01-011639 5/7/01 12:02pm

Gilbert Esquivel

(b)(6)

May 3 2001

The Vice-President
The White HOuse
Washington DC 20500

ENERGY RESOURCES and CONSERVATION

Dear Mr. Vice-President:

I'm enclosing a copy of my letter of February 26, 2001, to U.S. Department of Energy Secretary Mr. Spencer Abraham, with copies of my letters of March 27 and September 24, 2000 mentioned therein, as well as a copy of the Department of Energy's reply of April 20, 2001, all relative to the above-captioned subject. I sincerely hope that you'll find a way to devote some of your very busy time to the reading of this correspondence, which I consider of the utmost importance.

I'm greatly encouraged to see that (Finally) a National Energy Policy Development Group has been created - "to promote dependable, affordable, and environmentally-sound production of energy " - and that you have been appointed to head this very important group.

In an AP article appearing in the May 1st. edition of our local newspaper, the Pocono REcord, the following is attributed to your address of April 30th. at the Associated Press annual meeting:

> VP Cheney warned that the whole nation could face California-style blackouts as he outlined a national energy strategy relying heavily on oil, natural gas, coal and nuclear power development - but not conservation. - The aim here is efficiency, not austerity. The nation cannot simply conserve or ration our way out of the situation we're in. Conservation, while perhaps "a sign of personal virtue"' does not make for sound or comprehensive policy.
>
> The VP made no bones about placing oil, coal and other fossil fuels at the center of his recommendations. Alternate fuels are still "years down the road" he said.

Mr. Vice-President, I feel very strongly that our Energy Plan should be all-comprehensive, encompassing all phases: conservation via more efficient equipment, appliances, etc., increased use of alternate fuels, coordinating resources with other Western Hemisphere countries, etc., etc., and would very much appreciate your taking my comments and suggestions into account as you and your National Energy Group formulate a National Energy Policy so vital to our country. - Your comments will be gratefully appreciated.

Wishing you much success in this and in all of your endeavors,

Sincerely,

Gilbert Esquivel

as as indicated on reverse side.

29720

2001-011704 5/7/01 4:13pm

May 3, 2001

The Honorable Spencer Abraham
Secretary of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Abraham:

We urge you to **support a national energy strategy with a primary focus on developing new energy technologies and renewable energy resources.** Please do not support short sighted proposals focused on domestic oil production which would only perpetuate our dependency on a limited resource.

Energy independence is not an oil drilling issue. Reliance on old technology has caused our over dependence on foreign oil. Our country has prospered due to innovation and advances in technology. Our future prosperity will depend on our ability to create new innovations in transportation and energy production. There are promising energy technologies which could significantly alter our dependence on oil.

Please support programs which will facilitate our country in becoming the leader in a new era of energy technologies. We strongly urge you to protect our wilderness areas and national parks from unnecessary oil drilling which at best will yield a limited supply of energy. With the proper impetus, we can leave the era of the combustion engine behind and reap the tremendous rewards from being the leader in energy technology and renewable energy resources!

Sincerely,

Peter and Kathryn Marcolina
(b)(6)

29721

2001-011850 5/8 4:12

May 5,01

Dear Secretary Abraham,

As Californians and Republicans, we support the Presidents energy policy but feel that it doesnt go far enough. He is overlooking the great role that alternative energy could play in resolving our current energy defecit.

Geothermal, wind and solar are readily available in California as well as other western states; we believe that our government should give tax incentives for developing these very important resources.

We also hope the federal government will do more to cap Californias energy prices. Everyone is entitled to a healthy profit as an energy provider, but there is a major difference between a good profit and uncontrolled price gouging. If the energy shortage is as bad as it is expected to be in alifornia this summer. many people, especially the sick, elderly and very young could die of heat stroke. We hope that your department will act decisively to assist in this serious and potentially life threatening situation.

A written reply from you or your staff would be appreciated.

Thank you.

Respectfully yours,

The Adams family

(b)(6)

29722

2001-011963 5/10 4:19

011963

(b)(6)

5 May 2001

Secretary of Energy Spencer Abraham
U.S. Department of Energy
1000 Independence Ave. SW
Washington, DC 20585

Dear Mr. Abraham,

I am very disturbed by the emerging energy policy of the current administration. I urge you to focus on conservation rather than further development of non-renewable resources.

Locally in Colorado...Please do not cut NREL staff
I recently read in the newspaper about plans to cut staff at the National Renewable Energy Laboratory 30-50%. At a time of rolling blackouts on the West Coast this action is not warranted and comes at exactly the wrong time. People show a greater interest in renewables when energy supply is low.

Nationally...Please do not encourage use of non-renewable resources
I am very concerned about plans to develop oil reserves in the arctic wildlife refuge. Also, I am extremely embarrassed that the United States Department of Energy is encouraging automobile manufacturers to further develop the Sports Utility Vehicle. These gas-fueled vehicles will never be more efficient than smaller cars. Why is the United States searching for more oil and advocating larger cars when North America, which represents only 7% of the world's population, already consumes 30% of the world's energy?

Globally...Please work together with other countries
As a wealthy and powerful country, the United States should not shun its responsibilities with respect to the United Nations and the Kyoto Protocol. We need to provide leadership, working together with other countries to address pollution, climate change, and the health of the planet.

I find it rather odd that a man who recently left an oil industry position with a multi-million dollar parting gift heads the Energy Policy Development Task Force. We need to take a broader look at energy. Let's develop a policy that addresses both current problems and sustainability for the future. *Please revise this nation's energy policy with a focus on conservation!*

Sincerely,

Lisa M. Haddox

Lisa M. Haddox

29723

2001-011909 5/9/01 3:13pm

Robert Tippelt

(b)(6)

7 May 2001

Dick Cheney
Vice President of the United States of America
1600 Pennsylvania Avenue N. W.
Washington, D.C.
20500

Spencer Abraham
Secretary of Energy
1000 Independence Avenue S.W.
Washington, D.C.
20585

High Temperature Nuclear - Helium Turbine
Advanced Power Generation Technology

Abstract: The case for consideration of the nuclear powered closed cycle helium turbine as a viable development alternative for bulk electrical power production is presented. Following a brief historical sketch of closed cycle turbo-machine development and high temperature gas cooled reactor development, a conceptual plant is described along with some of the present obstacles to realization of a commercial plant. The author proposes that the potential benefits of this technology outweigh the development risks and that a broad coalition of long term investment interest would bring a commercial realization. The author's belief is that this development should be based on its own merits and the risks assumed by the private sector with the Department of Energy playing a co-ordination role.

Dear Sirs:

Lately I have heard many reports of a new focus on national energy policy and as part of those discussions, I would like to bring a promising electric power generation technology to your attention. The closed and direct cycle helium turbine powered by a high temperature gas cooled nuclear reactor has received varying degrees of attention over the past few decades but has not yet been realized in a commercial plant. The concept offers a clean, efficient and economical source of bulk electrical power with several competitive advantages over conventional nuclear steam supply systems and open cycle industrial and aero-derivative gas turbines. The chief obstacles to present development are public anti-nuclear sentiment and short term focus in capital markets. In this brief, I would like to present a summary of past and present development activity, a description of the conceptual plant and then proceed to address the obstacles I have listed. In so doing, I hope to secure an opportunity for this technology to be considered, along with the many others, in the United States national energy policy.

2001-012360 5/16 3:53

Jessica Weinberg] 66

May 12, 2001

Secretary Spencer Abraham
U.S. Department of Energy
1000 Independence Ave., SW
Washington DC 20585

Dear Secretary Abraham:

Recently Ohio Northern University, of which I am a student, had the privilege of hosting a noted environmentalist and consumer advocate, Mr. Ralph Nader, on campus as a guest speaker. During his main campus address, Mr. Nader informed us that in 1952, President Harry Truman's Materials Policy Advisory Committee recommended that America "go solar," i.e., turn to solar power as a major energy source, estimating that 75% of American homes could be solar-powered by 1975.

What is more, the *Christian Science Monitor* reported in March that wind power now generates thirteen percent of all energy used in the country of Denmark, and the Danish government has plans to increase the figure to 50 percent by 2030. Denmark first turned to wind power in the wake of the "oil shocks" of the 1970s, while other nations, including the United States, turned to nuclear power and synthetic fuels. Even in the U.S., wind power is currently the world's fastest-growing energy source, as companies such as Green Mountain provide this renewable form of energy to a select few communities in our country, including nearly 100 in Ohio. This, however, is not enough.

Not only has the United States faced oil and gas shortages recently, but the generation of our traditional fuel sources present increasingly visible environmental hazards. The earth's surface could rise eleven degrees this century according to some European sources, and even American scientists predict an increase of five degrees or more. Another example of the environmental risks brought about by conventional electricity can be found in the Hudson River, into which General Electric has released PCBs. Nuclear power, the "solution" extolled by President Bush and Vice President Cheney, comes with its own environmental hazards, as there are no facilities for the safe disposal of high-level radioactive waste. Also, nuclear power is the most expensive method of electricity generation there is. Nevertheless, we already rely on nuclear power to generate 20% of our electricity.

In light of facts such as these, I urge you to pursue a national energy policy that aggressively moves the United States away from its current dependency on oil, fossil fuel, and nuclear power and towards increased reliance on solar and wind power. Public Citizen reports that fully utilizing existing renewable energy technologies such as hydrogen fuel cell technology, wind

2001-016358 7/9 P 12:41

ecretary, The

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From:
Sent: Wednesday, May 09, 2001 2:04 PM
To: Secretary, The
Subject: Policy

016358

2001 JUL -9 P 12:41

FROM:
NAME: Matthew Connelly
SUBJECT: Policy
ZIP:
CITY:
PARM.1: TO:the.secretary@hq.doe.gov
STATE:
TOPIC: Lack of Conservation in Energy Policy
SUBMIT: Send Comments
CONTACT: email
COUNTRY: United States of America
MESSAGE: I am outraged that the energy policy which Mr. Cheney has outlined not only disregards the role of conservation, it deliberately suppresses scientific findings that government-sponsored energy conservation programs would eliminate the need to build hundreds of power plants. Mr. Cheney wants to build one new plant per week for the next 20 years, but completely ignores the need for conservation. I support raising the minimum fuel economy standards, offering tax breaks for consumers and bus
MAILADDR:

b6

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2001-005451

From: Friedrichs, Mark
Sent: Thursday, May 10 2001 12:59 PM
To:
Subject: Response to your e-mail of February 26 concerning U.S. Energy Policy Development

Dear Mr. Tzeferakos:

First, I would like to apologize for the long delay in responding. The Department of Energy has been receiving thousands of e-mails in recent months, and we are still trying to catch up.

I suspect that you have been following the work of Vice President Cheney's Energy Policy Development Group through the media. The only statements released regarding the Administration's new energy policy have been well reported in the press. The most detailed was Vice President Cheney's recent speech in Toronto.

It is our understanding there will be a substantial document released shortly, almost certainly during May. I am sure that the media and various U.S. government webpages, including the Department of Energy's (energy.gov), will immediately disseminate this document and any related announcements, as well as summary information.

I hope this is helpful.

Sincerely,

Mark D. Friedrichs (PO-2)
Policy Office
U.S. Department of Energy
Washington, D.C. 20585
202-586-0124
Fax: 202-586-3047

b5
all

2001-012294

Department of Energy
Washington, DC 20585

May 14, 2001

MEMORANDUM FOR THE SECRETARY

FROM: for Lake H. Barrett, Acting Director Ronald A. Milner
Office of Civilian Radioactive
Waste Management

SUBJECT: **ACTION:** Approval of Extension of a Non-reimbursable Detail for Charles M. Smith from the Office of Civilian Radioactive Waste Management to the National Energy Policy Development Group, Office of the Vice President

ISSUE:

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B(6)

May 15, 2001

Mr. George W. Bush
President of the United States of America
The White House
1600 Pennsylvania Avenue NW
Washington, D.C. 20500

Dear President Bush,

Your energy policy is pragmatic from the standpoint of addressing current supply and demand issues.

This policy, however, only lightly addresses the change to fuels that are more healthy.

You have stated that the global warming "debate" is "controversial". However, what is not controversial is the 28% rise in our atmosphere's carbon dioxide. This has been measured many times. It is easy to dismiss this as just due to volcanic activity. But how can we do so, when our cars, trucks, airplanes, power plants, and cement plants are putting out tens of billions of tons of carbon dioxide in the air per [illegible]r? When you figure that we've probably used up maybe fifteen to twenty percent of all fossil fuel [illegible]able to us (including coal) and that this fuel long ago probably came from carbon dioxide in the air, [illegible]en yes: putting tens of billions of tons of carbon dioxide into the air each year is enough to cause us to be able to measure increased carbon dioxide in the atmosphere due to human activity.

Thousands of scientists, most of them independent from one another, have examined the evidence and say that most likely this increase in carbon dioxide along with other vapors and gases is causing Earth's temperature to rise. They say other well-discussed climate and environmental changes will happen, too. But there is still a small minority of people that disagree. Thus, the controversy lives on.

Even if we can't totally predict the future, the possibility exists that there will be very bad changes on Earth directly due to what we humans are doing right now by burning fossil fuel. We should be able to see that we are conducting a gigantic climate experiment, and Earth is the test tube. Isn't the certainty that carbon dioxide in the atmosphere has risen and yet we still keep adding tens of billions of tons of it in the air each year---coupled with the possibility that we are courting disaster by doing so---isn't this certainty enough to make us want to stop what we're doing? Well, so far we haven't stopped. But why haven't we, if the alternative already exists?

We discuss a lot about how "special interests" are keeping us from changing, for the sake of short-term earnings gains. However, some or all of these "special interests" are the ones who will still be providing us with the fuel we use, even when it is healthy fuel. Some of these industry leaders are already in the business: BP Solar and Shell Hydrogen are two, and they serve as clear evidence that the rest of the industry can do the same. They all can make healthy fuels.

[illegible]ealthy fuels are these: photovoltaic electricity and hydrogen; windpower electricity and hydrogen; [illegible]power electricity and hydrogen; fossil-fuel-derived hydrogen with complete carbon sequestration; crop-derived fuel, burned using scrubbers; and biogas. These fuels are healthy because they do not

29729

increase greenhouse gases and they do not significantly, if at all, pollute the air with particles and toxins. Nuclear energy would be ideal, were it not for major handling and storage hazards, so regretfully I cannot include it with the others. Transporting, storing, and dispensing these healthy fuels are only infrastructure logistics, for the techniques are already known.

We discuss a lot about how Americans worry about global warming and want cleaner fuels, but then they go out and buy SUV's. This makes a very clear statement. Americans want to fight global warming and want healthy fuels. But Americans want the engineers to make SUV's that fight global warming and run well on healthy fuels. Americans do not individually have the ability to make for themselves what the engineers can produce. Also, Americans do not have a clear idea about what to change to and how.

So, what is the remedy?

My hope is that you will see what I mean when I say that in good conscience we cannot continue with our Earth Climate experiment. The possibility that bad things will happen should be good enough to make us want to stop. My hope is that you will come to agree with me.

I would like to see you go on television and announce a national effort that by the year 2020 we will be running all of our cars, trucks buses, planes, homes, businesses, and power plants on the healthy fuels stated above. Doing so would be similar to the speech President Kennedy gave us in 1961, resulting in a human on the moon in 1969. After your announcement, the Federal Government can guide the process dustry to fulfill. The infrastructure cost will then be borne by us all (individuals through taxes and purchases, and industry through enabled investment). The resulting fuel changes should make prices higher but more stable and less vulnerable to international politics. The higher prices should be largely mitigated by increased energy efficiency of the powered devices humans use. The common good will have been served.

You would be seen as a true visionary and a leader of uncommon strength, if you announced and implemented such an effort. In the history of the world, there would be no instance greater than this, in which one person made a decision that so vastly benefited everything about our existence on this planet. That person rightfully should be you, the President of the United States.

When I was a Boy Scout, I learned of true wisdom in the Native American philosophy of leaving your campsite looking as if no one had ever been there. We cannot completely do this with Earth, of course, but we need to be wise enough to leave a smaller footprint.

I send my best wishes to you and your family. I appreciate your consideration of my ideas.

Sincerely,

Robert F. Stonerock, Jr.

Robert F. Stonerock, Jr., M.D.

2001-012783 5/22 11:59

CARL J. SEAL JR.
SYSTEMS, STANDARDS
& PROCEDURES CONS
10 83031

b(6)

President of the United States
The White House
1600 Pennsylvania Avenue
Washington, D.C. 20500

15 MAY 2001

Subject: Energy Program

Dear Mr. President:

TWENTY FOUR YEARS, TWENTY TWO YEARS, AND AGAIN ALMOST TWELVE YEARS AGO; I SUBMITTED A PROPOSED ENERGY CONSERVATION PLAN TO THE THEN PRESIDENT.

WHAT GOES AROUND COMES AROUND, AND WE HAVE CERTAINLY COME FULL CIRCLE. OUR COUNTRY'S ENERGY PROBLEMS JUST WON'T GO AWAY.

THE COVER LETTERS AND THE ORIGINAL PLAN IS ATTACHED FOR YOUR REVIEW AND CONSIDERATION TODAY. THIS CONSERVATION PLAN WOULD INVOLVE ALL OF US (GOVERNMENT/INDUSTRY/EACH AMERICAN CITIZEN), AND IS INTENDED TO BE PART OF A TOTAL PROGRAM WHICH SHOULD ALSO INCLUDE NEW ENERGY EXPLORATIONS, ALTERNATIVES, AND TECHNOLOGIES.

I THINK THE AMERICAN PRESIDENT AND THE POLITICIANS WHO PROVIDE THE LEADERSHIP AND EXAMPLE NEEDED TO UNITE ALL AMERICANS (AS A TEAM) TO SOLVE OUR ENERGY PROBLEMS, WILL GAIN ENDURING RESPECT AND ADMIRATION. I THINK THAT TIME COULD BE NOW.

I WILL BE MOST HAPPY TO OFFER MY THOUGHTS, ORIGINAL PLAN UPDATE, AND PROVIDE ADDITIONAL DETAILS.

ATTACHMENT

SINCERELY,

Carl J. Seal Jr

CARL J. SEAL JR

b(6)

CC: ENERGY SECRETARY SPENCER ABRAHAM
VICE PRESIDENT DICK CHENEY
HONORABLE JEAN CARNAHAN
HONORABLE CHRISTOPHER BOND
HONORABLE WILLIAM (LACY) CLAY
HONORABLE BOB HOLDEN

29731

012296

15 May 2001

Spencer Abraham
Secretary of Energy
Washington, D.C.

2001-012296 5/15 P 4:10

Dear Sec. Abraham:

I am happy that we will soon have a national energy plan which handles growth and includes nuclear energy. I wish it also had a carbon tax and a tax credit to encourage reprocessing of spent nuclear fuel (SNF). (I hope I'm wrong and it has these.) My reasons are outlined in my attached article "Saving Frogs Via Nuclear Energy," which will soon be sent out to a number of prominent newspapers.

