td>Sweden</td>
<td>33</td>
</tr>
<tr>
<td>France</td>
<td>77</td>
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<tr>
<td>Germany</td>
<td>81</td>
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<tr>
<td>Belgium</td>
<td>108</td>
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<td>Spain</td>
<td>492</td>
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<td>Netherlands</td>
<td>511</td>
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<td>Portugal</td>
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<td>Finland</td>
<td>479</td>
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<td>Italy</td>
<td>546</td>
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<tr>
<td>Greece</td>
<td>644</td>
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<td>UK</td>
<td>644</td>
</tr>
<tr>
<td>France</td>
<td>1,001</td>
</tr>
<tr>
<td>US average</td>
<td>444</td>
</tr>
</tbody>
</table>

Release of CO2 in a number of EU countries in 1995 (in grams per KWh produced)
Source: EU DG XVI Data 03, 1997
France is lowest among industrial nations in the emission of carbon dioxide per inhabitant.

Sulfur dioxide (SO2) has been reduced 75% since the nuclear power program was initiated.
Nitrogen Oxides (Nox) responsible for smog have been reduced 20%.

A 1993 comparison between France's atmospheric emissions with those that would have prevailed in the absence of nuclear energy reveals the dramatic reductions in national emissions achieved through France's nuclear program. National carbon dioxide emissions would have increased by 17% over 1973 levels, instead of falling by 26%—a real 60% increase over what exists today. Sulfur dioxide and nitrogen oxide emissions would also be significantly higher, but their virtual increases are more modest due to the development of cleaner fossil fuel technologies. If France had not relied on nuclear energy, SO2 and NOx emissions would stand at 18% and 29% above 1993 levels respectively.
According to the Ministry of the Industry, French nuclear power plants prevent the emission of 1.7 million tons of SO2 and 880 thousand tons of NOx each year.

If these figures are sufficient in themselves, the potential risks that nuclear energy pose for the environment and for the public is not being ignored. The amount of radioactive waste released by a nuclear plant has been constantly decreasing and has achieved a level of less than 1% of the authorized levels, a level so low that the French safety authority decided to lower the maximum limit of radioactive releases by a factor of five for the upcoming generation of nuclear plants (N4), in order to closer approximate the real amount of radioactivity released.

Minimum and Maximum radioactivity released per 1,300 Mw reactor (GBq)

As a result of the attention paid to the amount of radioactivity released, the quantity of radiation any one person accumulates over one year (on an average of 1.7 mSievert) is for 13% the result of human activities and only 0.1% comes from the nuclear industry, whereas the remaining 87% comes from the natural environment.

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Obtained and made public by the Natural Resources Defense Council, May 2002
A Realistic US Program
C Short Term Action Required to Eliminate the Energy Crises

An approach to a long term solution must include revisions to the EPA regulations and procedures that were developed in isolation from a long term energy plan. The EPA regulations, particularly those imposed since 1990 are one of the major causes of the current energy crisis. The other major cause is the flawed deregulation plans for electric power, which were also implemented in the early 1990s.

The May 8 edition announced the USA Today's winners of the Quality Cup awards for high standard and quality. The winner in the services and government category was the Tennessee Valley Authority (TVA), one of the 5 largest power generators of electric in the US. TVA was established by the federal government in 1933 and provides service in seven southeastern states. The TVA is protected from competition by Congress.

In 1999 TVA residential customers paid 6.4 cents per kwh versus 10.7 in California with a national average of 8.5 cents per kwh. This year the actual California costs are several orders of magnitude higher but are not being passed on to the retail customers with the resultant power crisis and bankruptcies. The following actions are required immediately to allow a rational energy policy to be developed:

C.1 Immediately return electric power to a regulated format of 1990 with modifications for co-generation and power supplied by small businesses and individuals to preferentially enter the grid. The TVA provides an example of how a power generating system should operate.

There are two peak periods during each day - morning and evening. There are also seasonal peaks. Storage capacity for these peak periods can only be met by a large excess of generating equipment which is idle a very high percentage of the time and transmission grids which are normally under utilized.

Prior to deregulation all power generating companies were local monopolies with a pricing structure related to capital costs which provided guaranteed rates and allowed the companies to have idle standby equipment to cover the peak needs of their customers. Service was extremely reliable and the costs were low.

New power plants are not being constructed to provide excess capacity. Environmental regulations restricting the construction of new plants were becoming more severe about the same time as deregulation was being proposed. However, the primary reason that companies are not building new capacity is that rates are no longer guaranteed and no one is going to construct plants that all idle most of the time for peak shoving. When new plants are built they are generally natural gas fired to meet environmental regulations. Thus there is an increase in gas demand but there have only been modest increases in gas production.

The Midwest gave a forewarning of the effect of the "free market" in the summer of 1996 when Federal Energy Sales, a new small energy market company, defaulted on power contracts and threw chaos into an already stressed power generation/distribution situation. The result was extremely high spot power prices and rolling blackouts for the entire area.