Sincerely,

Steve Barrowes

Steve Barrowes, Ph.D.
Member, Utah GOP State Central Committee
Member, Scientists for Secure Waste Storage

SAVING FROGS VIA NUCLEAR ENERGY

It is sad that many species seem to be threatened by things man has spewed into the environment. As a boy I spent days catching leopard frogs, watching dragon flies and water beetles, and enjoying the variety of nature along Spring Creek near my home. Years ago the area was converted into a parking lot. In their remaining wild habitat many species of frogs now suffer from declining numbers and strange deformities.

We have enjoyed the many benefits of the chemical industry along with other scientific technologies, but have pursued these too often with irrational exuberance. Now we are beginning a new phase of technological progress in which we must be careful not to further pollute the environment, and must also try to clean up the messes already made.

We must do this not only to save frogs and other creatures but to ensure a clean environment for our children and grandchildren.

Cleanup costs money, however, and uses large amounts of manpower and energy, and energy production often involves more pollution.

Over half of our electricity comes from burning coal, and the particulates in the smoke are estimated to kill 30,000 U.S. citizens per year. Particulates from automobile exhaust kill a similar number, and all fossil fuels are adding to the global warming problem by emitting large amounts of carbon dioxide.

Carbon dioxide (CO2) cannot be controlled in the same way as ordinary pollutants because the only way to reduce CO2 emissions from a power plant is

to burn less fossil fuel and thus produce less power. Effectively this means shutting down some fossil fueled power plants.

People will not accept less electricity as a solution when we are already faced with an energy crisis that threatens our economy. President Bush knew this and was right to reject the Kyoto protocols until better, cleaner sources of electric power could replace older, dirtier power plants.

We need more non-greenhouse power sources such as conservation measures, improved efficiency, renewables such as wind and solar, and the quiet workhorse, nuclear power. All of these could be promoted relative to fossil fuels by imposing a carbon tax. A modest tax, say 0.1 to 0.3 cents per kilowatt hour of coal-generated electricity, would not have a serious impact on the economy but would serve to point the way toward non-greenhouse power. It would spur interest in renewable sources and conservation and encourage utilities to take advantage of the new generation of nuclear power plants, which are more economical, safer, and faster to build.

Our politically conservative friends might object to the very idea of the federal government trying to direct the market by imposing a carbon tax. The free market, however, cannot solve pollution or global warming problems by itself, because companies in competition must choose the cheapest method available. If a few companies have higher standards for the sake of environmental principles, they may lose market share and go bankrupt, but if all must meet the same high standard, they can all do so with a smile.

The regulations must be federal, not state, because polluted air and water usually cross state boundaries. A carbon tax is a much less intrusive method than direct regulation of every business that uses fossil fuels. The tax would be passed along to consumers, motivating us all to prefer products made with non-greenhouse energy.

If there are exotic new sources of energy to be found, a carbon tax would encourage such research. In the meantime immediate benefits can be gained by turning off unused lights, adding an insulating jacket to a hot water heater, or tolerating a warmer house this summer. Wind and solar power would also be encouraged by a carbon tax, although they are still considerably more expensive than coal power.

Nuclear power would be slightly cheaper than coal power, encouraging this clean, safe, long-term solution. The handling of nuclear waste will become less of a problem with the new generation of nuclear plants. Spent fuel can be reprocessed, which allows the true waste (melted into glass) to become safe after only 300 years, while the unused uranium (over 95 percent) is recycled to provide clean energy for thousands of years.

This should all be good news for frogs, because unless we have relatively cheap, abundant energy, the economy will slump and other priorities will edge out environmental cleanups. Regarding the idea of a carbon tax, the frog lobby will no doubt make happy noises.

740 text

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May 16, 2001

Spencer Abraham, Secretary of Energy
1000 Independence Ave., SW
Washington, DC 20585

Dear Secretary Abraham:

My preferences for U. S. energy policy.

1. Upgrade the insulation in all existing buildings, private and public, to current best standards. Provide assistance to those lacking the means.
2. Upgrade the efficiency of lighting, heating and cooling in all buildings to current best standards. Provide assistance to those lacking the means.
3. Require all new construction to meet standards of best practice for sustainability, with regard to how it is built and where it is located.
4. Push fuel efficiency and emission requirements on new vehicles to the practical limits. Support research to increase the limits.
5. Develop a plan and incentives for mass transit, high speed trains, and other more efficient modes of transportation.
6. Provide assistance, in the form of technical guidance and incentives, so that industry will convert to the most efficient motors and processes.
7. Upgrade the efficiency and emissions of existing powerplants to current best practice.
8. Require new powerplants to be high efficiency, gas fired, or better.
9. Develop technology for zero-emission coal-fired plants. This would use pure oxygen to burn the coal. The combustion products would be CO_2 with small amounts of other gaseous compounds, plus ash. The combustion products can then be sequestered by pumping them deep underground, or into the deep ocean (provided the environmental consequences on deep ocean ecology are not adverse). The cost of this technology would be partially offset by eliminating stack scrubbers and disposal of the resulting byproduct, and by allowing use of the cheapest grade of coal.
10. Provide market stimulus to solar photovoltaic and other alternative sources.
11. Support development of OTEC, initially in the equatorial Pacific Ocean, spreading globally as the technology matures.
12. Develop a plan and initiate incentives for building a hydrogen infrastructure.
13. No nuclear plants until we agree the technology is safe and we have a means for disposing of the radioactive waste.
14. What about fusion?

Sincerely, William H. Cutler

William H. Cutler

29734

012795

Earl Ussery

b(6)

May 16, 2001

2001-012795 5/22 P 12:00

Dear Secretary Abraham,

According to CNN and what I've seen on the floor of the House and Senate, the Democrats and some rogue Republicans have no concept of bad drilling in Alaska, to say nothing about all the new technologies used today. They get their input from people like the Sierra Club and Natural Resources Defense Council, etc., who are radical environmentalists.

I suggest you get Air Force 1 and 2, load the lazy butted Legislators up and fly them up there.

Then put them in smaller planes and take them across existing oilfields, not the refineries, because the existing oilfield is what they need to see as that is what will be done on the reserve. Then circle the entire ANWR, set down on the ground and let them walk out 1/4 mile and then 1/4 mile back, so they can see that durn few Americans, only the rich people, are going to be able to see the "Pristine" reserve.

Then fly them around the ANWR Coastal Plane area which was set aside for drilling years ago.

Then set up meetings with the oil company's environmental safety groups up there, so the new technology can be explained to them.

Then, If they continue to reject drilling in ANWR, it is a proven political move on their part, and they have no proven concern for the safety of their constituents, just the safety of their jobs.

Sincerely,

Earl Ussery

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01274

Ping Huang

6(6)

May 17, 2001

President George W. Bush
The White House
1600 Pennsylvania Ave NW 2001-012794 5/22 P 12:00
Washington DC 20500

Dear President Bush, Vice President Cheney, et al.:

I write to voice my opposition and support of different aspects of the National Energy Policy report, as distributed at www.whitehouse.gov. As a California resident, I am amongst those taxpaying citizens who have in the last year bore the brunt of problems with the nation's energy policies over the last half century. However, I strongly oppose reactionary responses which do not adequately take into account our responsibility toward future generations. I believe in the proverb that we do not inherit the earth from our ancestors, we merely borrow it from our descendants; and therefore, we have a responsibility to act as careful stewards.

- **I strongly oppose the opening up of federal lands held in the public trust to private exploitation,** especially in those wilderness areas like ANWR whose delicate ecosystems are extremely susceptible to disturbance and destruction.
  Also, I do not not believe that using the auction fees from such companies bidding on such private exploitation toward "good causes" compensates for such activity. If the "good causes" are worthy of being funded, then it is reasonable commit American taxpayer dollars. Such funding should not be tied to permitting the exploitation to take place.
- **I strongly support increasing the CAFÉ (corporate average fuel economy) standards,** especially with respect to sport utility vehicles which should be held to passenger car standards, and not to industrial/commercial light truck standards. I also support incentives for the development and wide deployment of efficient hybrid (electric-gasoline) powered vehicles. This is a fine example of how technological developments can provide for vastly improved conservation, without resorting enforcing some kind of austerity on the American people.
- **I strongly support both manufacturer and consumer incentives for developing and deploying conservation solutions in general.** I disagree with Vice President Cheney's early public statements that conservation should play no role in the nation's thinking about energy, later revised to conservation only to play only a minor role. The report's own numbers indicate that energy use increased by 30% since 1973 while the economy grew 126%. This is the kind of impact that conversation has had, and much remains that can be improved.
  Americans have much to be proud of, but we also have much to be ashamed of. We are by far the most power-wasting people in the world. To recognize our individual, personal responsibility in making decisions about what we drive & buy and where & how we live, understanding that our decisions make a difference to the country's reliance on foreign oil, the emission of pollution into the environment, the size of our monthly electric & gas bills and how much we pay at gas stations, etc... these are worthwhile goals which should be espoused and supported by the government. Quality of life isn't just about material conveniences; and material conveniences can be achieved at a lesser energy cost. Many European countries support a high quality of life without expending nearly as much energy per capita as the United States does. We should look to lead, not lag, the world in efficient energy usage, not merely lead the world in building more power plants.

Sincerely yours,

Ping Huang

Ping Huang

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~~DOT~~ DOE

(b)(6)

May 18, 2001

President George W. Bush
Washington, D.C.

Dear President Bush:

I have read with great interest the news summaries of your Administration's task force report on National Energy Policy and would very much appreciate receiving a copy of the full text. As a longtime student of energy I am now doing a lecture series on energy and having access to the specifics of the proposal would be of great help.

I hope this request is no imposition.

Sincerely yours,

Robert Engler

Robert Engler

29738

B6

2001-013941 6/8 A 11:03

May 18, 2001

President George W. Bush
The White House
Washington, D. C.

Dear President Bush:

I am a 73 year old who has voted Republican for more than 50 years. No one worked harder for you, or prayed harder for your election than I did.

Today, however, I am very concerned because of my opinion that you are losing the public relations battle. Daschle and Daschle will never be objective. They are attacking you daily about your tax cut plan that, in their words, gives most of the benefits to the wealthy. They have riddled your plan with reductions and with deferrals of benefits. Whatever benefits occur, they will be insufficient to win over many of the voters.

Gephardt and Daschle are daily telling the public that your energy policy was a sell out to big oil and that there is no short-term plan. What is the benefit of a perfect long-term plan if you don't survive the short-term? As a business man, you should understand this predicament.

29739

I wrote earlier about the enormous potential of Synfuels's process of converting natural gas to oil. The ethanol program, which is supported by the government, is peanuts compared to the potential of this process (stated that it could double the world supply of oil -- and quickly). Yet, apparently no consideration was given to this by the Energy Committee.

This is what this process could do is converting many small pockets of natural gas to oil, of converting the natural gas that was pumped back into the ground at Prudhoe Bay, and of the gas reserves being auctioned off now in Venezuela. Such production might yield enough such that drilling would not be necessary in the Artic Wildlife Refuge or off the coast of Florida. The environmentalists will let you drill on these two issues.

Finally, you have not lived up to your campaign pledge to make a last effort to get Saudia Arabia to increase oil production so that crude prices will come down.

We spent billions to rescue Saudi Arabia and Kuwait from Iraq. Now is the time to call in our chips. If they will not befriend us more, we should pull out our troops and discontinue protecting them. They are part of the OPEC blackmail.

I am not naive. I know the refineries are the major bottleneck; but your efforts to get increased oil production from Saudi Arabia would show leadership skills and would provide a public relations victory you need badly.

Your energy policy is so far out with the future that it passes over the heads of many grassroots voters. Every day voters go to the gas tanks and many of them condemn you daily for the high price of gas; they condemn you for the high prices of home heating oil, and they will soon condemn you for the scarcity and high prices of electricity in California. And the environmentalists will condemn you for drilling in the artic Reserve and off the coast of Florida.

In 1991 there was the reflection of "it the economy" although that was unfair. In 2002 and the 2004 election it will be "high gas and home heating costs and high electricity costs as well as the environment" even though all of them may be unfair criticism. Without some public relations victories soon, 2002 and 2004 will be very sad.

Sincerely,
Willard B. Harris

[illegible]C Is Likely to Raise Oil Production [illegible] Deter Price Spikes Over Current Level

By Thaddeus Herrick
And Bhushan Bahree
[illegible] Reporters of The Wall Street Journal

[illegible]EW YORK—OPEC is likely to in[illegible]se oil production in the coming [illegible]ths to prevent crude prices from spik[illegible] above current levels, Saudi Arabian oil [illegible]ister Ali Naimi said yesterday.

[illegible]n an interview here, Mr. Naimi said Organization of Petroleum Exporting [illegible]ntries shouldn't be blamed for rising [illegible] gasoline prices, which he said are the [illegible]lt of refining and transportation bottle[illegible]ks, rather than a shortage of crude oil. [illegible]de supplies are ample, he said.

[illegible]ut Mr. Naimi said he sees reasons for [illegible]C to raise output. The minister didn't [illegible]ify when production might be in[illegible]ased, but he left open the possibility [illegible] a decision could come as soon as the [illegible]e 5 meeting of OPEC oil ministers and [illegible] an increase could come as early as [illegible]y. "We need to look forward to the third [illegible] fourth quarters, when demand is [illegible]her," Mr. Naimi said. "Today we see a [illegible]wdown, but there is no reason not to [illegible]k forward to potential growth," he said. Any decision to raise production [illegible] [illegible]e would depend on the cartel's esti[illegible] [illegible] demand.

[illegible] said OPEC could add produc[illegible] [illegible] to 2.5 million barrels of oil a day [illegible] year and as much as it pledged to cut [illegible]lier this year. He said the amount of [illegible]ra production might even exceed that, [illegible]pending on world economic growth.

"We could easily erase the cuts," Mr. [illegible]imi said, referring to OPEC's reduction [illegible] 1.5 million barrels a day made in Janu[illegible]ary, and another cut of one million barrels a day that the 11-member organization agreed to in March.

But Saudi Arabia, OPEC's largest producer and most influential member, could face resistance in raising output from the organization's more hawkish members, among them Iran and Venezuela. The hawks are likely to argue that OPEC should increase production only after prices spike significantly.

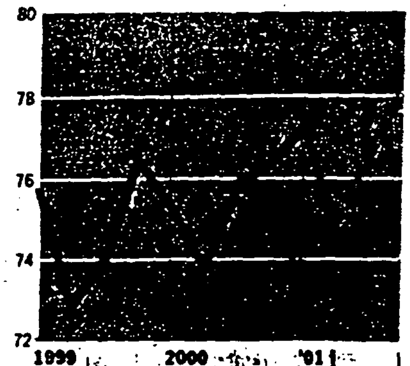
The Saudi minister said the current price of the U.S. benchmark West Texas Intermediate crude, about $28, is about where Saudi Arabia and OPEC want it. OPEC has set a target price range for its own basket of crudes of between $22 and $28 a barrel. That equals roughly a WTI price range of $25 to $30 a barrel.

But global demand is expected to rise by up to 2.5 million barrels a day in the second half of the year. The International Energy Agency in Paris projects world oil demand will rise to 76.6 million barrels a day in the third quarter this year, and to 78.1 million barrels a day in the fourth quarter, from 74.9 million barrels a day in the current quarter.

An OPEC output increase would come too late to address rising U.S. gasoline prices, but Mr. Naimi said an output increase may be necessary to help refiners build heating-oil inventories for winter.

Demanding More

Global oil demand, in millions of barrels per day



Source: International Energy Agency

Bush 'bro' disagrees on oil drilling

BY MYRIAM MARQUEZ [illegible]

The same week that the president got tough on arsenic, pledged to rid the world of 12 toxic chemicals and promised not to mess with any more environmental regulations, he poked a finger into his [illegible] eye in Florida [illegible] Depart[illegible] [illegible] and [illegible] will [illegible] tell you this [illegible] independent [illegible] wants to [illegible] an oil [illegible] depress property values [illegible] birds or [illegible] with [illegible] Florida [illegible] drilling [illegible] off [illegible]isan. [illegible] cola [illegible] tisan [illegible]licans in [illegible] by Big Oil [illegible]

The Florida governor [illegible] danc[illegible]ing a two-step around his brother, placing the blame on drilling rules developed by the Clinton administration. But Clinton didn't push hard for [illegible]

Complicating matters, the governors of other states bordering the Gulf of Mexico [illegible] Missis[illegible]sippi and Louisiana [illegible] welcome drilling. Struggling towns in those three states would [illegible] from the jobs a drilling pro[illegible] would create.

What's a president to [illegible]

Here [illegible] cam[illegible]paign promises [illegible]

Read his lips in October and again a few days before the November election, W. said: "We won't explore in Florida or California [illegible]"

He didn't qualify that statement with any mention of old deals; no 100-mile limit rule was discussed. His statement was clear.

No drilling.

29742

Democrats Take Aim at Bush's Weak Spot, Administration's Ties to Energy Industry

By Jim VandeHei
Staff Reporter of The Wall Street Journal

WASHINGTON—For former oil man George W. Bush, the hardest part of selling his free-market energy policy may be countering Democratic charges that his plan is a sop to his administration's industry pals.

Democrats, who are struggling to find an effective line of attack against the president, believe the energy policy that Mr. Bush will roll out tomorrow offers them the best opportunity yet to show his administration is beholden to the corporations that bankrolled his presidential campaign. The Bush plan will rely mostly on easing business regulation to encourage the energy industries to increase supplies and bring down electricity and gasoline prices.

"This is a plan mostly engineered for and by the energy companies," says House Minority Leader Richard Gephardt of Missouri. "I think they are in danger of only reinforcing the public opinion that they are closely aligned with the energy industry in what they are doing." Mr. Gephardt is planning a rally today on Capitol Hill where Democrats will brandish a flow chart that connects White House officials to energy companies, an aide said.

These links are well-documented. Mr. Bush received $28 million from oil, gas, mining and utility interests during the 2000 campaign, according to the Center for Responsive Politics, a nonpartisan organization here. Overall, these sectors gave $64 million in 2000, with 75% of it going to Republicans.

In addition, Vice President Dick Cheney, who headed the White House task force that crafted the sweeping policy, earned more than $20 million in salary and stock last year as chief executive officer of Halliburton Co., an oil-field services company that stands to benefit from [illegible] lines in the report.

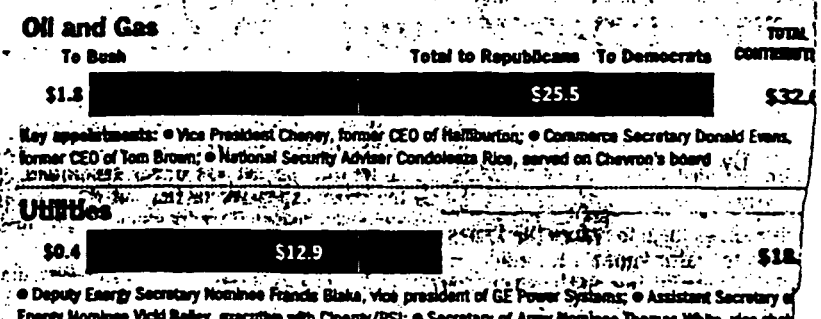
Benefits to Auto Makers

White House Chief of Staff Andrew Card made at least a half-million dollars each year to lobby for General Motors Corp. and other U.S. auto makers. Under the Bush plan, the auto industry wouldn't be required to improve the fuel efficiency of their gas-guzzling sport-utility vehicles and would profit from tax credits to consumers who buy their hybrid gas-electric automobiles.