No one seems to understand that the underlying problem is related to an assessment of degrees of freedom. If you give companies a monopoly position and a guaranteed rate of return on their assets in exchange for guaranteed supply they...
will comply. If you give them the freedom to act as entrepreneurs with no guarantee of returns they will provide only those assets that will generate profits. With no guaranteed profit on facilities which sit idle most of the time waiting for a short term peak in power no one will build the peak shaving equipment.

The 1988 mid-west crisis was a warm up for California. No new facilities have been built in California in the last 10 years, the excess peak shaving equipment is no longer sitting idle and SCE and PGE are facing bankruptcy because of a flawed system developed by legislators and regulators having no concept of how markets work. Everyone could taste the political largess from anticipated lower rates. There was no consideration that in a free market prices go up and down and investment decisions are based on the anticipation of higher not lower prices.

The paradox is that SCE and PGE were forced to sell off their power generating facilities to companies such as Southern, Duke Energy, Reliant Energy, Williams, Dynegy, Calpine and NRG. It was felt that this would bring competition to the markets. The result is that these companies will make record profits in a “free market” while SCE and PGE will go bankrupt with regulated retail prices. This will reduce California to the level of a third world nation with rolling planned blackouts and/or a continual series of daily regional power outages as power exceeds demand during peak periods. Ultimately this phenomena will be repeated in other states as current peak shaving capacity slowly becomes base load capacity.

There is a contradiction in the arguments for deregulation. It is assumed that with deregulation the consumer will see lower prices. Low prices do not provide incentives for new investment; high prices do. The chemicals industry is a good model for what will continually occur with deregulated power. In chemicals’ plant construction there are continual cycles of high prices followed by overbuilding of new plants which are operated at variable costs which do not provide prices which allow new construction. Once the excess capacity is used a shortage occurs, spot prices go up and there is another round of overbuilding followed by a collapse of prices.

It is not in our nations interest and I doubt that the general public will tolerate a continually cycling of high prices and power shortages to take advantage of the periods when overbuilt capacity is undervalued and costs are low. It is much more rational to have a system in which utilities as monopolies are allowed to build generating capacity for peak shaving, include the cost of these standby facilities in their rates and provide extremely reliable service at a stable continual low cost.

Put the power industry back the way it was in 1960 with a modification to allow co-generation and any small power producer to sell excess power to the local monopoly. California has an enormous direct and indirect affect on the total economy in the US. The power problem affects private citizens as well as the large companies. Returning to a regulated power structure is the first step in recovery from the current recession.

C.2 Return to US gasoline, heating oil and diesel fuel specifications of 1980 and return to fungible products.

Since the early 1980’s increasingly strict limits have been set by the EPA and CARB which limit the prior ability to move liquid petroleum products between regions of the country and reduced the possibility of imports when there are shortages caused by unplanned refinery shutdowns. Lead was removed from gasoline in the late 1980’s,
volatile limits reduced the use of butanes, aromatic content was restricted and reformulated/oxygenated gasolines were required by the mid-1990s.

All of these actions have lead to extremely complicated supply situations since they were applied selectively to various cities and regions. The problem is exacerbated by the continued need for different product properties in summer and winter. A further complication is added by the fact that refineries in Texas and Louisiana supply products to the Midwest and east which by regulation have different specifications than the Southern markets.

Quality differences for kerosene and diesel fuel reduced the fungibility of these products during the same time period. The need for these stringent controls was never verified. Revisit these regulations and relax some of the specifications to reduce the shortage situations that have arisen because of the regulations. Providing similar specifications in all regions of the country will go a long way toward eliminating local supply crises via inter-regional product transfers.

C.3 Reduce governmental restraints that impede the immediate installation of coal fired power generating facilities by individual local companies as well as new nuclear power plants and new refining capacity.

No new refineries have been built for 25 years and existing refineries were shut down rather than make the massive investments required by law for environmental issues. Nuclear power was halted because of the massive delays caused by regulatory requirements. Deregulation and environmental constraints have delayed conventional power plant construction. The current crises in natural gas, power, and petroleum product shortages will continue to get worse with rising demand and no new facilities.

New coal fired power plants will violate the carbon dioxide limits — i.e. global warming — but this is a tradeoff to obtain low cost power in the short term. In the long term these plants will be phased out and replaced by nuclear and solar energy.

The most severe problems occur with nuclear power impact statements and the lengthy regulatory process that is required for nuclear plant construction approvals. Nuclear power unburdened by bureaucracy is the lowest cost power available.
Long Term Solutions

There is no single feature in the development of a rational energy policy but a set of parallel activities which when combined will result in major improvements in our total energy requirements. Individually these activities offer minimal relief. For example, emphasizing exploration in Alaska may ultimately reduce our reliance on foreign crude but does nothing to solve the current power plant and refinery shortage. Following is the framework for a realistic set of actions that do not hinder economic growth and meet all of the limitations that are required to set a policy.

- Degrees of Freedom

The following are limits to degrees of freedom which are required in any US energy policy:

A) Limit US reliance on foreign sourced hydrocarbons
B) Limit environmental pollutants
C) Limit US balance of payments
D) Limit global warming
E) Maintain economic growth

Following the French model that was developed over the last 25 years, a realistic policy can be implemented which allows for vibrant economic expansion while meeting all of the degrees of freedom. Augment the basic French model to allow for advanced technologies as well as the development of new sources of natural gas and liquid hydrocarbons

D.1 Set up a national company similar to the TVA to build nuclear power plants with a common plant design and plants operated by graduate nuclear engineers

Nearly all of the countries in the industrial world - France, Germany, Japan, Sweden, England, Taiwan and Korea - have developed programs for the rational use of nuclear power. Follow the French model that has successfully converted the country to a nuclear power base.

Any arguments against nuclear power related to cost are a myth. The costly over runs of the 1970s and 1980s were a direct result of the length of time required to get approvals and not the cost of construction.

The safety issue is also a myth. No major industrial country has had a serious problem since the beginning of nuclear power. Three Mile Island would not have occurred with a common plant design operated by graduate nuclear power engineers. The Chernobyl problems were the same as every other facet of USSR industry. In a centrally planned economy initial construction is shoddy and nothing is maintained.

Following the French model use a common design for all power plant construction. Integrate the contractors for the US Navy nuclear submarine and aircraft carrier program with engineering and operating personnel from the Navy. Expand the capacity of the units to commercial size using design specifications, operating procedures and training methods from the Navy program to provide world class units which are duplicated at multiple sites. Nuclear power eliminates emissions, reduces the need for foreign hydrocarbons and improves the balance of payments.
D.2 Set up a national agency to install facilities to reprocess spent nuclear fuel.

An often mentioned objection to nuclear power is the storage of nuclear wastes. France and other industrial nations reprocess nuclear waste and minimize the storage problem. Either buy the technology for reprocessing from the French or pay them to handle our spent nuclear fuel. France has been reprocessing spent nuclear rods from Japan for over 10 years. Japan is now building their own reprocessing facility.

D.3 Install high speed electric train service in high population density areas of the US using a common technology.

Japan, Germany and France have high speed electric rail transportation systems. France coupled their rail system to a nuclear power program. The use of rail systems in place of automobile and air transportation for 200 – 400 mile travel reduces the congestion at major airports as well as reduces gasoline, diesel and jet fuel use. The French model reduces emissions and reliance on foreign oil and improves the balance of payments.

Follow the models of cities such as Amsterdam and Geneva where a single terminal services air, rail and bus transportation. In all major US cities install high speed rail service between the city center and the airport as in Tokyo, London and Rome.

The primary focus should be the Eastern corridor from Washington DC to Boston. Secondary emphasis would provide service to regional cities with Chicago and Atlanta as hubs. Additional services would encompass the Dallas – Houston Austin triangle, the San Diego to Seattle run on the West Coast and a similar service from Washington to Miami via Atlanta.

D.4 Set up a government purchasing program for fleets of electric cars to be used by government employees.

There is much current market spin about hybrid automobiles that offer great fuel efficiency. Some of these programs are good and will follow classic free market economic patterns. The ultimate fantasy is the use of hydrogen in fuel cells. Reforming natural gas and heavier liquid hydrocarbons in industrial scale plants produces hydrogen, is costly and also produces carbon dioxide for global warming. Hydrogen fueled automobiles will still require onboard liquid fuels for reforming in small units in the vehicle to eliminate safety problems or the automobiles will have to be refueled from service stations handling liquid or gaseous hydrogen. Consider this as millions of mini-Hindenburgs in the hands of ordinary citizens.

The administration's plan includes $4 billion in tax incentives to spur the sale of hybrid gasoline-electric motor driven automobiles. Hybrids run on a combination of gasoline and electric batteries and increase the mileage to about 50 miles per gallon of gasoline. A conventional gasoline motor and an electric motor power the hybrid. The gasoline engine powers the automobile and additionally recharges the battery. The drive train shuts down automatically when the car stops moving. Hybrids switch from gasoline power to electric power when the driver eases on the accelerator and back to gasoline as more speed is required. Unlike conventional vehicles, a hybrid gets better mileage in stop and goes traffic with its electric motor than on the highway when its gasoline engine is needed. Ford, General Motors, Daimler, Honda and Toyota are all introducing hybrids.
While hybrid automobiles are an attractive intermediate step, the ultimate goal is a zero emissions battery driven automobile. All of the major automobile manufactures - Ford, GM, Daimler, Toyota, Honda and BMW have active but minimal programs for developing electric vehicles. There is no infrastructure to handle electric automobiles in the US and there have been few commercial sales. The following information on GM's EV1 shows a vehicle that would be perfectly acceptable for commuting, which is the major use of cars in the US.