And Commerce Secretary Donald Evans was awarded a $3.3 million retirement package when he stepped down as CEO of oil and gas company Tom Brown Inc., which should gain handsomely from the report's emphasis on oil and gas exploration and delivery. At least 15 other officials who have been appointed or nominated have ties to the auto and energy industries. The president put people in office who "will do the right thing for the right reason," says Bush spokesman Ari Fleischer. "He understands there will always be people in the opposition party who are more interested

Contributors and Appointments

Energy industries' contributions to George Bush and Republican and Democratic national committees and candidates during 1999–2000 election cycle, in millions of dollars, along with key Bush administration appointments



an endorsement of the Bush plan. He ducked several questions on the topic, underscoring the difficult decision he faces. Democratic leaders "certainly would like to talk to us before we take a position, and we will give [them] that opportunity," said Mr. Sweeney. But, in the end, he will do "what is right" for the unions, not the Democratic Party, he said.

Bush administration officials don't expect the AFL-CIO publicly [illegible] but they are confident that individual unions such as the United Brotherh Carpenters will do so and help them apart the coalition that Democratic l are trying to assemble in opposition policy. They also plan to focus m their eight-chapter report on problem say the previous administration ig and on how they believe that indust government or energy-conscious co ers, can fix the problem.

[illegible] contributed to this

But Bush officials privately concede that these links could be problematic as they shop their energy policy around the country starting tomorrow. The president will travel to Minnesota and Iowa to announce his energy plan.

The Democrats yesterday unveiled a competing vision of a new national energy policy, loaded with shots across the industry's bow. Democrats want investigations into possible price gouging by utilities out West and by oil and gas companies nationwide. They placed heavy emphasis on renewable forms of energy, proposing a variety of efficiency tax incentives for consumers and businesses, as well as conservation. And Rep. Gephardt touted his support for increasing supply, but only as part of a "balanced program" that focuses as much on the environment as on corporate "bottom lines."

Motivated in part by recent polling data that suggest that nearly two-thirds of Americans believe Mr. Bush cares more about large corporations than working families, Democrats and environmentalists believe they have found a soft spot on this popular president. "His biggest weakness is that people think he's more concerned with special interests than their own interests," says Genhardt spokesman Erik Smith, who has reviewed several public and private polls on the matter.

...lderness rules ...: sound policy

...dent Bush is walking a ...pery tightrope on wilder... ...: preservation. Bowing to ...l commercial interests, he ...racked on the Clinton ...ation's commitment to ... nearly 60 million acres of ...ilderness from exploita... apparently broad public ...r wilderness protection ...im pause.

...dless Area Conservation ... announced on Jan. 5, as ...n was leaving office. It ...lmination of nearly a year of public hearings, litiga... ...ebate. It is one positive ...he Clinton presidency.

...dless restriction covers ...ds in 30 states, including ...cres...ut of 1.2 million ...al forests in North ...e largest roadless ... in the West, notably ... million acres) and Idaho ...n acres). They are fight... ...ulations.

...the age-old tension ...he national interest and ...nt interests in the West. ...Western states were cre... ...federal territories, in the ...f of the 19th century, ...wisely set aside large ...ur dwindling land stock ...use — and for preserva... ...e were the rules of the ...r which Western states ...ed statehood.

...y later, millions of acres ...opened to logging, min... ...zing. Overall, the Ameri... ...have not even gotten a fair return — if any return — for the timber and other resources removed from their lands. Between 1995 and 1998, for example, national forest timber sales cost the taxpayer $1.7 billion.

For the extraction industries, substantial potential profit is at stake. But in fact wilderness protection has minimal economic impact. About 1 percent of American land remains in wilderness. Only about 5 percent of U.S. timber comes from national forests, 5 percent of that from roadless areas.

A series of public opinion surveys on the Roadless Area Conservation Rule showed solid public support in 11 heavily affected states, including Idaho. When asked if they support protection of the remaining roadless federal lands in their states, 60 to 70 percent said yes. So why are Western politicians fighting the rule? Perhaps they are more influenced by special interests that make big campaign contributions.

With the decision to let the roadless rule go into effect after all, the administration hedged its bets by pledging to reconsider the policy piece by piece, giving local interests considerable say. That sounds reasonable given the arrogant disregard for state views often shown by the previous administration.

But in the end, protection of national lands is not a local matter any more than national defense policy is up to the communities around Fort Bragg. The president needs to take a national view.

Calif., Chicago brace for $3 gas

Stations told to prepare for early summer increase as reserves lag

By Dina Temple-Raston
USA TODAY

Shell and Chevron dealers in California and Chicago say they have been told by regional company representatives to get ready for the possibility of $3-a-gallon gasoline this summer.

Bob Oyster, who owns 26 Shell and Chevron service stations in northern California, ...ys representatives from both ...npanies told him to "be prepared for $3 gasoline [illegible] part of the summer."

More than 20 service-station owners in California and the Chicago area contacted by USA TODAY say they also have been told to expect prices in the $3 range. The oil company representatives were not specific about which grade of gasoline would be $3, they say.

Shell spokespeople say they do not discuss prices. Chevron spokesman Fred Gorell says the [illegible] company never provides advance notice on pricing to retailers. "Whatever the marketplace does, we will follow. But we don't know where that marketplace is going to go ahead of time," Gorell says.

California's average price for regular unleaded hit a new [illegible] of $1.95 per gallon this [illegible] according to AAA. [illegible] average for premium was [illegible]

Dennis Decota, executive director of the California Service Station and Auto Repair Association, says the state is short on reserves of reformulated gas, a cleaner-burning fuel required in certain urban areas during the summer. "If there were any glitch in production, prices will go through the roof," he says.

In Chicago, where prices have been rising amid refinery problems, the average price for regular unleaded was $1.97 a gallon and $2.19 for premium.

[illegible] gasoline futures on the New York Mercantile Exchange hit a [illegible] high last week when [illegible] capacity at a Tosco refinery in Los Angeles, and a fire at a Tosco refinery in Wood River, Ill., also drove up prices.

Some analysts see the case building for a Bush administration rescue. The Environmental Protection Agency has the ability to issue waivers that would allow the use of regular gas instead of the reformulated blend. That could help bring down prices.

An EPA spokesperson says the agency has not received waiver requests from refiners.

5/22/01

Honorable Dick Cheney
The Vice President

I am in complete agreement that nuclear power must be an integral part of our national energy policy and electric energy supply infrastructure. However, I am also persuaded that revitalization of the nuclear fission power industry should be presented and viewed as a bridging measure pending the further development and implementation of nuclear fusion power. Whereas the NEPD Group simply recommends that the Secretary of Energy be directed to develop fusion, I submit there are compelling reasons to accord fusion development a high priority status as a mission oriented endeavor within the overall national energy plan.

I believe the involved scientific community would generally agree that with a properly funded and mission oriented development effort, the prospects for ultimate commercialization of nuclear fusion power are quite bright, yielding the following advantages:

- O No radioactive wastes (other than trivial amounts induced in the immediate reaction chamber itself).
- O Virtually unlimited fuel supply (e.g., naturally occurring deuterium from seawater).
- O No greenhouse gases or other environmental pollutants.

Nuclear fusion power has been under research and development since about 1953 by the Department of Energy (and its predecessor agencies). The program was mission oriented and so funded until the early 1980s. Several proposals in that time period for demonstration facilities to establish technical feasibility were denied funding. Instead, the program was refocused as a research effort (with concomitant reduced funding) to assess in part which of several possible approaches would yield the "ideal" commercialization technology. The program continues in this minimalist mode to this day. In my view, had we maintained the program's original mission orientation with commensurate funding, we would now be anticipating nuclear fusion power commercialization within the next decade.

As it is, achieving nuclear fusion power commercialization starting now with a reenergized, revitalized, properly funded and mission oriented effort would require in the opinion of many 30 to 40 years. However, given the previously cited advantages (and with nuclear fission power serving in the interim), this would be a most worthy initiative that holds promise of incalculable benefit to the US and world peoples and economy. I would further suggest that restarting us on the road to commercialized nuclear fusion power would be an unparalleled legacy for the Bush/Cheney Administration.

cc: Honorable Spencer Abraham, Secretary of Energy

Joseph E. Machurek*

(6)

* Dept. of Energy retiree (1983)

From : SLIPPED DISK SECRETARIAL SERV. PHONE No. : May. 22 2001 5:00PM P01

(9)

29745

013050

May 21,2001

Secretary Spenser Abraham
Department of Energy
1000 Independence Ave. SW
Washington,DC
20585

Second nuclear unit
for Wolf Creek
Edition 4

Dear Secretary Abraham:
Now that you have issued your Energy Policy – Where is the Implementation Plan that puts the policy into concrete action? It appears to me that you need a very aggressive bold initiative if you are to succeed in accomplishing your goals,

With the Congressional elections only a year and a half away that is about all the time you have to show real progress .You don't have time to dicker with the Democrats when all they want is to throw every obstacle they can in your way. Your objective should be to increase supply in those areas capable of providing the greatest increase in a relatively short time – oil, gas, coal and nuclear, and the associated pipe lines and transmission lines.

Although construction of a nuclear plant will take at least 5 years under the best of conditions, the Department of Energy science report of May 8, 2001 on Yucca Mountain should provide sufficient assurances that the facility will be in operation in 2006 and ready to receive spent fuel That was a major accomplishment.The President's decision with respect to this facility should be made as quickly as possible to further the confidence that the government is going to fulfill its commitment on schedule.

If California suffers from a shortage of transmission lines from the eastern electricity suppliers, the Santa Fe railroad right of way from Kansas City to San Bernadino should be evaluated as a possible path Other paths should be considered from Kansas to Montana and the Northwest to alleviate the problems with the aluminum industry.

Sincerely,

Jesse O. Arterburn

Jesse O. Arterburn

b(6)

29746

2001-013910 6/8 A 10:24

PAUL W. ROSENBERGER

13 May, 2001

Mr. Spencer Abraham
Secretary, U.S. Department of Energy
1000 Independence Ave. SW
Room 7A257
Washington DC, 20585

Dear Sir,

The energy plan that was recently released is seriously deficient. It reflects the narrow perspective of the oil, gas, coal, and nuclear industry. To come up with a plan that meets the needs and expectations of the American people, the voices of the other industries and interest groups need to be heard. This will challenge and refine some of the one sided assumptions that characterize the plan as currently written.

One of the most serious omissions is the failure to address energy conservation fully and exhaustively. To all but ignore this option, which should be the central feature of any energy plan, is frankly difficult to understand.

Among the myriad opportunities that were ignored, one stands out in particular, because it is so obvious and overdue: Bringing the fuel efficiency and emission standards of SUV's and light trucks in line with other passenger cars. This would not only close a gaping loop hole, but it would save huge amounts of oil over the years to come.

The current plan is a start at best, and needs to undergo a major re-write and review before it is ready for implementation.

Sincerely,

Paul W. Rosenberger

29747

2001-012673 5/21 5:08

5/19/01

The Honorable George W. Bush
President of the United States
The White House
Washington D.C.

Re; National Energy Policy

Dear President Bush,

I understand from reliable sources that there are technologies available ~~available~~ to develop machines and equipment using renewable and non-polluting energy matters that would solve our power and transportation problems

Using these resources plus old standbys such as solar and wind power should be a top riority in setting a national energy policy.

Sincerely,

Ray C. Davis

b(6)

CC.
Dick Cheney, Vice President
Spencer Abraham, Energy Secretary

Oregon Delegation:
Sen. Gordon Smith
Sen. Ron Wyden
Rep. David Wu
RepGreg. Walden
RepEarl Blumenauer
Rep. Peter DeFazio
Rep. Darlene Hooley

29748

2001-007685 3/21/01 12:46

Secretary, The

007685

b(6)

From: cresbjornson
Sent: Tuesday, March 20, 2001 12:08 PM
To: Secretary, The
Subject: Policy

b(6)

FROM:
NAME: Carl D. Esbjornson
SUBJECT: Policy
ZIP:
b(6)
CITY:
PARM.1: TO:the.secretary@hq.doe.gov
STATE: MT
TOPIC: Energy Policy/Energy "Crisis"
SUBMIT: Send Comments
CONTACT: email
COUNTRY: United States
MESSAGE: U.S. Energy Secretary Spencer Abraham is partly right in saying that the current energy "crisis" is because the previous administration had no energy policy. However, not only did the Clinton Administration have no energy policy but the Reagan Administration and the former Bush Administration had no energy policy, and neither does the current Bush Administration, aside from a short-term policy of developing more energy sources, nearly all of them fossil fuels, including plundering the ANWR, in order to co
MAILADDR:
b(6)

MAY 30 2001

b4

Monday, May 21, 2001

Norm Campbell
[redacted] B6

The White House
The Honorable Dick Cheney
Vice President of the United States
1600 Pennsylvania Avenue NW
Washington, DC 20500

Dear Mr. Vice President,

I would like to congratulate you and your staff in the creation of our nations first energy policy within the last twenty years. Many of us working in the energy industry are excited about the correct path you have laid for our country. As you have stated, we can have low cost energy and protect our environment. It is done everyday and to those that think otherwise, we say come work in our shoes for a few moments prior to leveling judgement.

More recently, I have been involved in a graduate program in Energy Management at New York Institute of Technology, and one of our assignments included the creation of a synopsis of potential opportunities for our country with respect to energy. At our professor's request, we were to provide our ideas to people of influence. I would like to submit my final paper as a reference point for the ideas of an academic and as a worker in the energy industry (electric and gas utility). Perhaps, this crude document might provide some benefit, but it should help to solidify your vision in so much as the common person supports your new plans because it is the right thing to do.

Again, please accept my support in your efforts to help our country continue to flourish as the world leader in energy.

Sincerely,

Norm Campbell

Norm Campbell

MAY 30 2001

b4

Monday, May 21, 2001

Norm Campbell
[redacted] B6

The White House
The Honorable Dick Cheney
Vice President of the United States
1600 Pennsylvania Avenue NW
Washington, DC 20500

Dear Mr. Vice President,

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Again, please accept my support in your efforts to help our country continue to flourish as the world leader in energy.

Sincerely,

Norm Campbell

Norm Campbell

29750

[ ] 06

Norm Campbell

Hey Buddy, ... Can You Spare Some Energy?

Final Paper - NYIT Energy 850
Spring 2001 - Prof. Brygider

Energy to Spare

A Comprehensive Energy Policy for the United States

Executive Summary

We begin 2001 with rolling electricity blackouts in California, natural gas prices at levels never before seen in our country's history, continually increasing heating oil costs, limited supply of gasoline, and severe limitations on alternative or substitute forms of energy. This is a bleak picture of rising consumption and demand while supply is reducing. So what can be done to solve this crisis? Over the history of this country, one trait is always evident. We rally around a crisis and solve it for the greater good of all. A national energy policy is just such an opportunity to come together as a team to gain success. Over the past few years, energy issues were a distant object of attention, but now we are forced to deal with the situation. We can not afford to sit idle and watch as costs increase without check, but we must have leadership on the issue. This leadership must come from our nation's capitol and it must come in the form of a team recommendation with concrete actions and realistic timelines.

This energy policy team must deal with three main issues: Increasing supply, decreasing consumption, and developing a governance and implementation plan. This seems simple at first, however as in peeling an onion to reveal many layers, the complexity of this problem is as great as any test this country may face in the next twenty years. It will test our true convictions of service and stewardship, cooperation and consensus, and sacrifice.

The opening salvo of this new policy must get to the root of the economic issues of supply and demand. We must enhance supply of energy by increasing crude oil delivery, increasing refining capacity, building more electricity generation, and drilling additional natural gas wells. We must also look to do these things while not harming the environment. A delicate balance can be struck if we look to technology and our innovative spirit. One can not live at either extreme, and compromise within acceptable limits will certainly advance our common cause. We need to develop alternative systems of energy from hydrogen fuel cells, to renewable energy sources such as solar, ethanol and bio-diesel. Searching for solutions without boundaries is where we can achieve a true paradigm shift.

However, supply is only one side of the equation. We must work to reduce our use and dependence on energy sources. Conservation is a great opportunity to have everything at less cost. By simply replacing old inefficient equipment, improving building envelopes, or changing our habits, we can make a great difference in available supply. By using less, we make more available for those times when we need it. However, we can't do this on our own, government and business must partner with us to provide options and reasons to say yes. This can be through better products, improved terms, or many other means, but they must lend a hand in the battle.

Finally, there must be an implementation plan and a governance team for this endeavor. We must have leadership as well as representation. Only through participation, cooperation, consensus and sacrifice will we achieve our goals. The federal government via the Department of Energy must provide the framework. Each state must also be at the table, as

well as industry, environmental stewards, and the average citizen. With all stakeholders playing an integral part of the system, we can craft a policy and implementation plan that will help the entire country. The road to success will not be easy and many disagreements will happen. However, when we are able to acknowledge and deal with various needs in a positive and open atmosphere, we will obtain long- term success.

We desperately need leadership with respect to this country's energy issues. For too long we have had no voice of reason that places America first. We have moved in fractured and separate ways and the time has come to rally around this crisis. The stakes are high and may include our economic leadership in the global marketplace. A national energy policy with strong and diverse leadership will light the path to our future success if we choose to work as a team. Only time and history will tell.

Table of Contents

Table of Figures

Where Are We Now?

Natural gas prices climbed over ten dollars per mmBtu and gasoline prices peaked over two dollars per gallon. We find California in the midst of an electricity shortage and rolling blackouts are the norm instead of the exception. Consumers are being pinched in every corner of their pocketbook when it comes to heating or cooling their home and filling their vehicles fuel tank. This picture is not very appealing and shows little hope of improving in the short term as continued high prices and scarcity of product are predicted throughout the year.

Events such as these do not happen in a two or three year time frame. It requires a continued disregard to the small signals blinking a subtle warning for attention. In the case of our country, the leaders have been distracted to other affairs and become drunk on the successes of the technology sector. Small signs of pressure such as reduction of natural gas wells and oil wells in service were present. Meanwhile construction of new power plants to meet energy hungry industries grew at record paces. Changes in consumer demographics to large vehicles such as SUV's signaled a mood swing that was not heard by our leaders. New environmental regulations promoted wholesale changes in energy, manufacturing and restricted markets but the changes moved slowly as to escape detection. These are but a few factors that set the stage for our current energy play.

Since it took a few years to arrive at this location it will also take a few years to move towards our energy goals. One simple fact underlies this country's success and ability to perform economically - low cost and reliable energy. So how do we move to this nirvana of victory for all stakeholders? Through a concerted effort on all parties with the ability to listen and compromise for the greater good of our country. This will not be easy, but the stakes are high. The current shake of our economic foundation sent ripples through all corners of our country and the globe. We can not afford to create the energy depression that will rival the financial depression of the 1930's, which sent countries to the brink of ruin and the world to the edge of destruction.