The second generation GM EV1 is a purpose-built electric vehicle with software upgrades, refined ride and handling, improvements in fit and finish, and new plush upholstery, with two battery technologies: An advanced, high-capacity lead acid, and an optional Nickel Metal Hydride.

The Gen II is powered by a 137 horsepower, 3-phase AC induction motor and uses a single speed dual reduction gear set. The Gen II propulsion system has an improved drive unit, battery pack, power electronics, 6.6 kW charger, and heating and thermal control module. The EV1 with a NiMH battery has a driving range will vary from 75 to 130 miles. Zero to 60 mph acceleration is 8 seconds.

The EV1 can be charged safely in all weather conditions with inductive charging. Using a 220-volt charger, charging from 0 to 100% for the nickel-metal hydride pack requires 6 to 8 hours. This would fit into a typical commuter's schedule with an overnight charge at home and a second charge at the work place during the day.

Braking is accomplished by using a blended combination of front hydraulic disk, and rear electrically-applied drum brakes and the electric propulsion motor. During braking, the electric motor generates electricity (re-generative) which is then used to partially recharge the battery pack.

The US energy market has a large component as liquid fuels. If the major automobile companies had spent as much for research on battery capacity as they have on internal combustion improvement, including the complex hybrid, we would have an acceptable pure electric automobile. The battery operated car exists; the only drawback is a battery with a low driving range capability and a lengthy recharging period. We went from Earth to the Moon in 10 years. Improving existing automobile battery range and recharging time will be quite simple by comparison if sufficient funding is available.

French cities have electric vehicles for government departments. Force the issue in the US via a government purchase of a fleet of 5000 pure battery driven electric cars to be used by government employees commuting in the Washington, DC area.
For competitive diversity buy 1000 each from 5 different automobile companies. This will allow a critical mass for the development work on battery life, recharging time and driving range, battery changing stations and the installation of recharging facilities in parking lots and home garages. Canada and Alaska have had electrical connections in parking lots for years to keep automobile engines warm in the winter. Adding the recharging connections to home and work place should be very easy.

The cost of this program would be less than 5% of the administrations proposed tax incentives for use of hybrids and will have a much greater ultimate effect on the US energy balance. The ultimate goal in a 10-20 year period is to have a large portion of the US automobile fleet battery driven and powered by a grid which is fed from large nuclear power stations and millions of individual sites producing photovoltaic power.

D.4. Set up a national research program to reduce the cost of photovoltaic cells.

Photovoltaic solar cells have been a long time coming as an everyday means of power generation. But they are almost there. Solar cells are composed of a semiconductor such as silicon. When the sun's rays hit a cell's surface, some of the semiconductor's electrons absorb enough energy to rush off towards the other side of the cell, where a lattice of delicate wires embedded in the surface gathers them up and feeds them into a power cable.

The advantages of small solar-power plants are that they are clean, reliable and, of course, that the fuel comes free. Currently the energy from such plants costs between 22 cents and 36 cents per kWhour. Those costs, however, are a quarter of their level two decades ago, and look likely to fall further thanks to breakthroughs in the manufacture of the silicon wafers from which solar cells are cut. Astropower, the only integrated solar-energy firm to be traded publicly, has come up with a very-high-speed manufacturing process which it calls "silicon-film" making, and which is similar to the "float glass" method used to make window panes. This should halve the cost of silicon wafers, bringing the technology's price within the range of conventional power.

Photovoltaic cells have improved very significantly since they were first used in the 1960's. The cost has dropped dramatically over the last 20 years and the use of photovoltaic power is now competitive with conventional power modes where power grids do not now exist.
If every private residence in the US had a roof of silicon tiles feeding power back into the grid during non-peak periods the US would see a large drop in total power demand, meet all of the degree of freedom limits plus provide an energy source that would be totally immune from the types of problems which occur with the temporary loss of a single large facility.

Develop a concentrated controlled program with photovoltaic panels in southern California with government provided systems to 10,000 home owners which provide in home power during peak periods during the morning and evening and deliver power back to the grid during the middle eight hours of the day. This will allow a critical mass for developing improved silicon wafer efficiency as well as providing data to use in statewide systems for estimating the amount of total generating capacity required and the effect of photovoltaics on peak load reductions.

Photovoltaic power and pure electric automobiles are the ultimate individual transportation goal and reduce both nuclear and fossil fuel power generation as well as emissions.

D.6 Through taxation of petroleum products and/or taxation of new vehicle purchases allow markets to penalize low mile/gallon vehicles and reward high mile/gallon vehicle purchases.