A Little Perspective Never Hurt Anyone

Our country is a Btu carnivore. We consume a vast quantity of energy for everyday life and our existence. The United States Department of Energy states that the energy consumption in our country has increased over 25% in the past twenty years with 11% of that increase happening in the past 6 years. Much of this can be attributed to our increase in economic performance; however, we have strayed from the conservation approach of the early 1970's. So what does the picture tell us concerning how we use energy and approach the issues of our energy policy? In simple terms the decrease or leveled costs of our energy in the past years has created a great complacency for individual and business use of energy. So lets gain some basic perspective on this situation. In Europe it is common to pay over four dollars per gallon equivalent for gasoline. In the United States, we seem to create a great uproar when the price escalates to the two-dollar level. In Tokyo, residential customers pay in excess of nineteen cents for a kilowatt-hour of electricity. In retrospect, the most expensive power in the United States hovers near sixteen cents per kilowatt-hour for a residential customer. The great majority of customers pay near ten-cents for a kilowatt-hour. This pattern is repeated and even more dramatic in the business sector where costs are typically lower due to volume purchasing.

Knowing the basics of some our particulars, let us review some other pertinent statistics for the United States. Over the past twenty-five years, the average price of electricity rose from $0.057 per kWh to $0.061 per kWh. However, the price peaked in 1982 at $0.087 per kWh.

So for the past 18 years, we have had a decrease in the average price. Since 1982, gasoline prices fluctuated between $1.22 and $1.15 per gallon for unleaded (on average). Again, costs are reducing for the general consumer. This same pattern can be found in all forms of energy including natural gas, fuel oil, and the like. Basically, we have had a great twenty-year run with respect to costs.

Pricing certainly has been good, but how does the product mix look today for the United States? We basically look to the following fuel sources to produce our energy: coal, crude oil, natural gas, nuclear energy, natural gas liquids, and renewables. Crude oil is by far the base leader at over 35% of the input to our energy. Of this over 22% is imported into the United States. The remaining distributions show that coal accounts for 23% of the inputs, natural gas for 19%, nuclear for 8%, renewables for 7%, and natural gas liquids for 3% (5% from other imports coke, electricity, coal). Other interesting facts concerning the product mix include that we have about 27% of out energy sources imported, we use over 82% in fossil fuels to produce energy, 34% of energy is used in residential/commercial applications, 37% in industrial application, and 26% in transportation. Now that we understand a little more concerning our use and mix, it is time to create a new paradigm for the future.

The one thing missing from this data set is the environmental impact of all this use. Many studies have been provided in the past years concerning air, water, and land quality. Consumption inherently indicates that there are impacts to our environment. We see this in the major cities such as Los Angeles and New York during the summer. We also see this in the coal mining regions where entire mountains are leveled for fuel. We also see it when following a car belching various exhausts into the air. There have been great strides since the early 1970's, but attention must be drawn in this area to maintain our movement to maintain or improve our environment. Scientists are continually debating the impacts, and for the sake of this paper, we will assume that current levels of emissions are baselines that can not be increased. This line in the sand, states that we need to think smarter about our effectiveness of use not just the efficiency of direct application.

What Should We Do?

The preceding discussion focused on the facts of our use. A simple Pareto analysis shows that petroleum is the largest contributor to consumption followed closely by natural gas and coal. The same analysis shows that our use is concentrated in the industrial and residential /commercial sector. In simple problem solving processes, one concentrates their efforts on the largest areas to gain the best "bang for one's buck". We will focus our improvement discussion in these areas. However, before we get into the details of the policy recommendation, we must create some basic requirements of the policy. This would include, ease of comprehension at all levels. Everyone in the country should understand and see the impact to their daily life. It should promote action and not ambivalence by individuals, groups, and corporations. The policy must acknowledge diverse opinions, but also creates an understanding that each stakeholder must sacrifice something so that we will all gain. Finally, the policy must promote advances, innovation, and shifting of the national energy paradigm. This paper will certainly not be able to cover all of the details required for a nation of 270 million souls, however we will touch on the most important points to assist in the development of a framework which can help to build the implementation.

The Policy

A successful energy policy must address supply, consumption, and implementation/governance. Each of these areas is important to every stakeholder inside and outside of the borders of the United States. The following general blueprint will provide a standard approach and process to our energy issues with the expectation of improving our complete process. Our policy should create a level playing field of interaction far all parties. Also, this policy should create an ease of assimilation in that other groups can develop their own policy in concert with the larger national policy. Figure one shows the impact of this new energy policy process. Once we view this as a continuous cycle, we will focus our energies in the proper direction.

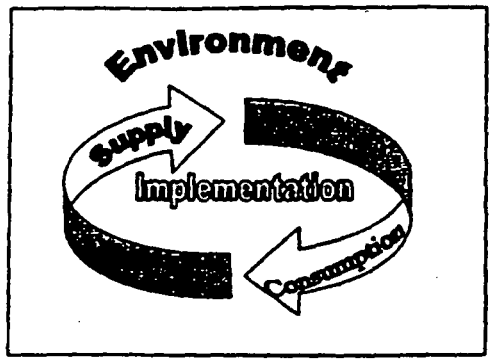

Figure 1: The Process

Supply

If we approach our energy policy in the form of a process, the first place to concentrate is the supply. We must think of energy in the end use application of the supply. Where are we sending our supply? This will lead us to reconsider the needed sources of supply. As noted above, the United States imports over 27% of its energy needs. At first blush, it would appear that this is a good mix. However, looking closer, the majority of imports focus on crude oil, which is mainly used in industrial and transportation circles. Extrapolating this forward shows that we have over 70% of our transportation fuel imported. This produces a potential problem in the area of control. Simply stated, if we import the majority of our crude for transportation we do not control our own destiny in the application of pricing of this commodity. So how do we address this issue? There are two main methods to alleviate supply and demand concerns: one - increase controllable supply and two - use an alternative or substitute product.

The main focus of crude oil centers on transportation. There are really a few major concerns that must be addressed to improve our supply. First we must increase domestic production of crude oil. This is not a favorite idea of environmental groups; however, the United States does have a large quantity of untapped crude reserves that should be accessed. However, this does not mean a company can pillage the area without controls and limitations. The new harvesting areas must be maintained to harbor the life normal to these areas. A partnership of government, corporations, and environmental concerns must have a role to play in the process. Each stakeholder will work to compromise due to the nature of our supply problems. The use of newer harvesting technology with the financial incentive for proper stewardship of the land, will work to keep impacts to a minimum. Examples include directional drilling. This would allow for harvesting of coastal oil reserves while minimizing the risk to ocean and shore wildlife. Options such as this would enable the tapping of vast reserves on either coast as well as Alaskan oil reserves. In combination, projections show that the United States could

gain up to 40% of the supply needs from this harvesting. Another option, that is less controversial, centers on the development of alternatives to crude oil. This certainly appeals to most stakeholders, however many research and development dollars must be focused here. Alternatives such as bio-diesel, ethanol, and others certainly show promise. There must be a combination of manufacturers of end-use equipment, developers, and government to make this a reality. In simple terms, the auto/transportation industry and suppliers must be brought to the table to commit to this process. Government can provide the means to nudge or force this effort through numerous means including R&D programs and/or enactment laws. However, it is more desired to create a willing partnership rather than force the issue. A combination between companies and the government must be formed with a single vision and aggressive goals to create alternative vehicles. We have seen time and time again, that when our county is pushed into a corner and the stakes seems high, we will respond with great results through innovation and determination. The basics components have been in existence for many years, we simply need to dust off the covers and rally around the cause. The incentive is new markets in which our country can dominate. Alternative fuel transportation certainly is a fractured market that is ripe for leadership and who better to lead than our auto industry. Focus of fuels should include those that can be developed from alternative sources such as corn, soybeans, water (hydrogen) and the like. These options will also greatly increase the emission issues and reduce fossil fuel burning.

Petroleum offers many options, but we can also make gains in the area of natural gas and coal. Again, we must understand the application of each to help focus on the supply. Natural gas enjoys use in many process applications including home heating, electricity production, and industrial application. Coal is primarily used in the production of electricity. Current application lends to the need for these fuel supplies. Increases in harvesting of each pose some extensive difficulties from an environmental viewpoint. However, increases in application of either of these sources in a substitution effort with petroleum, will certainly increase the opportunity for self-reliance on fuel inputs. Suffice to say, that it this recommendation that coal levels be allowed to increase at the rate of inflation to apply towards the production of electricity while we increase the harvesting of natural gas reserves. Further explanation in the consumption and application areas will help to shed light on this recommendation.

Other areas of fuel input from renewables to nuclear, offer the greatest opportunities for our country in low emission applications. From an environmental aspect, we need to continually look to increase these applications until we have an even balance of application across the board. Nuclear offers some great opportunities in the application of emerging reactor technology. The general fear of nuclear use must be overcome to advance this application. We must look to create an accepted reactor configuration much like the controls in place in France and Japan. This will allow for ease of inspection and construction of new facilities. In the past, one of the main problems with the US nuclear program centered on the misconception that competition would develop the best product. In this case, a standardized design would create the safest and most reliable output. We must be able to mimic other country's success in the nuclear energy arena as it offers unlimited long term potential. Along with this, we must consider retiring older and less effective plants. Waste disposal is certainly a problem that needs attention. Unfortunately, the answer lies in storage, but new technology offers hopes for safe disposal of reactor material. The final piece centers on renewables. This includes wind, solar, biomass, hydro, and others. For the long terms (>50 years), this option is the most desired. However, the technology is still in infancy of application at acceptable cost levels. The focus for our energy policy in this area must be in research and development. We must continue to develop these alternative sources as to increase their percentage of use and application. Only time, money, and focus will enable us to have a true renewable energy resource. Cooperatives between government and industry are the only answer to this puzzle. Shared knowledge in a spirit of cooperation and not competition is needed. To best accomplish this, we should mimic the model of Japan where the government helps to subsidize development and shares the knowledge with many manufacturers. Once a system is developed the manufacturers compete on ability to produce with the greatest efficiency to

capture market share. This model would place all players on the same team in the renewable search while we are attempting to create viability. Once viable, competition will naturally flourish and should be promoted. Again, this is an incredible shift of a paradigm with respect to nuclear and renewable supply; however, we must do these things to change our portfolio of energy resources.

Much as an investor balances a stock portfolio to reduce risk, our country must look to balance the energy-input portfolio to reduce risks associated with price, availability, and environmental concerns. The ability to rely on all aspects of supply from petroleum to renewable sources with equal weight will reduce our country's risk and exposure for the long term. We will also increase efficiency and our living space. A full spirit of cooperation must be available from all stakeholders to make this idea work. The concept of compromise is difficult under today's positions, but we must focus on the future and the greater good to reach our next stage of world leadership in energy supply.

Consumption

As in any basic economic model supply is balanced via demand or in our case consumption. Control over consumption is a key component to the national or any energy policy. Using our Pareto analysis, we will focus on the industrial and commercial/residential sectors for the largest efforts while not neglecting the transportation side of the equation. Since, consumption has increased over the past years in all areas; we must focus on a reduction of this consumption or an alteration of the needed supply if consumption can not be curbed. This should be the main focus on the demand side. For many years, our country advocated demand side management in the electricity industry. The time has come once again to develop this focus with respect to our energy use. So our policy needs to address issues central to industrial, residential, commercial, and transportation sectors.

In the industrial sector, our policy must cover adoption of alternative sources and reduction of use (conservation). In the past few years, most industrial and large commercial users of energy have focused their attention on deregulation of their supply. The conventional wisdom was that if the commodity was allowed to trade like any other, they would be able to reduce their cost. The main problem is that energy is not like other commodities in application, transportation, and creation. Due to the volatility supply and demand moves faster than most companies can manage and this leads to incredible swings in prices. The underlying issue centers on the cost to do business and increases in electricity, oil, and natural gas as seen in 2000 can cripple the business sector like so many plagues of locusts. The key to success lies in the more effective use of energy and the creation of substitutes.

In the early 1970's and through the mid- 1980's, demand side management was very much in vogue. This program focused on the reduction in use. Today, we should once again focus on conservation. Companies must use premium high efficiency motors, efficient lighting, new boiler systems, and so forth. The decreases available through conservation may be as much as ten percent of the nations energy use. Since there is a large outlay of capital, our governments can become involved through low or interest free loans to increase full building envelope and applications to maximum efficiency. Through the use of municipal bonds and other government issues, we can assist and stimulate the transformation of energy use within our businesses. We can also provide the same support in the use of alternative supply of energy. If companies can diversify the use of energy within a facility to use no more than 40% of any one energy source, we should reward these companies for innovation. An example of this could take the form of using 15% renewable resources, 40% normal electricity generation, 20% natural gas use, and 10% heat recovery application, 10% energy storage, and 5% non-energy envelope improvements. The benefits include reduced reliance on a single energy source and potential self-reliance from traditional energy paradigms. Again, innovation must

be rewarded by our government agencies to assist companies willing to attempt new ideas through the first few years of financial hardship.

Business improvements are relatively simple to induce through incentives that promote profitability. However, residential customers are not nearly as easy to convince. A recent estimate from EPRI noticed that over 70% of residential energy users favored using renewable resources, but only 10% were willing to pay additional fees to have this option. This point is used to illustrate the challenging nature of mass marketing of an idea. Once again, we need to address conservation and alternative fuel use, and the best method of changing the paradigm is through direct effect on the family budget via tax incentives.

Conservation has always been a tough sell due to the cost of alterations. The direct costs incurred in changing windows, doors, adding insulation, buying new efficient equipment and the like cause a direct decrease in the residential pocketbook. Choosing between food and clothing or a new energy efficient washer and dryer is an easy selection but one that does not reduce consumption. In years past, governments have stepped to the plate with tax deductions. Even today, Indiana offers several tax incentives for home improvement. It is time to dust these off and advertise their existence. A strategic marketing effort must be created to build awareness and a sense of urgency. Along with the re-introduction of tax credits and marketing, the governments must invest in more programs like the million solar roof initiative. These programs display, promote, and assist in reducing the cost of the products. Working with local utility companies and regulators to once again offer DSM programs which provide rebates that are paid through surcharges over twenty years also assists in reducing the direct personal investment. We are not advocating a free lunch or give-away programs, but rather a concerted effort by our regulators, utilities, and governments to provide a small push in the right direction. There are many other potential avenues within the natural gas and electricity world to help consumers reduce use, but these focus on response to market price signals. This is a long-term solution that creates winners and losers under current conditions and should be more clearly developed before it is released on the populace. California and New York (this summer) will help to provide the realities of poor regulatory alterations.

The other avenue for improvement in the residential sector focuses on the use of alternatives or substitute energy supplies. Again, price signals provide the best incentive for movement, but we must have a developed infrastructure. Changes in regulations, tax codes, building codes, and the like will reduce barriers to entry. This would include a creation of a national interconnection standard for distributed generation. Currently no such animal exists and IEEE can not determine one due to member political positions. We must overcome this small part to allow for ease of substitution of electric product. This will assist in the adoption of solar, fuel cell, and other new products at the residential level through a reduction in costs. National standards will also assist in creating improved safety of such systems for all involved. Again, there must be changes in tax codes to promote the construction, use and installation of alternative sources. Perhaps we could have a diversification credit based on using multiple sources at one location. This would reduce overall cost and increase reliability if properly designed. Building codes must also be changed to promote alternative resource application in energy and indirect efficiency. Again, our leaders must step forward to help, but the individuals must also accept this help and try something new. It is almost a "catch 22" however, current energy prices certainly will help motivate everyone to action.

The final piece of the puzzle focuses on transportation. The reductions available within vehicles is very evident based on the mileage per gallon of our transportation means. Over the past 150 years, our country has developed many means of mechanized locomotion, but by far the automobile is the most popular of them all. Americans are in love with their vehicles. From the muscle cars of the sixties to the SUV's of the 1990's, we enjoy speed, power, and size. Many a writer has stated that for American's, their vehicle is a direct representation of their persona. This is the challenge one faces if you promote alterations to transportation in our country. However, the main method of achieving this can be done through the increase in

the minimum mileage rates for automobiles and trucks. A simple increase in 5 miles per gallon for new vehicles can save millions of barrels of crude over the life span of these vehicles. Technology is readily available to make these alterations, but it must be mandated since manufacturers and consumers do not have a great incentive (unless current gasoline prices continue to rise and reach the $3 to $4 dollar level) to change. Another and more radical idea centers on a punitive measure with respect to low fuel efficiency. A great case can be made to charge an efficiency penalty to those driving vehicles with average mileage below twelve miles per gallon. The focus of this would be non-business vehicles (hauling, transport of goods, and the like) that are used as a family vehicle or that are so old as to be an efficiency detriment. This surcharge will affect many people in many unpopular ways, however, if we are to be serious concerning consumption, there must be an effort to upgrade to better technology or pay the appropriate costs of choices against these ideas. Finally, development of alternative fuel vehicles and zero emission vehicles would also assist in reducing energy consumption of fossil fuels. There are current programs, but these require time and seed money or at least tax abatements to help move from the drawing board to reality.

Implementation and Governance

In the previous section, supply and consumption were briefly discussed; however, no process can be fully developed without implementation plans and a method of governance. In the case of our energy policy, implementation should focus on national and state level with corresponding governance. The key to success lies in the coordination of the effort between agencies, providers, regulators, consumers, and other stakeholders.

Before we discuss implementation, we must focus on governance of the process. As much as everyone dislikes the idea of another government agency, we should have one focused solely on the implementation of the energy policy. To use existing agencies would assist in this process, so we would propose the Department of Energy create a special energy policy focus group in place. This group would be composed of several subgroups (Please see Figure 2 for more detail).

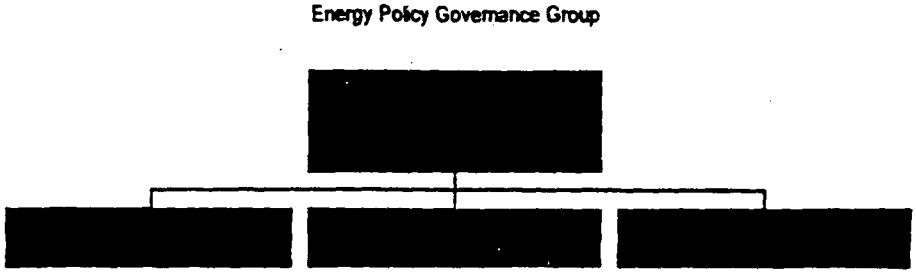

Figure 2: Energy Policy Governance

The main focus is a coordinated effort to address the issues surrounding the energy policy. With DOE as the lead and representing a cross-functional team composed of members of the subgroup, the governance group can provide pertinent and diverse opinions with respect to implementation, governance, and any other issues that may affect the energy policy of our country. Once all the stakeholders have a place at the table, a proper dialogue can ensue.

Initially, this dialogue must focus on the implementation of a national energy policy. This is where the leaders must take a firm stand. The decisions and ideas will not be popular with every group. Raising fees to low fuel mileage vehicle owners will certainly not help re-election campaigns. Increasing expenditures and reducing revenues through new incentive

programs will reduce the opportunity for pork barrel projects and shift spending. However, the reasons for this course of action is sound. The US is in en economic leadership position to a great extent because we have inexpensive and reliable energy for our businesses and homes. The current state of energy in our country is a potential epic crisis in the making if not address with the proper respect. So how does the group start the implementation?