New refinery construction is not required if demand for petroleum products is reduced. A good portion of the increase in gasoline demand is from the use of low miles per gallon SUVs. There are two methods available to restrict gasoline consumption:

a) Apply a tax to gasoline consumption with rates which are equal to the European countries – i.e. $3.00/gal total cost. Use the increased tax revenue to fund the development of a high speed rail system.

The high gas tax can be applied to new automobile purchases and allow older automobiles to be exempt via a tax credit for older automobiles. This adds nothing to current driving costs and allows the new car buyer the opportunity to choose
between a high mile per gallon hybrid or a low mile per gallon conventional engine purchase. Through the 1970s state gasoline taxes were allowed as a deduction against federal taxes. A similar tax reduction system could be applied to new versus older automobiles and would gradually disappear as older automobiles are replaced.

b) Use a neutral tax approach on all new vehicle purchases. Add a tax to high gasoline consumption cars/SUVs and give a tax credit on the purchase of all high mileage cars. This will not affect anyone's standard of living. High income people still have the option of buying a luxury automobile. For anyone buying a high mile per gallon automobile the tax rebate plus lower gasoline consumption allows them to save or spend more on other consumer items which is good for the economy.

With either a or b there are obvious savings via reduction in balance of payments, reduced reliance on foreign sourced energy and reduced emissions.

D.7 Set up a national company to construct and operate coal liquefaction and gasification plants in Texas and Louisiana with access to the Colonial pipeline using Western coal reserves transported to the Gulf Coast. Construct similar plants in West Virginia using local coal deposits.

This feature is presented for two reasons:

a) Increase the production of liquid hydrocarbon products and natural gas.

b) Most importantly provide experience with world scale coal conversion plants which may be needed if international supplies of crude oil become unreliable.

Obtain the processing knowledge from South Africa. The South African company, Sasol, is the world's most advanced organization in coal liquefaction technology and is the world's largest manufacturer of oil from coal.

The Sasol facilities were developed as a direct result of the Middle Eastern oil producer's embargo on South Africa for their apartheid policies. Started by the government in the 1950s to help reduce South Africa's dependence on imported oil, the company was privatized in 1979. Coal is first gasified, then turned into a range of liquid fuels and petrochemical feedstocks. Sasol has the capacity to produce 150,000 barrels per day of liquid hydrocarbons from coal.

For US energy policy this piece violates the global warming limits but it will only be used on a massive scale if the US has lost access to major crude oil supplies in the Middle East. World scale plants are needed to allow the experience necessary for rapid construction of similar plants if needed later for energy security.

It should be noted and remembered that the US was also embargoed in 1974 by the Arab producers for our support of Israel and in 1980 Iran took hostages and halted oil supplies because of our support of the Shah. If these types of events or the Iraqi invasion of Kuwait reoccur in the future our sources of Middle East crude will suddenly disappear and we have no developed technology to replace these lost supplies.

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D.8 Open governmental lands to oil/gas exploration. Open governmental lands to oil/gas exploration and expedite the construction of a natural gas pipeline from Alaska to the contiguous 48 states through Canada.

Natural gas has been available in Alaska since the discovery of oil in the mid-1970s but there has never been any serious work on delivery to the lower 48 states. Development and delivery of existing Alaskan gas reserves should take precedence over funds for new crude exploration.

Finding new crude on federal land will provide for a reduction in foreign exchange. It will also improve our energy security. However, it does nothing for the current energy crisis which is a shortage of natural gas, power plants and refineries - not crude oil availability.

-There has never been a shortage of crude. In fact there has always been a worldwide surplus of productive capacity. The US has a very low ratio of reserves to consumption. For maximum strategic value any crude found on federal land should be developed but shut in for the eventual use during international emergencies provided sufficient liquid fuel savings are generated by other means to reduce the balance of payments problem. Simply stated we have very small crude reserves and we should be using imports and save reserves on federal land for periods of shortage.

Shut in production is a much better emergency source than the SPR which is finite and not of sufficient size to handle any major supply disruption. The major international oil companies controlled most of the oil reserves in the Middle East in the 1950s. Productive capacity was in excess worldwide as it is today. This excess capacity was used to smooth out supply variations. Unproduced oil stored in the ground with variable production rates was used to minimize expensive above ground tankage.

To reiterate, the major inter-related energy problems facing the US are a flawed attempt at electric power deregulation, a shortage of natural gas, a shortage of power generating and refining capacity, gross misuse of the hydrocarbons which we have available and a constantly increasing loss of national wealth and security via reliance on foreign hydrocarbon imports. These problems have been slowly developing over a 25 year period and have now reached a critical mass. There is no easy way out of the box that we have built around ourselves. Decisive action is required at the federal level now or we will find that someone has put a lid on the box. And who might that be? As Pogo once said "We have met the enemy and he is us."
Dear President Bush,

June 14, 2001

Thank you for your statement last November.

Good news from Sec. Abraham's DOE!

Following are some quotes:

"An average of 2.45 billion metric tons of cellulosic biomass could be available in the U.S. each year for fuel conversion, providing a potential ethanol yield of 270 billion gallons—twice the total U.S. gasoline consumption."