As in any new product or program, education is a key component. America must be educated on the plan and the reasons for the action. The message must be continuous and unwavering from the attacks of special interest groups. There will be attacks from all sides to include people claiming damage to the environment due to increased exploration and those that say the increases in mandated efficiency standards will make their products too expensive. However, there must be a give and take on all sides and continuous messaging surrounding the issue will help to maintain stable information. The second step is to obtain a follow-up or cooperative policy from each state. If the states can follow the lead of the national policy, it will provide for incredible unity of purpose in every corner of the land. This will be incredibly difficult as one now must deal with incredible complexities on a fifty-fold level. However, nothing worthwhile is ever easy to obtain. One must also obtain the agreement of the majority of business interests. As their products fuel the future, they will play an integral part in the success of an energy policy. For business, it is a simple equation. Does the policy and subsequent results make us better able to compete on a global scale? If the answer is yes, they will follow the DOE lead. Having their input in the governance group will certainly make this process easier. The final piece of the puzzle is the support of government in the form of the elected officials. This will be the most challenging process since they hold the purse strings of tax relief and spending. There is no easy method to gain acceptance by this group, but they will move to the concerns of their constituents, and the continuous marketing campaign should help to set the stage for successful lobbying efforts.

Conclusions

We are faced with an incredible set of choices in this country with respect to energy. Low cost and reliable resources has made this country what it is today, but it can also help to take our advantage away. The main efforts of a national energy policy must concentrate on increasing supply of energy, reducing consumption, and providing a coordinated means of implementation and governance. Simply stated, it is a process that requires the proper mapping. If we determine the blueprint and follow the directions, we will succeed. If we chose to disregard our own indicators, than we will be doomed to a slow and agonizing period of increased costs, decreased quality of life, and continuous fire fighting with respect to energy emergencies.

This country's greatest strengths are also some of its largest weaknesses. We can see this in the problems with our energy policy today. Attempts at deregulation in the electricity industry have been met with disastrous results as California faces daily blackouts and we attempt to move large blocks of power through a transmission system ill suited for this endeavor. We see it in the refinery capacity reaching record levels and still unable to meet demands due to restrictive manufacturing regulations and limitations on new investment in capital. One can also see this in the efforts of businesses to hamper the introduction of alternative systems much as the auto industry has stifled innovation against the combustion engine. Finally, we see the well-intended efforts of environmental extremism preventing the exploration for natural gas and artificially creating supply shortages. We must all come to accord, that our efforts must be to the greater good of the country and find compromise through the application of technology and intelligence. Once we throw our full weight to this problem, the US will once again stand ready to have many years of low cost, reliable, plentiful, and environmentally friendly energy.

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May 23, 2001

Secretary of Energy
US Department of Energy
1000 Independence Avenue
Washington, DC 20585

Subject: National Energy Policy
Energy Conservative Housing

Congratulations on the recent release of a comprehensive **National Energy Policy**. The document seems extremely well researched for such a complex issue. I would like to suggest an important amendment that ought to be included because it will encourage community planners to place more emphasis on **the third dimension** in future housing projects.

We need to utilize **the third dimension** more effectively in laying out our communities. Currently, the residences offices stores etc. of our cities are spread out mostly over a two dimensional grid, and consequently we suffer great inefficiencies in getting about. It takes too much time and energy to go from point A to point B, and the helter-skelter spread of goods and services throughout the community forces us to make many trips. Are all these trips really necessary?

The concept of **Energy Conservative Housing** suggests that many of our trips would not be necessary if we made better use of **the third dimension**. The concept has been around for many years yet I think the merit of the housing design has not been fully appreciated. I urge you to study **Energy Conservative Housing** and then re-shape the tax laws to encourage the construction of new energy-efficient apartments as described below.

Upwards into **the third dimension** we go. We design a large multi-story apartment building with comfortable middle class features in every apartment. But we reserve the ground floor for commercial enterprises that primarily serve the needs of the residents on the floors above but also fully accessible to customers who live outside the apartment complex.

Think what this design does for the residents. They can live a comfortable life. They can move around quickly, almost effortlessly within their own building. They can obtain their groceries, medicines, shoes or books within their own building . . . no need to hop in the car and travel 20 miles to gather supplies or acquire services. A medical clinic in the building might eliminate a lot of travel to physician's offices. The building might be nearly self sufficient so automobile errands to distant stores or service providers would be greatly reduced. The residents would be far less dependent on the automobile; their cost of living would be down-sized; their lives would be enriched by the gift of extra time-saved. A schoolhouse and a police station might also be included in the design. A few of the residents might even work downstairs in the commercial sector, and never-ever have to think about commuting.

Think what this design does for the community at large. The movement of foods and supplies and people through the community would be much more efficient. Less travel required. Traffic congestion and air pollution reduced. Total fuel consumption in the community much reduced. All the benefits of energy conservation. Less wear and tear on city streets. Fewer accidents. Commuters on average less stressed out by travel over less crowded thoroughfares. A small city composed of several well spaced **Energy Conservative Housing** units intermingled with single family homes would offer many benefits, but would not necessarily appeal to everyone.

It would be a blessing for elderly people like me, and those unfortunate handicapped people who are strapped in wheelchairs could live free of the many hassles they now endure. No traffic problems. Safe and secure. If I could live in such a place I would likely give up my automobile, and on rare occasions I'd summon a taxi for distant errands. Wouldn't it be nice if I could just go downstairs and do my shopping or take a morning constitutional in the mall.

No response necessary. Just do it.

Robert E. Heath

Robert.E. Heath

b(6)

Copy to: President G.W. Bush
Secretary of HUD
House Committee on Energy and Commerce
White House Office of Science and Tech Policy

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MEL BERNSTEIN b(6)

Ponte Vedra Beach, Fl 32082

May 23, 2001

Dear Secretary Abraham,

The enclosed letter appeared in the Florida Times Union, Jacksonville's top paper. The interesting fact is that I received 28 phone calls from people I did not know--all expressing their agreement with my letter. There were two disapprovals. Whereas that is not a professional poll, it is a positive reaction that belies what the extreme, vocal environmentalists and the media keep putting out. I feel it indicates the public accepts and/or agrees that we must increase exploration and production as fast as humanly possible.

Best wishes for your continued success.

Sincerely,

Mel Bernstein

ENERGY CRISIS

Take action now

We have a serious energy crisis.

It is the result of no action by President Clinton to adopt any positive energy policy or action to prevent the crisis. He embraced the extreme vocal environment groups' stand, preventing additional exploration, new refining facilities and electrical power plants.

In addition, the members of the Organization of Petroleum Exporting Countries we saved from Iraq have shown no appreciation. In the past year, they have continued to decrease the amount of oil they have pumped. That has been disruptive to our economy and has cost our citizens dearly. It is the principal cause of our inflation. It is vital that we increase our own energy resources. We must:

- Authorize oil exploration in Alaska and other areas in our country by qualified exploration organizations.
- Authorize the construction of new refining facilities.
- Authorize and encourage building of new electric power plants.
- Adopt the rational, reasonable, necessary attitude that our citizens' well-being is more important than the well-being of the tsi tsi fly or the snail darter.

New technology will allow construction of vital facilities without ruining the environment or killing wildlife. But if it does come down to that, we must decide in favor of humans.

The extreme vocal environmentalists drive automobiles, have electric lights, air-conditioning, heating, microwaves — even computers — in their homes. They must realize that they won't be able to use those things unless they allow us to increasew our domestic energy sources for national security, a healthy economy and our citizens' normal living.

We have the oil and gas in our borders; it is idiotic to ignore it. Conservation, while desirable, will not give us the energy we need now and in the future.

MEL BERNSTEIN
Ponte Vedra Beach

Shirley Hall

May 23, 2001

Mr. Spencer Abraham
Secretary, U.S. Department of Energy
1000 Independence Ave. SW
Room 7A257
Washington DC, 20585

Dear Sir,

Your energy plan needs much more emphasis on conservation and alternative-energy.

True, conservation will not get us there all the way, but it will get us a lot further if we had a real commitment to apply our best technological know-how to the problem. Americans are such an inventive people, surely we can do better than the Europeans who somehow manage to live very well without wasting as much energy as we do.

One conservation step that is long overdue and which requires only legislative action, is to extend the fuel efficiency and emission standards that apply to standard cars to SUV's and light trucks. These vehicles are overwhelmingly used for personal transportation and it is about time that they abided by the same rules as other cars.

Alternative energy is nominally more expensive than fossil fuel derived energy, but when one considers the indirect cost of pollution that is avoided, alternative energy becomes a lot more attractive.

Please incorporate these ideas in your energy plan.

Sincerely,

Shirley Hall

Mrs. Shirley Hall

DOE

23 May, 2001

President George W. Bush
The White House
1600 Pennsylvania Avenue N.W.
Washington, DC 20500

Dear Mr. President,

Your recent energy plan contains some good points but it falls way short in energy conservation. We were led to believe by your recent public statements that conservation was going to be a significant factor in your plan, but it is at best a start.

The United States uses more energy per capita than any other nation in the world. Part of the reason for that is that we have not really tried to conserve, except for a brief, aborted attempt during the Carter administration. Therefore we have the potential for huge savings, a potential that we must realize if we are to be considered responsible members of the international society of nations. This does not mean lowering our standard of living, it merely means creatively applying our world class technology to use energy more efficiently.

Your own energy department has developed many ideas along those lines. Together with industry, they should develop a blue print for energy efficiency. This would result in permanent savings that will bear dividends for many years to come.

Sincerely,

Nancy Vigjikan Paul Vigjikan

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JUN 14 2001

May 29, 2001

Dear Vice President Cheney:

I wrote to you a couple of months ago in conjunction with my AP Environmental Science class at Walter Johnson High School. My letter requested information on the Administration's official energy policy, the plausibility of solar power fuel cells as I had heard about in a news story on NASA's "Flying Wing," and other alternative energy sources. I felt confident that my letter would be received as a reasonable, measured, and sincere one. Hopeful and sincerely interested in a response, I even enclosed a self-addressed, stamped envelope to make the response I hoped to receive extra-easy for a secretary or intern to provide.

On May 10, I received a small envelope from your office at the White House. It contained a curt, flowery form letter from Andrew A. Lundquist, Executive Director of the National Energy Policy Development Group on your behalf. The letter did not address any of my concerns specifically, nor did it manage to say much of anything substantive. I have been impressed with your knowledge and experience though we may not agree on certain issues; to be honest, I was looking forward to a more meaningful response.

I feel personally offended and somewhat betrayed by this impersonal and false response. I am genuinely interested in these pressing issues, and would hope that in the future you would be able to send a more significant and sincere response to concerned young people like myself. I am still very interested in your and President Bush's energy policy, and would appreciate any information you could provide on this topic. I hope that my experience is not an indication of the level of communication this Administration intends to have with the public.

Sincerely,

Joan April Suwalsky

Joan April Suwalsky

B6

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2001-013977 6/8 4:00

b6

May 29, 2001

The Honorable Spencer Abraham
Secretary of Energy
U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

Dear Secretary Abraham,

Recently, the Bush administration put forth an energy plan to deal with problems in our nation's energy situation such as the misbalance of supply and demand in the energy economy and the dangers to our environment due to fossil fuels. Several of the plans presented are very strong. More clean coal technology and natural gas pipelines will reduce the current amount of air emissions in the environment. However, there are a few key weaknesses in the energy plan.

The need for oil in this country is over-estimated. Gasoline prices would not be so high if conservation were employed more than it is. Federal incentives for mass-transit systems for cities that wish to improve their systems should be provided. Also, higher taxes should be imposed on people who drive larger cars such as SUVs. More fuel-efficient cars on the will help reduce the demand for gasoline and therefore lower gasoline prices. Also, other fossil fuels, such as natural gas, can be used instead of oil. More cars should be engineered to run on natural gas and oil power plants can be replaced with those of other fossil fuels. There are many alternative solutions to gasoline prices than finding more oil.

It is not a strong solution to drill for oil in the Artic Wildlife Reserves. It is important to preserve these areas for future generations. If reserves are looked to for

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natural resources by each president, then eventually, there will be no reserves remaining. It is wrong to attack unique ecological systems for any needs if they can be met through other means. More money should be put into conservation and efficiency of gasoline and more mass-transit rather than being put into drilling for oil in the Artic Wildlife Reserves.

Finally, more renewable energy should be researched and developed. Bush wants to put about $40 million into this research, but this is not enough to accelerate the development of new, cleaner, energy sources. More solar panels should be built than 2,000: this is only 40 per state. More research on fuel cell automobiles would also be effective. More money must be put into research of renewable energy in order to push America into the future.

In conclusion, there are a few key errors in the new Energy Policy that must be addressed. The need for oil is over-estimated and alternative solutions to this problem should be considered before drilling for oil in the natural Artic Wildlife Reserves. One of these alternative solutions that should be looked at more fully is renewable power. Through emphasizing more clean and efficient sources of power, our country can move forward in the new millennium with a strong energy system.

Sincerely,

Daniel L. Kuncik

Daniel L. Kuncik

b6

Ronald Marsico
[redacted]

May 29, 2001

Mr. Andrew Lundquist
Executive Director
National Energy Policy Development Group
Office Of The Vice President
Washington, D.C., 20501

Subject : "PATH 15" Transmission Network Bottleneck In California And An Alternative Remedy

Dear Mr. Lundquist :

In my 3/16/01 letter to Vice President Cheney, your 4/13/01 response to me on behalf of the Vice President (which was greatly appreciated by me), and my 4/20/01 follow-up letter to you, a common theme was to try to solve various aspects of the nation's energy and energy delivery problems in a dependable, affordable, timely, and environmentally sound manner.

My reason for writing to you again is two-fold :

In the President's national energy policy announcement almost two weeks ago, one aspect of his program is to try to "squeeze" more out of existing infrastructure (which I interpreted to mean to become more efficient or to do more with what we already have). This is certainly a sensible, often times practical goal, and an important part of his program. The rational of my earlier initiatives is consistent with this objective.

Secondly, I obtained some information (via the Internet) about the nature of the PATH 15 transmission network bottleneck problem in California and its proposed solution. This remedy involves building another 500 kv transmission line and installing another 230 kv circuit on a vacant position of an existing double-circuit transmission line. While the installation of the additional 230 kv circuit is an obvious and relatively easy part of this plan, the building of an entirely new 500 kv line is an entirely different matter. A new 500 kv line will likely be a very costly, late, and environmentally /property-owner opposed project. This reported overall transmission reinforcement program for PATH 15 has been estimated to cost between $ 200 - 300,000,000 and be completed within 5 years! Five years may be an overly optimistic time frame since I know of an EHV line that has been in the line siting process for more than 10 years now and still does not have siting approval.

I would respectfully suggest that another alternative be evaluated and considered from a technical, environmental, timeliness, and economic perspective; one that might be accomplished at a small fraction of the above cost, much quicker, and which might even be endorsed by the environmental community!

Some of the basics of my PATH 15 alternative remedy are described below and I certainly acknowledge that I do not have most of the details of the existing system or its problems. Nevertheless, there is enough information for me to suggest the following upgrade and there may be other variations that also solve the problems :

1) Rather than build another new 500 kv line between Los Banos and Gates Substations and add a second 230 kv circuit between Gates and Midway Substations, my suggestion is to look at significantly upgrading the voltages on the existing transmission lines between these Substations and not build the entirely new 500 kv line.

2) My remedy involves a voltage upgrade of one or more 500 kv lines to 765 kv from Los Banos southward and a voltage upgrade from 230 kv to 345 kv on the existing line between Gates and Midway Substations together with the necessary transformer changes and other appropriate Substation upgrades.

This plan obviously would have one less north-south circuit in PATH 15 than the current plan; this certainly needs to be considered as a trade-off against the benefits that might result from my suggested plan. In any event, electrical Load-Flow, Stability, and other analyses should be performed by PG&E, So. Cal. Edison, CAISO, WSCC and others to determine the viability of this voltage upgrade alternative for PATH 15 as well as for other congested PATHS in California.

3) If this voltage upgrade alternative does accomplish the necessary PATH 15 reinforcement requirements, then the means of accomplishing such significant modifications might possibly be achieved by the combined use of two U.S. Patents described below in Paragraph (4) and of which I am a co-inventor.

4) Two of the major technical problems involved in such transmission line voltage upgrades are the need for increased clearances under these lines and increased clearances between the energized conductors and structural supports (ie. towers) without major conductor and/or tower modifications or reinforcements.

(A) U.S. Patent No. 4,686,325 entitled "Catenary Sag Adjustment Using Added Weights" provides a novel means of providing increased clearances under existing lines where they come closest to ground or other underlying objects. My previous correspondence described this Patent in significant detail.

(B) U.S. Patent No. 5,777,262 entitled "Apparatus And Method For Increasing Electrical Clearances Of Energized Conductors" provides a means of increasing clearances between conductors and supporting structures utilizing innovative insulation techniques.

5) I believe that a comprehensive engineering and economic study, by appropriate entities, of the combined use of these two Patents should be performed promptly to determine whether my voltage upgrade alternatives solve all the PATH 15 problems.

6) An obvious question that should be considered and answered is: how can the voltage upgrades be accomplished without lengthy circuit outages on the already strained transmission system? As described in my previous information packages it should be possible, using insulated bucket-trucks and other recognized safety procedures, to install the weights required by Patent No. 4,686,325 at many locations without a circuit outage.

Installation techniques to accomplish the modifications required by Patent No. 5,777,262 will require circuit outages. However, the nature of this work at supporting structures may permit a work-plan whereby a de-energized circuit can be re-energized on relatively short notice after work crews are clear of the circuit; should this need arise.

It is also very likely that some circuit outages are inevitable, even with the PG&E plan.

7) The installation of a voltage upgraded 345 kv circuit on the vacant position of the line between Gates and Midway Substations could be the first task that is completed prior to other work in order to reinforce PATH 15 during subsequent outages on other circuits. Then, sequentially, the existing 230 kv Gates - Midway circuit be upgraded to 345 kv and then one or more of the existing 500 kv circuits between Los Banos-Gates-Midway and/or Los Ganos-

Midway be upgraded to 765 kv.

Since my prior letters (or copies of letters) and packages of information to various California officials, utility companies, ISO, and some Federal officials have not yet been answered, I request that your Office urge consideration and comprehensive analyses of my alternative by appropriate California Utilities, FERC, California Independent System Operator, California Energy Commission, California Public Utilities Commission, Western Systems Coordinating Council, and any other interested parties.

It is my hope that you and your Task Force can convince appropriate people in the West to at least analyze the possibilities of prudently "squeezing" more capacity out of existing transmission line facilities to follow the lead within President Bush's announcement.

Even if such a study of PATH 15 does not result in implementation of my suggestions, I believe that the engineering and economic analyses that result will be worth the time, effort, and cost since many experts believe that there are many other transmission line bottlenecks around the country. Perhaps some of these other line limitations can be be mitigated by prudent use of the Patent described in Paragraph 4 (A) or by prudently combining the use of Patents described in Paragraphs 4 (A) & 4 (B). For example, the other "Congested PATHS" 66, 46, 45, 44, 42, & 26 in California as cited by their Energy Commission. Load-Flow, Stability, and other analyses should also be performed for these PATHS to determine whether voltage upgrades similar to my PATH 15 suggestions might be helpful in mitigating these PATH constraints.

In order to facilitate the consideration of my suggestions, I am again copying various entities and government officials whom I believe have or should have a strong interest in these serious problems. I sincerely hope that my enhanced suggestions will receive the attention of the proper people whose responsibility it is to solve these difficult problems.

I look forward to a dialogue with your Office or any other entities in the hope that my suggestions can be helpful in the California situation as well as for similar problems elsewhere around the country.

Respectfully,

Ronald Marsico

Ronald Marsico

Enclosures : Letters Dated 3/16/01, 4/13/01, & 4/20/01; Two U.S. Patents;
CEC Map Of Congested EHV PATHS In California;
PG&E Letter Dated 4/2/01 To WSCC Relative To Their PATH 15 Upgrade Plan.

Copies : Hon. Richard Cheney - Vice President of the United States
Hon. Spencer Abraham - Secretary of Energy
Hon. Jeff Bingaman - Chairman , Senate Committee on Energy
Hon. Gray Davis - Governor of California
Hon. Diane Feinstein - Senator from California
Hon. Curt Hebert - Chairman, Federal Energy Regulatory Commission
Hon. Gary Locke - Governor of Washington
Hon. Frank Murkowski - Ranking Member, Senate Committee on Energy
Hon. Billy Tauzin - Chairman, House Committee on Energy

Mr. William Keese - Chairman, California Energy Commission
Ms. Loretta Lynch - President, California Public Utilities Commission
Mr. Armando Perez - Director for Grid Planning, CA. Independent System Operator
Executive Director - Western Systems Coordinating Council

Mr. Steve Baum - President & CEO, Sempra Energy Company
Mr. John Bryson - President & CEO, Edison International Company
Mr. Gordon Smith - President & CEO, Pacific Gas & Electric Company
Mr. Ben Morris - Principal Planning Engineer, Pacific Gas & Electric Company

2001-014041 6/11 A 10:02

01/10/11

Frank Boring Fitzgerald
b(6)

OPEN LETTER

June 4, 2001

Executive Office of the Energy Secretary
Forrestal Building
1000 Independence Avenue SW
Washington, DC 20585

RE: Oil, Gas, Artesian Water, Uranium, and coal Reserves in Wyoming.

Dear Mr. Secretary:

In 1950, United Geophysical Engineering and the Texas Company, found the **United States Naval Oil Reserve on the Red Desert of Wyoming.** That Reserve plus its surroundings is the largest in the western hemisphere in terms of potential energy of oil, natural gas, uranium, and coal. The Red Desert is accessible, with minimum environmental concerns, IF, it is developed scientifically correct.

On a map of Wyoming, north and west of the communities of Rawlins, Wamsutter, and Red Desert, and west of Baroil and Lamont is the Wyoming Red Desert. It is completely surrounded by Continental Divide. Uranium claims were prospected, filed, and bonuses granted. The geophysics of the Red Desert are immensely fascinating.

I suggest, Mr. Secretary, all of the gravimetric and seismographic recordings the Parties took, could now be run thru a computer programmed for 3-D virtual reality, as has been done elsewhere. Then you will see what I saw as I took and complied the mile after mile recordings for UGEC Party 26. It is huge, Mr. Secretary. Consider it part of a crash program, like the Manhattan Project.

The Red Desert is an ideal site for several multiplex combined nuclear power plants, oil refineries, coal-to-gas-and-gasoline converters, and military facilities, ideal even for a space launching port because of its high altitude. Excess reactor heat could be used to cook crude oil from the Reserve and to process coal hauled in. All of the facilities could use excess reactor heat in the winter. To cool in the summer, Servel refrigerator technology could be used for cooling. Artesian water is abundant for end cooling. Fuel the many reactors with uranium mined nearby and processed on site with tunable eximer UV lasers for separation of U235 and U238 from Uranium Hexafluoride, as is now done elsewhere. Superconducting magnet energy storage and so much more. In-house energy sources? What more could one ask for? When the proper time comes, switch to fusion reactors. Artesian water would supply the hydrogen. Eximer UV lasers would separate hydrogen, deuterium, and tritium.

On a separate note: Mr. Secretary, conservation can take place now and sustain some areas from total blackouts. Feds can order the immediate drop of every end consumer power line voltage an 8% while maintaining 60Hz. This will not cause difficulties but will lower each consumer's MWH per month without any consumer having to do anything for that savings. Push fluorescent lights.

There ought to be a national plan [not policy] to convert all high voltage long line inter-ties from AC to DC at much higher voltages so as to be able to utilize lightning for added power as does the Bonneville to LA DC inter-tie. Plan to connect all of the US, Canada, and Central America on a DC

grid to feed to where needed. At a large number of places store off-peak energy in super-conducting magnets suggested many years ago by the Edison Electric Institute. The problems then of design and construction are no longer of consequence. Plan to take another good long intense hard look at **cold fusion.** I am convinced it works due to precise Pons and Fleichman essential design technology definitely missing from the literature.

Mr. Secretary, I recommend you put the best scientific minds on this accelerating multi-faceted energy crunch. Among other things, give due consideration to the above. Surely, other scientists have their own remedies. Formulate a publishable national energy plan with some teeth and gutsy in it. It is important, Mr. Secretary, the Administration and the Congress create immediately a sense of hope instead of allowing a wide-spread developing sense of economic bankruptcy and doom; come together to create abundant cheap and clean energy supplies. Once the bugs are removed from the plan, encourage Congress to pass a joint Resolution supporting the President's National Energy Plan.

I do not wish to present a foreboding but the present national energy policy is not a plan, not well thought out, not scientific, it is simplistic, glossy meager, not enough, and envisions no improvement whatsoever now for us, nor for our children's future. The policy apparently maintains the status quo with inadequate slight improvements for the distant future, but worse it pays no attention to the developing multi-faceted crisis we are all witness to.

The best scientifically designed and engineered fission reactors should be part of a national energy plan. The Red Desert presents a likely site to generate enough electric energy and other energy resources to supply all of the Western US until the year fusion reactors come on line.

With energy demands greatly out-stripping economically horded supplies, ours and OPEC [thus higher prices are intentionally generated which most energy barons applaud], and our growing reliance on OPEC, to act to formulate ambiguous simplistic national policy places the global economy in grave risk of financial ruin and depression. It merely provides further incentive and greedy opportunities for RICO types to "legally" occupy, dominate, and dictate to an otherwise free market place. [A RICO type by any other name is still a RICO.]

You should give the US and OPEC energy barons 72 hours to right their wrongs. Do so as a national security measure. It is that serious, Mr. Secretary. Leaving matters as they are transfers wealth from the rest of us to the energy barons just as if we were working for them part-time without pay. Decidedly a form of slavery.

In conclusion, I say we just may be seeing the writing of a chapter of history wherein we, the people, view national political and economic leadership as though we were watching many Neros fiddle while Rome burns. Nero ivory towers are not the place from which to observe and protect Humanity. Economic leaders are increasingly consuming more of Humanity. I for one do not want to see another Russian socio-political-economic system, passed or present. If it comes here, I think it would be appropriate then for a revolution to assure Humanity comes First.

However, with much respect for our new Energy Secretary, I am, member of the loyal opposition,

Frank Boring Fitzgerald

Frank Boring Fitzgerald, June 4, 2001

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Lb

. 5 June, 2001

Mr. Spencer Abraham
Secretary, U.S. Department of Energy
1000 Independence Ave. SW
Room 7A257
Washington DC, 20585

Dear Sir,

Your energy plan needs to focus much more on conservation as opposed to drilling for oil wells everywhere. Fortunately there are some obvious targets that the plan has overlooked.

A good place to start would be with SUVs. They are the fuel hogs of the road and they have been getting a free ride for too long. It is ridiculous to classify them as trucks. They are personal transportation vehicles and as such should be subject to the same fuel efficiency and exhaust emission requirements as other cars.

A bipartisan bill (S.804) was introduced recently that addresses that very issue. I would encourage you to support passage of that bill and make its provisions part of your energy plan.

Sincerely,

John Buterbaugh

Mr. And Mrs. John N. Buterbaugh

66

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Sweeney, Terrenthia 61447

From: Friedrichs, Mark
Sent: Friday, June 15, 2001 1:06 PM
To: Sweeney, Terrenthia
Cc: POCorrespondence
Subject: Delacruz e-mail; questions from a student

Follow Up Flag: Follow up
Flag Status: Flagged


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The following is my response and the incoming for our records

-----Original Message-----
From: Friedrichs, Mark
Sent: Thursday, June 14, 2001 10:34 AM
To: (b)(6)
Subject: FW: questions rrom a student

Dear Francis dela Cruz:

Thank you for inquiring about this Administration's energy policy.

To address the many energy issues facing the Nation, one of President Bush's first acts was to create a National Energy Policy Development Group, headed by Vice President Cheney. This Group was charged with developing recommendations to help the private sector and government at all levels promote reliable, affordable, and environmentally sound energy for America's future. On May 16, Vice President Cheney sent to the President a National Energy Policy report produced by the National Energy Policy Development Group. The report describes a comprehensive long-term strategy that uses leading edge technology to produce an integrated energy, environmental and economic policy. The National Energy Policy it proposes follows three basic principles:

- The Policy is a long-term, comprehensive strategy. Our energy crisis has been years in the making, and will take years to put fully behind us.
- The Policy will advance new, environmentally friendly technologies to increase energy supplies and encourage cleaner, more efficient energy use.
- The Policy seeks to raise the living standards of the American people, recognizing that to do so our country must fully integrate its energy, environmental, and economic policies.

To achieve a 21st century quality of life - enhanced by reliable energy and a clean environment - it recommends 105 actions to modernize conservation, modernize our infrastructure, increase our energy supplies, including renewables, accelerate the protection and improvement of our environment, and increase our energy security.

The President has already taken actions to implement many of the report's recommendations. Over the coming months, further actions will be taken by the President, individual Federal agencies and the Congress. These actions, once fully implemented, will help minimize future energy prices, while assuring that energy supplies are reliable and the environment is protected.

A copy of the National Energy Policy report, with the specific recommendations to the President, is available on the White House webpage, www.whitehouse.gov, or on the webpage of the U.S. Department of Energy, www.energy.gov.

If you read this report I think you will find the answers to each of your questions.

Thank you for writing.

Mark Friedrichs
Office of Policy
U.S. Department of Energy
-----Original Message-----
From: (6)(6)
Sent: Thursday, June 14, 2001 1:15 AM
To: Secretary, The
Subject: questions from a student

Dear Mr. Abraham,

My name is Francis dela Cruz and I'm a student at Pasadena City College in Pasadena, California. I recently did a short biography of your political career for my political science class. Being a California native, I'm wondering about the future of the current power crisis and I have a few questions about it. What is your current stance on the issue and how do you plan on addressing it? What do you plan to do about the possibility that the power crisis might spread across the nation? And also, what do think would happen to the power crisis a few years down the road? I hope to receive a response from you soon and I thank you for your time.

Sincerely,
Francis dela Cruz

Sweeney, Terrenthia 01447

From: Friedrichs, Mark
Sent: Friday, June 15, 2001 1:06 PM
To: Sweeney, Terrenthia
Cc: POCorrespondence
Subject: Delacruz e-mail; questions from a student

Follow Up Flag: Follow up
Flag Status: Flagged


tmp.htm

The following is my response and the incoming for our records

-----Original Message-----
From: Friedrichs, Mark
Sent: Thursday, June 14, 2001 10:34 AM
To: [redacted] b6
Subject: FW: questions from a student

Dear Francis dela Cruz:

Thank you for inquiring about this Administration's energy policy.

To address the many energy issues facing the Nation, one of President Bush's first acts was to create a National Energy Policy Development Group, headed by Vice President Cheney. This Group was charged with developing recommendations to help the private sector and government at all levels promote reliable, affordable, and environmentally sound energy for America's future. On May 16, Vice President Cheney sent to the President a National Energy Policy report produced by the National Energy Policy Development Group. The report describes a comprehensive long-term strategy that uses leading edge technology to produce an integrated energy, environmental and economic policy. The National Energy Policy it proposes follows three basic principles:

- The Policy is a long-term, comprehensive strategy. Our energy crisis has been years in the making, and will take years to put fully behind us.
- The Policy will advance new, environmentally friendly technologies to increase energy supplies and encourage cleaner, more efficient energy use.
- The Policy seeks to raise the living standards of the American people, recognizing that to do so our country must fully integrate its energy, environmental, and economic policies.

To achieve a 21st century quality of life - enhanced by reliable energy and a clean environment - it recommends 105 actions to modernize conservation, modernize our infrastructure, increase our energy supplies, including renewables, accelerate the protection and improvement of our environment, and increase our energy security.

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If you read this report I think you will find the answers to each of your questions.

Secretary, The

From: Energy, Policy
Sent: Friday, June 29, 2001 3:24 PM
To: Secretary, The
Subject: FW: Environmental Quality

PO/[illegible]

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Please re-assign to International Affairs.
Thanks

Bob Benny

----Original Message----
From: Secretary, The
Sent: Friday, June 29, 2001 7:54 AM
To: Energy, Policy
Subject: FW: Environmental Quality

----Original Message----
From: jim.steitz@USU.EDU%internet [mailto:jim.steitz@USU.EDU]
Sent: Friday, June 29, 2001 12:42 AM
To: Secretary, The
Subject: Environmental Quality

FROM: jim.steitz@usu.edu
NAME: Jim Steitz
SUBJECT: Environmental Quality
ZIP: 84321
CITY: Logan
PARM.1: TO:the.secretary@hq.doe.gov
STATE: Utah
TOPIC: Human Rights and the Bush Plan
SUBMIT: Send Comments
CONTACT: email
COUNTRY: USA
MESSAGE: To Whom it May Concern: The Bush energy plan has been criticized on the environmental front vigorously, but I wish to address a related issue that often suffers simultaneously -- human rights overseas. In the entire 170 page Energy Plan offered by the Bush administration several weeks ago, there is not one mention of the need to protect human rights around the world, particularly in energy producing countries with repressive and undemocratic governments. At the same time, the plan promotes gaining more access to energy markets in such countries as Angola, Chad, Nigeria, and Azerbaijan, each with their own histories of troubled human rights and environmental records. As you read this, the U'we tribe of Columbia is losing its way of life to the involuntarily imposed oil drilling of Occidental Petroleum. There is frequently a link between the rights of people to speak out on behalf of the environment and the= environmental standards governments support. This is particularly true in oil producing countries where the rights of the wealthy few are too frequently elevated far beyond the rights of the people in the oil producing regions -- people who are often poor and without access to basic human rights or political or economic power. This is true in places like Chad, Cameroon,

Nigeria, Ecuador, Burma and many other countries that human rights activists have highlighted. I fear that, in the rush for energy production envisioned by President Bush, the rights of native people and other politcally non-connected inhabitants will be trampled on by national corporations and brutal governments eager to appease those corporations. I urge the Bush administration to put specific human rights safeguards and standards for energy corporations with assets in the U.S. operating overseas. If you do not, far too many more people will die at the heavy hand of progress. Sincerely, Jim Steitz
MAILADDR: [redacted] b6

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COMMITTEE ON SCIENCE
SUBCOMMITTEE ON ENERGY
U.S. HOUSE OF REPRESENTATIVES

National Energy Policy—Report of the National Energy Policy Development Group: Administration View

Thursday, June 21, 2001
10:00 a.m. - Noon
2318 Rayburn House Office Building

Secretary Abraham
U.S. Department of Energy

B5

Hearing Commitment Follow-up

Q1. At the hearing the Secretary, in response to a question from Congressman Matheson, committed to providing documentation for the record that explained the EIA's estimation of a 1.6% annual improvement in energy efficiency. Please provide this documentation.

Q2. At the hearing the Secretary stated that a budget review would be completed by July 10. Was it completed on time? Will the final report be completed in September as announced?

Post-Hearing Questions Submitted by Majority Members

Q3. We are now engaged in the fourth major national energy policy debate since the 1970's. What mistakes have we made in the past, and what mistakes should we avoid in our current consideration?

Q4. In your testimony you state that, "our energy plan harmonizes growth in domestic energy production with environmental protection." Can you give the Committee some examples of this new harmony and how it differs from past efforts?

Q5. In your testimony, you noted that the President has issued two executive orders, one of which directs Federal agencies to consider the effects of proposed regulations on energy supply, distribution, or use—what some have called an "energy impact statement."

Q5.1 Might there be a downside to this, such as creating yet another bureaucratic hurdle that might actually add to delays of rulemakings that could enhance energy supply, distribution, and use?

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Q5.2 To what extent have other agencies, such as EPA, participated in this process?

Q5.3 How would this new directive affect pending environmental regulations?

Q6. In your testimony, you say that 20 of the National Energy Policy Development Group's 105 recommendations require legislative action, which means that 85 do not. What is the Administration's timeline for implementing these?

Q7. Does H.R. 4 passed by the House, and the legislation being considered in the Senate satisfy the Administrations legislative recommendations?

Q8. The NEPD Group recommended that the EPA Administrator develop a new renewable energy partnership program. Why was this recommendation directed to the EPA Administrator instead of you?

Q9. The NEPD Group recommended that you expand the scope of the appliance standards program. What additional appliances are being considered for standards?

Q10. The NEPD Group recommended that you and the EPA Administrator assess the potential of nuclear energy to improve air quality. When is the assessment expected to be completed?

Q11. There was a great deal of controversy earlier this year when the Administration announced new emissions controls on "three P's," mercury, SOx and NOx, while omitting the fourth "P," CO2. Can CO2 be controlled cost-effectively using existing technology? If not, how long might it be before we see such technologies on the market?

Q12. Please comment on the trend of gasoline prices this so far this summer.

Q13. On June 13, EPA published its public health and safety standards for the proposed Yucca Mountain Nuclear Waste Repository in the *Federal Register*. Can these standards be met?

Q14. How do you reconcile the President's National Energy Policy's call for advancing new, environmentally friendly technologies and the emphasis on science and technology in your statement with the cuts proposed in your Fiscal Year 2002 budget?

Q15. The Report does not seem to be clear on what problems are faced by the Nation. It appears that we face two general problems:

- Immediate and long term "Capacity Challenges", in the infrastructure to extract, deliver, and use energy, and
- A longer term "Resource Depletion" challenge, where less of each resource will be able to be produced each year, thus driving prices up. The effect on the world economy will be recession/depression unless we beat the depletion by making the investments and shifting to other energy sources.

What is your opinion?

Q16. The National Energy Policy Development Group's report seems to only look as far ahead as 2020. Given the time it will take to change existing technologies and launch new ones, and get them to the point where they make a significant impact on our energy economy, is not looking beyond 2020 realistic?

Q17. Oil supplies the largest portion of our energy, and motor vehicle use is the largest component of oil use. The Report does not seem to be very concerned with transitioning from oil use. The plan does continue development of hydrogen as a fuel, and does seek tax credits for hybrid cars, but there is no sense of urgency. When do the writers of the report forecast that oil will become even more difficult to extract, hence more expensive? What is the anticipated effect on our economy?

Q18. Are the writers of the report familiar with the theory of the geologist M. King Hubbert, that explains why U.S. oil production topped out in the 1970's and has been decreasing since? Dr. Hubbert's theory also predicts that world oil production will peak sometime in the next two decades. At that point half of all possible oil that ever was will be still in the ground, but it will be increasingly difficult and expensive to obtain. World prices will climb steadily causing a recession or depression in the world economy, including the U.S., unless we are well along the road to alternative vehicle fuels, such as hydrogen. Do you agree? Please comment?