"Ethanol is a homegrown energy alternative. And ethanol produces a fuel that burns cleaner."

Vice President Bush, June 13, 1989

"I am committed to searching for innovative uses for agricultural products with environmentally beneficial uses such as Ethanol. Ethanol is one product that helps America's farmers and aids in making our air cleaner."

George W. Bush, Nov. 2000

"Ford, G.M., and Daimler Chrysler are building hundreds of thousands of vehicles to run on conventional gasoline or up to 85% ethanol. These vehicles are available to consumers today at no additional cost."

"A recent New York Times editorial put the real cost of gasoline—including military expenditures—at $5 a gallon."

29886

Obtained and made public by the Natural Resources Defense Council, May 2002
"The energy security cost to the U.S. of maintaining the uninterrupted flow of oil from the area (the Persian Gulf) is $57 billion per year, or approximately an extra $9.19 per barrel of oil used in the United States. According to a variety of sources, the true cost of oil, including military and energy security expenses, is as high as $100 per barrel."

"Oil and motor vehicle use are responsible for enormous hidden economic and health costs due to environmental damage."

Our family farm is in Iowa, so I am an Iowa taxpayer. With corn prices at a new low, ethanol use could really help.

Ethanol is such a promising fuel, please tell me how you are incorporating in your energy proposal.

Sincerely,

Florence Burgkorn

Ms. Florence Burgkorn

(5)(6)
July 11, 2001

Mr. Frank Boring Fitzgerald

Dear Mr. Fitzgerald:

Thank you for your letter of June 4, 2001, that recommended a number of specific actions to strengthen the Nation’s energy policy and technology.

While your letter expressed disappointment with the Administration’s National Energy Policy Report, I believe that there are many elements of this policy that parallel the recommendations in your letter. These include a renewed emphasis on increasing domestic energy supplies, continued support for the development of advanced energy technologies, strengthening the country’s electric transmission grid, increasing our utilization of nuclear energy, reducing our dependence on oil imports and continuing our reliance on competitive and free markets.

I will convey your ideas to appropriate members of my staff. Thank you for writing.

Sincerely,

Margaret Andrade
Acting Director
Office of Policy

Printed with soy ink on recycled paper

29888

Obtained and made public by the Natural Resources Defense Council, May 2002
July 12, 2001

The White House
1600 Pennsylvania Ave. NW
Washington, DC 20500

Dear President Bush:

I tend to overeat when I am frustrated or angry. Since you have been in office, I have gained 8 pounds!!

One of the most frustrating aspects of your presidency so far is the fact that you just don’t seem to get this energy thing!! Oh, I know, you said you put together a national energy policy to address the crisis we are facing today, but be honest, it is just the same old fossil fuel/nuclear agenda that we have always had. You didn’t even include any conservation measures until the polls came out indicating that the majority of Americans favored energy conservation.

“IT’S SOLAR AND WIND, STUPID!!”

Not calling you stupid, just borrowing from a former campaign slogan that got to the heart of the matter and made a point rather eloquently!!

Alternative sources of energy, such as solar power and wind generation, along with conservation measures, are the real key to future energy stability. Now before you dismiss me as just another environmental extremist with a passionate hatred for all things oil and gas, let’s discuss a couple of things.

1. You have to know that fossil fuels (oil, gas, coal) are finite – at the current rate of use, reserves will diminish greatly in our lifetime, and will most certainly all but disappear in our children’s lifetime.
2. You have to know that the burning of fossil fuels causes massive air pollution problems, the greenhouse effect and global warming (even the study you commissioned to refute all other scientific data on this subject said it was so!!) Power companies cause 67% of the air pollution in this country.
3. You have to know that nuclear power plants produce toxic waste products that are being buried in our land, subjecting us all to possible radiation contamination – plants themselves are also a threat to the environment, as the possibility of an accident is ever-present.
4. You have to know that the rest of the countries of the world view this administration as the “evil Americans” bent on destroying the global environment by allowing power generators to spew toxic, deadly gases into the atmosphere.
5. You have to know that there are billions of dollars of “hidden costs” that are never associated with the “cost” of fossil fuel energy – they range from taxes we all pay to clean up air and water, to higher health premiums because dirty air and water make people sick, to the fact that we must provide a standing army to protect oil reserves in the Middle East.
6. You have to know that the government gives billions of dollars in subsidies and tax breaks to fossil fuel industries, and that these industries are making obscene, record profits at the expense of the American public. (The Vice President can attest to the fact that they also provide compensation packages for corporate officers that would rival the economies of most world nations!!)
7. You have to know that NASA has been using solar power for years, and that the technology exists today to allow solar power to provide a large chunk of our energy demands.
8. You have to know that new, high tech wind generators exist both in this country (right here in Texas, as a matter of fact!!) and in many other countries of the world, and could provide much more energy if developed further.
9. You have to know that solar power and wind generators are non-polluters, are renewable sources of energy, and the plants that generate this type power take a fraction of the time to come on-line compared to fossil fuel plants.
10. You have to know there are hundreds of things you could encourage Americans to do to save energy, from using compact fluorescent bulbs to turning off the water when they brush their teeth!! A national conservation campaign would be appropriate – a glitzy marketing blitz should not be hard to put together.
11. You have to know that high tech chip factories are shutting down and people are losing their jobs due to lack of demand for computer components. However, there is always a demand for additional watts of electricity that could be provided by photovoltaic cells built in these factories. The jobs created would keep valuable workers on the tax rolls, provide a boost to the economy and help the environment too. Texas Instruments is a prime example. They have, in the past, even produced solar panels.
12. You have to know that thriving American solar and wind industries would have an enormous positive affect on the balance of trade, because there are many areas of the world that do not have access to electricity who would buy their products.

Knowing all this, I can’t help but think you also know that you have a once-in-a-lifetime opportunity to become a legend in your own time, and leave a legacy that will have people forever pointing to this time in history and saying, “they finally came to their senses”!!

Here’s the deal – The oil, gas and coal magnets are strictly interested in the bottom line, their compensation and the ease of doing business without the constant threat of environmental problems hanging over them. They are currently making record profits.

You have very good friends in the oil and gas industries – in fact some of those very friends are purported to have met with the Vice President on this very issue. Since you are President, and a close friend, they might be willing to listen to you concerning a very practical and logical suggestion that has the potential to give them windfall profits and freedom from constant environmental problems and foreign governmental headaches.

Because oil, gas (and coal) are finite, these companies need to diversify. They need to become “energy” companies rather than “oil and gas” companies. Energy needs will always be with us, so the sooner they jump on the alternative energy bandwagon, the more control they will have over the emerging technologies of solar and wind. (and we all know they love control!!)

Although initial investments will be large, the potential profits in the coming years will be enormous. They won’t have to search for energy – it is right there shining down on us every day, and in the wind that blows across the plains. They won’t have to fight messy environmental battles, as these sources of energy don’t pollute. They won’t have to destroy public lands, as there is more than enough area available for solar and wind generating plants (every rooftop is a potential plant). They would not have to be bothered by the whims of foreign governments to get their product to market. They could become the “good guys” – saving us from foreign control of our energy needs, helping clean up the air and water.
by providing non-polluting energy, freeing Americans from the current (unfounded) fear of "not enough energy", and leaving pristine public lands free from development for the enjoyment of future generations. Although Americans would still be paying these companies for their energy needs, at least we would be getting a cleaner environment in return. Better than the current deal we are getting!!

Just as President Kennedy challenged the country to go to the moon, you could be the President who challenges the country to become energy self-sufficient while protecting the environment at the same time. You could leave a legacy far more lasting than our stepping on the moon - you could leave a global legacy of cleaner air, cleaner water, and cleaner, more abundant energy. Your father had the same chance at the end of the Gulf War, but chose instead to stay with the status quo. Had he taken a stand for alternative energy those many years ago, we would not be discussing it now. How ironic that this many years later, fate has given you the same opportunity. Let's see what you do with it!!

"IT'S SOLAR AND WIND, MY FRIEND!!"

Yours truly,

[Signature]
Linda Couvillion

Cc: The Honorable Tom Daschle, Majority Leader, U.S. Senate
    The Honorable Richard Gephardt, Minority Leader, U.S. House of Representatives
    The Honorable Eddie Bernice Johnson, Representative, 30th District Texas
    Vice President Dick Cheney
    Andrew Lundquist, Executive Director, National Energy Policy Development Group
    The Honorable Spencer Abraham, Secy of Energy
    The Honorable Gail Norton, Secy of Interior
    The Honorable Paul O'Neill, Secy of Treasury
    The Honorable Ann Veneman, Secy of Agriculture
    The Honorable Don Evans, Secy of Commerce
    The Honorable Norman Mineta, Secy of Transportation
    The Honorable Colin Powell, Secy of State
    Christina Whitman, Administrator Environmental Protection Agency
    Joe M. Allbaugh, Director, Federal Emergency Management Agency
    Curt Hebert, Jr., Chairman, Federal Energy Regulatory Commission
    Assistant to President & Deputy Chief of Staff for Policy
    Assistant to President for Economic Policy
    Assistant to President for Intergovernmental Affairs
    White House Fellow Assigned to office of VP for support of NEPDG (no name given!!)
    John Schaeffer, CEO, Real Goods Trading Company

29891

Obtained and made public by the Natural Resources Defense Council, May 2002
The Honorable Spencer Abraham
The Secretary of Energy
1000 Independence Avenue S.W.
Washington, D.C. 20585

Dear Mr. Secretary:

An assured and adequate supply of energy resources is basic to our nation’s economic health and security. Of the various energy resources upon which we depend, petroleum is the one over which we have least control. Therefore, it is encouraging that President Bush has established a taskforce to formulate a program to reduce, over a 10-year period, our reliance on foreign supplies of petroleum. The program will apparently focus mainly on oil and gas development and include tax incentives to promote domestic production, the easing of environmental restrictions on the operation of power plants (at least on a short-term basis), and exploitation of oil and gas reserves in the Arctic National Wildlife Refuge (ANWR).