Q19. If the Federal government institutes a program to buy some of its vehicles as hybrid and alternative fueled; will you be willing to have them as part of DOE's vehicle fleet?

Q20. The National Energy Policy Report directs continued development of hydrogen and fusion. Is it proper to group these two things together? Fusion has not "been "invented" yet, i.e. no continuous release of energy, let alone producing any mechanical or electrical output; while hydrogen powered cars are on the road. Additionally, fusion is a primary energy source, but hydrogen as a combustion fuel is not a primary energy source, but a transport mechanism. Do you agree?

Q21. Given that hydrogen as a combustion fuel produces only water, and can be manufactured without creating carbon dioxide or any other pollutants of any kind,

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and that hydrogen powered vehicles are on the road now, shouldn't hydrogen as a vehicle fuel be pursued with a great sense of urgency?

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Congressman Bartlett, Chairman, Energy Subcommittee

[ ]

Q1. Have you considered the following reality?

OPEC nations now have the ability to both create an oversupply and a shortage of crude oil in the world market relative to world demand. As long as they have an excess capacity, they are capable of keeping prices "under control", maximizing profits while keeping up with growing worldwide demand. Because a too rapid price increase could result in an economic downturn (killing the "goose that laid the golden egg") and high prices tend to make otherwise costly alternatives look attractive, OPEC nations have an incentive to keep up with the demand to prevent prices from going too high.

Further, as recent history has shown, there is no other major supplier who has the capacity to supply more when OPEC decides to cut back – everyone except OPEC is already pumping as much as they can to profit from current prices!

This means that, in the not too distant future, when even OPEC is unable to keep up with growing world demand, they will no longer be able to keep prices "reasonable". Oil will then be supplied to the highest bidders, with prices rising to many times current levels – until the global economy collapses.

Q1.1 What will we do then?

Q1.2 What should we be doing now?

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[ ]

Q1.3 Is tapping an oil field containing less than a year's supply (to be delivered in 5 - 10 years) the answer?

Q1.4 Is there any reason that we should not set a challenge for ourselves to become twice as efficient in our use of energy in the next 5 – 10 years? (5 – 10 times more efficient in the next 20 years?)

Q1.5 Should we wait and let the "price signal" alert us to the existence of a problem which is nearly upon us – wait until we are bankrupt to change our ways? Wait until the horse is out to realize we should close the barn door?

Post-Hearing Questions Submitted by Minority Members

Representative Lynn Woolsey, Ranking Minority Member, Energy Subcommittee

Q1. Please provide the names of all Department of Energy employees or contractor employees who provided support or staff work for the Cheney Group's work.

Q2. During the hearing, you indicated that the lack of a Science Advisor to the President had a negligible impact on the work of the Task Force. It was asserted that scientific expertise drawn from all the involved agencies stepped into the breach. Please provide the names of the science specialists at DOE who played a role in the work of the Task Force. Please provide their resumes for the record.

Q3. Mr. Secretary, during the hearing you briefly touched on your participation and the participation of the Department in the work of the Cheney Group. Please provide for the record:

- Q3.1. The names of all witnesses or organizations who provided advice or material to the Cheney Task Force.
- Q3.2. An explanation of why the Task Force conducted its business in secret and why that veil of secrecy has not been lifted with the completion of the Task Force report.
- Q3.3. The details regarding the schedule of meetings that you or your representatives attended with other Task Force Members. Please indicate the name of DOE attendee/s, list of other invitees, list of other attendees, date and time of meeting, subject matter and/or agenda, names and affiliations of non-governmental attendees or witnesses meeting with the Group, copies of all discussion materials and DOE memoranda prepared for or distributed prior to the meeting, and copies of all materials distributed at each meeting.

Q4. In recent years, the House of Representatives has conducted very aggressive oversight of policy and conduct by the Executive Branch. For the record, please provide the following information:

- Q4.1. How many subpoenas has the Department received from Committees of the House regarding DOE participation in the Cheney Task Force? Please provide copies of all such House Committee subpoenas.
- Q4.2. How many document requests has the Department received from Committees of the House regarding DOE participation in the Cheney Task Force? Please provide copies of all House document requests related to the Cheney Task Force.

Q5. In the National Energy Policy, Report of the National Energy Policy Development Group (Cheney Group), May 2001, it is claimed on page 1-5 that "Energy

intensity is projected to continue to decline through 2020 at an average rate of 1.6 percent a year."

Q5.1. What is the source for this projection? If it is EIA, please indicate which EIA product is the source of this projection.

Q5.2. Please provide copies of all the analytical documents upon which this projection is based. Included in this submission should be any analytical documents that indicate how 1.6% was settled upon as the energy intensity level to be anticipated as opposed to other levels.

Q5.3. Please specify the policy assumptions that underlie this projection (i.e., funding levels for conservation and efficiency programs at DOE, tax credit programs for efficiency products, efficiency programs in the states, market conditions for energy that may affect consumer choice, etc.).

Q5.4 Given that other policy mixes would likely produce different declines in energy intensity, what cost-benefit analyses were done to show the trade offs between, for example, a 1.9% decline, a 2.5% decline and a 1.6% decline?

Q6. On page 1-5 of the Cheney Report, it is asserted that the nation will need between 1,300 and 1,900 new power plants over the next twenty years.

Q6.1. What is the source for this projection? If it is an EIA product, please identify which of their reports was used.

6.2. Please provide all of the analytical documents that underlie this projection. Included in this submission should be any analytical documents (including e-mails and memoranda) indicating how the figure of 1,300 to 1,900 power plants was settled upon.

Q6.3. What policy and market assumptions were made in settling on this projection?

Q6.4. What cost-benefit models were run to adopt a set of policies that puts us on a path towards needing 1,300 to 1,900 power plants as opposed to some smaller number?

Q7. In hearings earlier this year, the Committee received testimony from witnesses who cited the "Scenarios for a Clean Energy Future" report. This report, released in November 2000, was produced by the Interlaboratory Working Group on Energy-Efficient and Clean Energy Technologies with representatives from Oak Ridge, Lawrence Berkeley, NREL, Argonne and Pacific Northwest National Laboratories. The Interlaboratory Group report suggests that an aggressive energy efficiency and renewable energy policy path could lead to a 60% reduction in the anticipated growth in electricity demand by 2020. This leads to a demand for just 580 new plants rather than the projected 1,300 to 1,900 mentioned by you and the Cheney Group report.

Q7.1. Were the findings of this Interlaboratory Working Group report made available to the Cheney Group by your Department? If this report was not

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made available to the Cheney Group by your Department, please explain why.

Q7.2. Were any of the Lab staff who worked on this report involved in staffing or briefing the Cheney Group?

Q7.3. What analysis of this report has been done in-house at DOE? Please provide copies of all such analysis for the record.

Q7.4. What information or evaluations of this report were provided by your Department or its contractors to the Cheney Task Force staff? Please provide copies for the record.

Q8. In Chapter 4 of the National Energy Policy, there is a recommendati- .nat ' : President direct the Office of Science and Technology Policy and the Pres- ient's Council of Advisors on Science and Technology (PCAST) to review anc nake recommendations on using the nation's energy resources more efficiently." Yet, in 1997 PCAST, led by Harvard plasma physicist John Holdren, produced a comprehensive report identical to the one called for by the Task Force.

Q8.1. Why are you proposing to repeat the Holdren report?

Q8.2. The Holdren report called for major new Federal investments in efficiency R&D. Do you believe that recommendation was wrong?

Q8.3. Was Professor Holdren invited to participate in the task force's deliberations? If not, why not?

Q9. There have been reports in the press regarding potential conflicts of interest involving several senior Bush officials. For example, Karl Rove, a senior policy advisor to the President, held as much as a quarter-million dollars in stock in Enron as well as holdings in GE (which has a nuclear power division), Royal Dutch Shell and BP Amoco. Reportedly, Mr. Rove was involved in crafting the Administration's Energy plan.

Q9.1 Can you confirm whether or not Enron, GE, Royal Dutch Shell or BP Amoco provided testimony or other materials to the Cheney Working Group, its staff or other high Bush Administration officials?

Q9.2. Can you provide the names of all the Bush Administration officials, save the DOE officials noted in response to Questions 1 and 2 above, who played a role in crafting the Energy plan?

Q9.3. Why didn't the administration bar conflicts-of-interest such as that involving Mr. Rove, and compel officials with the Cheney Group to divest themselves of all energy-related holdings before they could work on energy policy?

Q10. On several occasions, the President has claimed that his Administration is the first to propose a comprehensive, National Energy Strategy. Would you please explain what we should consider the first Bush Administration's National Energy Strategy to be? We also note that Congress passed a bipartisan National Energy Strategy Act, which was signed into law by then-President Bush in 1992. Did that

effort in 1991 and 1992 provide, as then Secretary of Energy James Watkins described it, "a comprehensive blueprint for America's energy future?" If you believe the work of that Bush Administration was not a truly comprehensive strategy, please explain why it was not and how this Bush Administration's approach constitutes a truly comprehensive National Energy Strategy?

Q11. The Administration's FY2002 budget request for the Department of Energy included severe cuts to renewable energy and conservation programs. However, there were some assurances included in the Department's RENEWABLE ENERGY RESOURCES, ENERGY SUPPLY section of the DOE FY 2002 budget request submitted to congress. The following paragraph from that document seems to suggest that despite the steep cuts, some future additional request would occur.

> **"HIGHLIGHTS OF PROGRAM REQUEST ($ in millions)**
> **Renewable Resources Technologies (FY 2001 $277.3; FY 2002 $174.2) ..... -$103.1**
> Even though FY 2002 funding is 37 percent below FY 2001, the request maintains core R&D efforts for renewable technologies and hydrogen research until ongoing operations can be evaluated against the outcome and priorities that will flow from the Vice President's National Energy Policy Development Group."

Based on this statement, I'd like to ask the following:

Q11.1 With respect to the FY 2002 budget:

Q11.1.1 How did you determine "core R&D efforts"? Will "core R&D efforts" be reduced or cut back in any way compared to the previous year's activities?

Q11.1.2 Which specific efforts were deemed non-core? Please provide a specific list of projects, grants, or programs that you would terminate or reduce in level of effort to accommodate this 37% cut.

Q11.2 With respect to the NEPD Group:

Q11.2.1. Where are the "priorities" that are supposed to flow from the National Energy Policy? Do these priorities exist at this time? If so, what are they?

Q11.2.2. What would you say was the "outcome" that has flowed from the Vice President's National Energy Policy Development Group? How can this outcome be used to evaluate ongoing operations in renewable resource technologies?

Q11.2.3. When will the Department be evaluating ongoing operations against the outcome and priorities?

Q11.2.4. What specific budget guidance came out of the NEPD process for these accounts?

Q12. The President has said we must fund innovative technologies for conservation and renewable energy. Yet the FY 02 budget included cuts of 26% for renewable energy research and 27% for conservation research.

Q12.1. These large reductions in the budget appear to be at odds with the President's call for greater attention to energy. How do you reconcile the Administration's words and actions?

Q12.2 Were the proposed cuts in the energy research budget supported by any studies? Can you provide us with those studies?

Q13. Which R&D programs were highlighted in the National Energy Policy as deserving of more funding than was provided in the April budget request? Where would the additional funds come from? Will the Department be sending Congress reprogramming requests or supplemental requests to support these numbers? Please provide a general description of the requests that the Department plans to submit to Congress?

Q14 In his statement on global climate change, the President called for research in a variety of areas ranging from fundamental research on climate change to applied alternative fuels technologies. Given that the DOE budget has been cut in both R&D and alternative fuel sources, how will these initiatives be funded and who will do the research?

Q15. We know you don't support the Kyoto Protocol, but do you believe that the U.S. should commit itself to ANY reduction of greenhouse gas emissions? If so, what rate of reduction would be appropriate? If not, what rate of increase would be inappropriate?

Q16. During the campaign for the Presidency, Mr. Bush was very critical of the Clinton Administration for not being effective enough or tough enough with OPEC to raise its production levels. I have seen reports that, since January when the Bush Administration took office, OPEC has reduced its production by 2.5 million barrels a day. What steps are you taking, distinct from the prior administration, to get OPEC to expand its production?

Representative Jim Barcia

Last summer, gas prices in the Midwest surged above $2.00 a gallon and this year, prior to the Memorial Day holiday weekend, gasoline prices increased by as much as 25 cents

across the state, making the cost of gasoline in Michigan the third highest of any state in the country. The Federal Trade Commission did a review of the last summer's price spike and issued a report in March of this year that stated there was no evidence of collusion. However, the report did note that individual companies withheld extra supply because "selling extra supply would have pushed down prices and thereby reduced profits."

I know that oil companies have a right to a make a profit. At the same time, those companies carry a public trust to deliver a product to our consumers in a timely fashion. Deliberately acting to depress production or withhold supply from the market to inflate the price could be viewed as a violation of that trust.

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What steps will this Administration take to ensure that oil companies live up to their responsibility to consumers?

Congressman John Larson

During your question and answer period, you cited the President's interest in a CO2 technology program. President Clinton for years proposed a Climate Change Technology Initiative, which was repeatedly cut by the Republican Congress. Please submit for the record how, specifically, President Bush's CCTI will differ from President Clinton's.

Congressman Jerry Costello

I support the President's Clean Power Initiative - however even after you add the $150 million down payment of the President's proposed $2 billion initiative to this year's fossil fuel budget - the budget is cut by 17%. This trend continues over the next few years. How can the Administration support increased funding for clean coal technologies then turn around and slash the fossil fuel budget?

Congressman David Wu

There are 19 recommendations contained in the "Final Report of the Taskforce against Racial Profiling":

Q1. Issue a letter from the Secretary to all Federal and contractor employees. The letter reiterates DOE's policy against racial profiling.

Q2. Appoint a National Ombudsman to be located at DOE headquarters to continue DOE's work in eliminating racial profiling, monitor and review diversity management matters, and advise the DOE on improving systems for primarily addressing contractor employees' concerns and resolving workplace disputes.

Q3. Assign responsibility to the DOE Executive Steering Committee on Diversity, in collaboration with the National Ombudsman, for monitoring and reviewing diversity and racial profiling issues for Federal and contractor employees, following the sunset of this Task Force.

Q4. Improve leadership accountability for Federal executives and managers by developing a model to assess effectiveness in diversity management. The model should seek employee feedback and assessment of results. Additionally, performance in this areas should be linked to promotion, bonuses, and hiring.

Q5. Develop contract language, which ensures fair and meaningful assessment of EEO activity by contractors. DOE should take steps to hold Management and Operating (M&R), Management and Integration (M&I) contractors, and laboratory facilities accountable for human resource management (recruitment, outreach, hiring, retention, promotions, training, etc.), by requiring that they include relevant performance goals and measures in their strategic plans, in accordance with the letter and spirit of the Government Performance and Results Act. To support this objective, contractors should conduct regular "quality of work life" surveys in measuring employee opinions and attitudes. Furthermore, contractors should routinely publicize to their employees' relevant employment statistics and related information. Contractor performance in this areas should be linked to performance fees and should be utilized as part of an overall assessment of past performance for a variety of contract management purposes (e.g. exercising options, conducting evaluations for future rewards, etc.)

Q6. Establish a team to promptly address any outstanding individual cases regarding security practices. This team would report to the Deputy Secretary on regular basis.

Q7. Conduct an EEO/diversity stand-down, similar to the approach utilized for the Security Awareness stand-down.

Q8. Ensure that an inclusive review process is utilized for making future security changes, with input and advice from line management, employees, and human resources professionals. The current Field Management Council process, which was established in April 1999, should be utilized to ensure proper coordination and collaboration between appropriate staff offices.

Q9. Review security procedures to ensure that they do not take a "one-size-fits-all" approach for all sites.

Q10. Publish baseline human resources management data on hiring, promotions, and diversity representation by grades, with respect to all Federal and contractor employees.

Q11. Include Asian Pacific American leaders and representatives of other minority groups in future workplace assessments.

Q12. Require Federal, M/Os, M/Is, and laboratory executives to issue annually and in writing diversity policy statements and publish them in a universal manner to coincide with performance appraisal cycles. Require discussion of these policies at performance appraisal review sessions. Develop a set of definitions and a glossary for diversity, pluralism, racial profiling, etc. based on private sector models.

Q13 Consider creating a DOE web-site on workplace improvements, and publishing progress reports on improvement in diversity management, to include human resource management data.

Q14. Form appropriate consortiums to plan for - and to combat - the recruitment and retention problems being experienced throughout DOE laboratory facilities.

Q15. Improve training for the DOE Federal and contractor workforce in effective diversity management, with special seminars for executives. The Office of Economic Impact and Diversity, in collaboration with Heads of Headquarters and Field Elements should ensure that all Federal and contractor employees undergo mandatory training on equal employment opportunity and interpersonal sensitivity. Also, site managers should conduct periodic focus group meetings to discuss employee diversity issues, including racial profiling.

Q16. Conduct follow-up fact finding visits in Spring 2002 to assess whether management has successfully carried out its policy against racial profiling; look for innovations, and provide feedback and suggestions for improvement to Federal and contractor work force management.

Q17. Monitor, track and follow-up on pertinent data with respect to representation of minorities, women, and underrepresented groups in the Federal and contractor workforce.

Q18. Conduct a multi-year workplace satisfaction evaluation survey; include topics such as management practices and diversity management. The survey should be repeated at given intervals (e.g. biannually). If costs are prohibitive for a comprehensive survey of all employees/contractors, utilize a statistically significant sample.

Q19. Require an organizational self-assessment based on "best practices."

Q20. Please address the following items for each of these recommendations: (a) whether there has been any follow-up on the recommendation, (b) what actions have been taken to date, and (c) what are the next steps proposed by DOE with regard to this recommendation.

[redacted]

JUN 30

B-6

June 21, 2001

The White House
1600 Pennsylvania Avenue NW
Washington, DC 20500

Attn: Vice-President Dick Cheney

Dear Mr. Vice-President:

SUBJECT: ERROR IN NATIONAL ENERGY POLICY REPORT

In reviewing the NATIONAL ENERGY POLICY REPORT, we have found a tremendous error in Chapter 6, *Nature's Power*. The Last two paragraphs on page 6-12 contain utterly false statements that will, if not retracted immediately, severely damage our business, which is, the sales and installation of biomass gasification systems.

The first sentence of the paragraphs, "In partnership with DOE, NREL, Battelle Lab, Burlington Electric and others, Future Energy Resources Corporation of Norcross, Georgia, was able to build, test and operate the world's first biomass gasification system", is a total misrepresentation of the truth. While this may very well have been FERCO's first gasification system ever, our company, PRM Energy Systems, Inc., has been building gasification systems since 1982 and has probably gasified more biomass than all of our competitors combined.