It is not at all clear how such a program will reduce our dependence on foreign sources of petroleum over the short- or long-term. Based on data supplied by the Energy Information Administration of the Department of Energy¹, the current rate of petroleum consumption of approximately 19 million barrels per day exceeds domestic supplies by about 10 million barrels per day. Net imports are projected to rise from the current level of 10 mb/d to 13.5 mb/d by 2010 and to 17 mb/d a decade later. The 14 billion barrels of crude in the ANWR² would, if the entire field were recovered— not likely at present prices, be equivalent to 1000 days of imports in 2010 and 800 days worth in 2020. At a more sustainable average rate of extraction of 2 mb/d, net imports in 2010 and 2020 would still exceed today’s import level. Were enhanced extraction techniques applied to existing fields, the impact on our country’s reliance on foreign sources would not be significantly altered even when projected one and two decades into the future. In sum, our situation with respect to reliance on foreign sources of petroleum— some in very unstable regions— will only deteriorate over time.

Motor gasoline consumption in this country is approximately equivalent to 90% of imports; it is projected to decrease to 75% in 2010 and to a still substantial 65% by 2020³. Clearly, the most promising and exciting approach to reducing petroleum imports is replacement of the internal combustion engine by the hydrogen fuel cell. Only five years ago, the fuel cell was an exotic and expensive curiosity. Now, strikingly, Shell, Texaco, BP, and Exxon are exploring the technical and commercial aspects of converting to fuel...
cell technology and some are entering into cooperative relationships with Ford, DaimlerChrysler, and General Motors to develop fuel cell automobiles\textsuperscript{1}. Indeed, General Motors hopes to come out with a prototype, the HydroGen\textsuperscript{1} in 2004, which will run entirely on hydrogen and produce the equivalent energy of a 1600 cc internal combustion engine\textsuperscript{2}. Additionally, GE is developing an inexpensive fuel cell unit for providing heat and electricity to homes and small offices. It is envisioned that in ten years such units will have a tenth of the $50 billion-a-year global market in power generating equipment.

Of course, the conversion to a hydrogen fuel cell economy will not occur overnight. The infrastructure for storing and delivering hydrogen is not yet in place. During the conversion to pure hydrogen, its utilization will probably involve "reforming" methanol and gasoline in cars and natural gas or propane for power generation.

As cosigners of this letter, we would appreciate your response to the idea of promoting an emergency energy plan to make our country energy self sufficient in ten years. The focus of the plan would gradually replace residential, commercial and industrial oil and gas heating plants with compact individual hydrogen fuel cells. The capacity of the cells, similar to modern air conditioning systems, would be designed for the particular facility it would serve.

The most important mission that should engage President Bush's taskforce is the establishment of common safety and regulatory standards for the use and distribution of hydrogen and for the siting of hydrogen plants and refueling stations. Eventually, our nation would be liberated from dependence on foreign energy sources and be at the forefront of a revolution in power generation. Now that would be a legacy of which President Bush could be justly proud!

We look forward to an early reply.

Sincerely yours,

Richard S. Liebling
Professor of Geology

Paul Weinberg
Licensed Professional Engineer

1. Energy Information Administration, Annual Energy Review, 1999
3. Energy Information Administration, Annual Energy Outlook, 2001
4. The Economist, July 22, 1999
5. The Economist, June 22, 2000
Dear Vice President:

Thank you for having Andrew Lundquist, Executive Director of the National Energy Policy Development Group acknowledge receipt of my recent letter. He also sent me an overview of the Group's report.

I failed to find any mention of the FREE-HEAT FROM THE ATMOSPHERE TECHNOLOGY in the report.

I am aware of the $1,666,000,000 given to Republican candidates for the recent election by Enron, a large Houston electricity generating company. The purpose of this generous gift was to ensure that they would protect Enron's interests at the expense of the citizens of the world. President Bush has acknowledged receipt of approximately $23,000,000 and no doubt can show that the entire sum was spent on his candidacy. My question is, where did the remaining $1,643,000,000 go and where is it now? My authority is the Wall Street Journal.

I have written many letters to the previous administrations and congresses about vital problems. I have made many suggestions for potential solutions that would benefit the entire world. These were seldom acknowledged. Having failed to get these suggestions implemented by just
Andrew Lundquist  
Executive Director,  
National Energy Policy  
Development Group  

Paul Gigot  
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