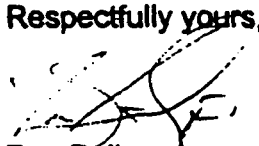
We are a small family business located in Hot Springs, Arkansas **and we are sick and tired of DOE, NREL and other government agencies not only funding, but touting our competitors, particularly with untrue statements about unproven technology.** Everything we have heard about The McNeil Plant over the past five years has been negative, yet DOE and NREL continue to tout the technology on behalf of FERCO. This time they have gone too far. By claiming to have built the "world's first biomass gasification system", DOE, NREL, FERCO, et al, are slandering our company and damaging our business. We know that these agencies have poured tens of millions of dollars into the McNeil Plant in attempts to make it work, but that does not mean that they should be allowed to advertise on FERCO's behalf, to the detriment of FERCO's competitors.

Please try to imagine how difficult it is for a small company, like ours, to explain to a potential customer that the US Government's NATIONAL ENERGY POLICY

REPORT is wrong. The report asserts that FERCO has the one and only solution to the biomass gasification market, which could not be further from the truth.

Please correct this egregious error and advise your agencies that their attempts to give the world's biomass gasification market to FERCO are wrong. A simple correction within the report will not suffice since the report was distributed worldwide over the Internet. You must correct the problem with a widely publicized retraction.

Respectfully yours,



Ron Bailey, Jr.

Cc: Congressman Mike Ross, Senator Tim Hutchinson, and Senator Blanche Lincoln

Department of Energy
Washington, DC 20585

June 13, 2001

Mr. Jesse O. Arterburn

b(6)

Dear Mr. Arterburn:

Thank you for expressing your concern about implementation of the National Energy Policy.

To address the many energy issues facing the Nation, one of President Bush's first acts was to create a National Energy Policy Development Group, headed by Vice President Cheney. On May 16, Vice President Cheney sent to the President the recommendations of this group, together with a National Energy Policy report. To achieve a 21st century quality of life – enhanced by reliable energy and a clean environment – the report recommends 105 actions to modernize conservation, modernize our infrastructure, increase our energy supplies, including renewables, accelerate the protection and improvement of our environment, and increase our energy security. Once these actions have been fully implemented by the Congress and Federal agencies, they will help minimize future energy prices, while assuring that energy supplies are reliable and the environment is protected.

The Department of Energy (DOE) is working to ensure that nuclear power remains a viable energy alternative for power generators in the future. For this to happen, it is vital that existing nuclear power plants continue to operate economically and safely. In addition, future plants will depend on investments we make today in nuclear power plant safety, reliability, and economic competitiveness. We are actively pursing a number of means for stimulating new investments in nuclear power generating capacity. The Office of Nuclear Energy, Science and Technology is responsible for nuclear energy research and development in the Department. You can learn more about their activities by visiting the website www.nuclear.gov.

The Department is making steady progress on the geological repository for high level wastes. The President has committed to ensuring that sound science governs the site characterization activities being conducted by the Department in support of a possible recommendation to continue development of a potential repository at Yucca Mountain in Nevada.

A copy of the National Energy Policy report, with the specific recommendations to the President, is available on the White House webpage, www.whitehouse.gov, or on the webpage of the U.S. Department of Energy, www.energy.gov.

Thank you for writing. I hope this information is helpful.

Sincerely,

Margot Anderson
Acting Director
Office of Policy

2001-013731 6/6 10:53

013731

Maggie & Bob Turner

66

Dear Mr. [illegible]
Worth doing! Not all
agree as you do with
GWB's energy policy.
Peace.
Maggie [illegible]

ROLL YOUR OWN BLACKOUT
THE FIRST DAY OF SUMMER

JUNE 21, 2001, THURSDAY EVENING
7-10pm worldwide, all time zones

As an alternative to George W. Bush's energy policies and lack of emphasis on efficiency, conservation and alternative fuels, there will be a voluntary rolling blackout on the first day of summer, June 21 at 7–10 pm in any time zone (this will roll it across the planet).

It's a simple protest and a symbolic act. Turn out your lights from 7–10 pm on June 21. Unplug whatever you can unplug in your house. Light a candle to the Sungoddess, kiss and tell or not, take a stroll in the dark, invent ghost stories, anything that's not electronic - have fun in the dark.

Read the 1999 book "Natural Capitalism" by Hawken and Lovins to learn that conservation/high efficiency technologies already ARE on-the-shelf.

If implemented these revolutionary ideas would pay themselves off within five years, after which we'd be pumping far less greenhouse gas into the atmosphere and saving bucks to boot.

Send this as widely as possible, to your government.representatives and environmental contacts.

Let them know we want global education, participation and funding in conservation, efficiency and alternative fuel efforts -- and an end to over-exploitation and misuse of the earth's resources.

Anyone knows that the Cheney-Bush team is blowing smoke when they tell us that "... conservation can't help, it'll just be too expensive to implement those technologies..." While on the other hand, technology to develop and deploy weapons to blow incoming ICBMs out of the sky are easy to come by.

Since when do you have to agree with people to defend them from injustice?
— Lillian Hellman

b(6)

24 June 1977

President of the United States
The White House
1600 Pennsylvania Avenue
Washington, DC 20500

Subject: Energy Program

Dear Mr. President:

As you well know, one of the most pressing and complex problems which you and your administration face is the energy problem crisis.

Enclosed is a proposed program which I feel, with your leadership, will trigger ideas and enthusiasm, get the attention and interest of the people, and provide positive action.

It is realized that this paper does not provide all the details or refinements which obviously will be needed to plan, implement, and administer a program of this complexity; however, it does provide an overview of the basic concept.

If you have questions, or if additional detail is required, I will be happy to offer my thoughts.

Sincerely,

Carl J. Seal

CJS/sm

Enclosure

CC: Honorable Thomas Eagleton
Honorable John Danforth
Honorable Harold Volmer
Governor Joseph Teasdale

Business Telephone: 314-553-2600
Residence Telephone: [redacted]

b(6)

2001-015072 6/27 A 10:50

Brussels, 18 -06- 2001
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FGI

Mr Spencer Abraham
Secretary of Energy
U.S. Department of Energy
1000 Independent Avenue SW
Washington D.C. 20585
U.S.A.

Dear Mr Abraham,

Thank you very much for sending me a copy of the National Energy Policy report of the National Energy Policy Development Group chaired by Vice-President Cheney with recommendations to President Bush. I welcome the opportunity to share some general thoughts on energy policy and to give you a preliminary reaction to certain issues in the report.

First of all I believe that the report is timely since it coincides with similar EU initiatives. The European Commission is actively involved in an important policy debate on future security of energy supply as set out in our Green Paper as well as proposals for new measures to further liberalise the gas and electricity markets.

The Stockholm European Council in his last March meeting endorsed the objective of further opening up of the gas and electricity markets and has invited the Energy Council to examine the Commission proposals and to implement the objective of market opening as soon as possible.

The completion of the internal market for energy should complement other basic Community objectives such as security of energy supply and sustainable development. The Green Paper on security of supply has started a substantial debate. It examines the advantages and drawbacks of the various fuel options, making recommendations, but draws the conclusion that energy security can only be effectively addressed by putting energy demand at the heart of EU policy in this field.

Although oil will continue to play a key role in world transportation in the decades to come, there is a need to use increasingly less-polluting alternative transportation fuels. In the Green Paper energy efficiency and renewable energies are basic priorities for action in relation to security of energy supply with particular emphasis on demand management in transportation and buildings.

Climate change and the Kyoto Protocol are a basic concern of the Green Paper which is seen as an instrument for achieving climate change targets as well as securing energy supply. The US plan confirms the commitment to the environment and makes a number of recommendations but says little on carbon dioxide emissions and climate change issues. We would be interested to know your assessment of the environmental impacts of the projected growth in US energy consumption and in particular the implications of the increased use of fossil fuels.

Much of the plan's case for increasing the domestic supply of fossil fuels rests on the projected increasing gap between energy supply and demand. We are interested to learn more of your analysis of the scale of the gap problem and your assessment of the rate of growth of US energy demand over the next two decades.

Although rising energy prices may create some economic disruption and social hardship, in our view they do not necessarily constitute an energy crisis as such. An assessment by the Commission services indicates that peak gasoline prices (reached a month ago in Europe) were in real terms below the levels of the 1970s. We do however share your concern about current high world market oil prices and increased dependence on Middle Eastern supplies. Like you, we seek price stability on the basis of price levels which are sustainable for both consuming and producing interests in the longer term. An enhanced consumer-producer dialogue and increased efforts to diversify energy supplies are shared objectives.

I share with you the need for a new look at the potential value of nuclear power. Our Green Paper is rather prudent on the future role of nuclear energy but stresses how nuclear power contributes to limiting carbon emissions. Your report makes a positive case for nuclear power to reduce the emission of greenhouse gases but I am sure you would agree that we have to devote substantial efforts to tackle the difficult issue of waste disposal. This may be another area in which we can work effectively together.

In general, it can be said that the EU and US have similar energy supply patterns being first and second importers of energy in the world. We are both leaders in energy technologies and in favour of liberalised markets. Your plan places emphasis on the optimal exploitation of domestic resources while the Community emphasis tends to be on diversified supplies from around the world together with improved energy efficiency and increased use of renewables.

Finally there is a need to reflect together on how our enhanced bilateral co-operation can be used to improve the management of global energy issues especially in international fora such as the G8, the WTO, the OECD/IEA and in our relations with OPEC. This co-operation will enable us to harmonise our positions, and as appropriate present a co-ordinated front. I very much welcome your planned orientation to go beyond domestic energy considerations and your proposal for greater co-operation with other countries and international organisations.

I am certain that your National Energy Policy report and Community initiatives such as the Green Paper provide the basis for future bilateral co-operation in the energy sector. I would like to reiterate my keen interest in co-operation with you and your services and I note with satisfaction the recommendation in your report for a reinvigoration of the EU-US energy consultations. In this context, I support the idea of a resumption of the consultative process later this year in Washington.

I believe it is important that we work together to ensure that economic, social and environmental concerns are taken properly into account in developing our policies to safeguard our energy future and to meet our international commitments in the environmental field.

Yours sincerely,

S A V E

GOVERNMENT ENERGY SAVINGS

PROGRAM

S A V E

GOVERNMENT ENERGY SAVINGS

PROGRAM

SAVE

AND

VALUE

ENERGY

C. J. Seal

b(6)

Carl Seal

C. J. Seal
8 June 1977

CONTENTS

1. ABSTRACT

We have met the enemy and they are us.

In order to establish and implement a meaningful Government Energy Program and assure success, the Carter Administration must provide the means to stimulate the imagination of and trigger enthusiastic response from Government and the private sector, both Industry and Individual Citizen.

This paper provides an overview outlining a Government sponsored and funded program, appropriately titled "SAVE", which will encourage all of us (Government, Industry, and Private Citizen) to establish a personal energy savings goal of at least 10% and then make it happen.

2. BACKGROUND

> Ask not what your country can do for you, but rather what you can do for your country.
>
> - Kennedy

America has faced many challenges during our short history. We have had great successes and our share of failures. One of these failures has been our apathy toward conservation of our natural resources, and a result is today's energy problem, or perhaps crisis.

Our Government and, more specifically, our politicians have been pussy-footing around this problem for a number of years with no apparent solution in sight, and with not even an agreed to policy established yet. The American People are no longer dummies who blindly follow the politician and accept all that they are told. They are tired of being talked down to. They want facts, and then I think they wish to have a voice in the decisions being made.

I think the people would like to believe in their President, Government, and Elected Representatives; however, the energy fiasco has left most of us completely baffled. Is there really an energy shortage? Or are we being ripped off again by the Oil and Utility Companies as we seem to have been in the past?

I think there are two sides to these questions. Yes, we have been taken by special interests; however, logical considerations also tell us that, indeed, a real energy crunch is inevitable.

History tells us that all our past great successes were possible only by united efforts of all our people. I submit that the Energy Crisis will not be solved by the Carter Administration, Government, or Industry, but by all the people working together and motivated toward a common goal. Jimmy Carter and his team can, and must, provide the leadership to unify the people in this common cause.

I work for a large Midwestern Manufacturing Company, and one of my assignments is Cost Reduction/Value Engineering Manager for my Division. This assignment led to membership in the Society of American Value Engineers (SAVE). The application of Value Engineering/Analysis and its benefits are recognized by both Government and Private Industry. My experience in this field and association with Value Experts has contributed to this paper and to this Save And Value Energy concept.

4. IMPLEMENTATION

Lend thy serious hearing to what I shall unfold.

- Shakespeare

4.1 Planning

The first step should be the appointment of a study group to establish policy, define objectives/goals/requirements, recommend staffing requirements, define responsibilities, document program plan, select recognition awards, and then present recommendations to President Carter.

4.2 Staffing

Obviously, the administration of a program of this size and impact will require a permanent staff. This organization should report to the President's Cabinet Member responsible for energy.

The responsibilities of this organization will include all administrative aspects of the program including communication, systems design, reviewing enrollments, acknowledgement of enrollment acceptance, and recognition of successful participants.

4.3 Program Documentation

Documentation requirements include necessary policies, communication briefs (newspaper, radio, and television), program systems and procedures (including data processing requirements), enrollment/acknowledgement, reporting forms, and recognition certificate, and plaque artwork.

4.4 Communication

Communication will be a most important aspect of the SAVE Program. It should be kicked off first by Presidential Presentation to Congressional Leaders and then presented to the American People via the fireside chat. The message to the people will be key to success of program. If the message results in enthusiastic response from the people, we are well on the way to licking our energy problems.

This message will then be followed by a well planned advertising campaign in newspapers and on radio and television to hammer home the message and motivate the people to want to participate.

These messages will announce the kick-off date(s), how to obtain the enrollment forms, the benefits to Government and individuals (including dollars), and the recognition awards which will be presented to companies, organizations, clubs, families, and individuals who qualify.

5. PARTICIPATION

This above all, to thine own self be true.

- Shakespeare

5.1 Enrollment

The SAVE Enrollment Form may be picked up at any Post Office or Government Office. They will be pre-addressed to Jimmy Carter and may be mailed postage free. A duplicate copy is retained by the enrollee.

The form will contain all information necessary to indicate how the participant has defined his commitment to save 10% of current usage of transportation gas, natural gas, electricity, coal, or heating oil.

This form will also contain blocks to record any material recycling activities planned.

5.2 Acknowledgement

There will be an acknowledgement stub on the form which will be returned to the enrollee, along with a SAVE Year-End Report Form, after receipt and logging into the system by the White House Staff.

Each acknowledgement of enrollment will contain Jimmy Carter's signature.

5.3 Reporting

One year after enrollment in the SAVE Program, each participant will report progress/results by completing the SAVE Year-End Report Form, which was received with the enrollment acknowledgement.

This form will show comparison of original goals with actual energy used. After completion of form, the participant will calculate the percent (%) of energy savings actually realized. The accuracy of the report cannot be verified and must depend upon each participant's use of a self imposed honor system.

Upon completion, the reporting form is mailed (pre-addressed) postage free to Jimmy Carter. A duplicate copy is retained by the participant.

6. RECOGNITION

All's well that ends well, still the finis is the crown.

- Shakespeare

Upon receipt of the SAVE Year-End Reporting Form by the White House Staff and a verification of data submitted vs. original goals, an acknowledgement will be returned to the participant.

Those who have successfully achieved their 10% goal will receive appropriate recognition and award as follows:

- Plaque and flag (SAVE pennant) - Company, business, organization, club, etc.
- Certificate - Family or individual
- Lapel/tie pin/necklace - Individual and/or all family members

Somebody said that it couldn't be done
But he with a chuckle replied
That "maybe it couldn't" but he would be one
Who wouldn't say so till he'd tried.

- Guest

b(6)

2 July 1979

President of the United States
The White House
1600 Pennsylvania Avenue
Washington, D.C. 20500

Subject: Energy Program

Dear Mr. President:

Two years ago I submitted to you a proposed Energy Conservation Plan which I thought might trigger some interest and action. This plan is again attached for consideration.

I also sent a copy of the plan to my Senators, Representative, and the Governor of the State of Missouri.

I was dismayed by the responses received. It was obvious the plan was not even read, understood, or considered; however, the Energy Administrator, John F. O'Leary, at least acknowledged receipt of my energy suggestion.

It certainly must be obvious to you and all politicians by now that a solution to our energy problem depends upon the American people - with all of us working together and motivated toward a national common goal.

You and your team should and can provide the leadership to make things happen. I would be most happy to offer my thoughts and provide additional detail.

Sincerely,

Carl J. Seal

Carl J. Seal

CJS/fja

Enclosure

CC: Honorable Thomas Eagleton
Honorable John Danforth
Honorable Harold Volkmer
Governor Joseph Teasdale
Deputy Energy Secretary John F. O'Leary

Business Telephone: 314-553-4260
Residence Telephone:

29830

2001-016015 7/6 A 10:07

Secretary, The

From: mduffin3 [redacted] B6
Sent: Thursday, July 05, 2001 3:08 PM
To: Secretary, The
Subject: Energy Challenge VIII Renewables - Wind

THE ENERGY CHALLENGE - VIII 016015 2001 JUL -6 A 10:07

5 July 2001

To: Representative Secretary

Re: Renewables - Wind

Dear Representative Secretary

In addressing the declining availability of fossil fuels, and the undesirability of nuclear energy, the only choices we have are energy efficiency and renewables. Fortunately, they are complementary choices and have the added virtue of being carbon free. Renewables include hydro, wind, solar, bio-fuels, geo-thermal, wave, and tidal energy. Of these, wind, solar, geo-thermal, and wave/tidal are abundant, but only wind is currently economical and easy to harness.

How Much Energy
Probably the best data on the total USA wind resource is the 1993 report found at www.nrel.gov/wind/potential.html. This report estimated total potential for 25% efficient turbines, with 25% losses, and average 50m hub heights, and made exclusions for environmental, urban, and agricultural purposes. The result was that about 15 quads of equivalent fossil fuel energy could be replaced by class 5 to 7 winds. Adding class 4 winds, which were marginal at that time, raises the potential to greater than 60 quads. Most recent Texas wind farms are in class 4 areas.

This report was based on 1991/92 technology, when the largest envisioned turbines were 300 KW and blade rotation speeds were such that considerable areas were excluded for environmental reasons, i.e. bird kill. Best wind speeds were 15-25 mph and it was also assumed that only 20% of the actual wind energy/km2 could be converted to electricity.

Today turbines being installed are 2 MW and in development are 3 MW. Blade rotation is much slower. Efficiencies are now about 35% and losses below 15%. Productive wind speeds are about 7 to 50 mph, moving class 4 areas out of the marginal category. Probable total available wind energy with 2001 technology is above 60 quads, and if we could buy wind energy from Canada, we would have access to near 100 quads fossil fuel equivalent.

In a 1997 study the EIA points out that much of this resource is not readily available for lack of transmission lines. A 1991 study in California estimated that only 12% of the "gross technical potential" was developeable under the then existing transmission restraints.

The other major problem with wind is intermittent availability with significant daily, monthly, and seasonal variations. Frequently, peak availability does not correspond with peak energy demand.

All of these problems can be mitigated with an aggressive renewables energy policy. Any energy policy must strongly address upgrading and development

of the transmission infrastructure. Wind should be central to such planning and execution. Large-scale wind development will lessen the daily and monthly variability as wind is always blowing somewhere in a large developed region. Assuming suitable wind strength 35% of the time, and a regional area as large as North and South Dakota and western Minnesota, 35% of total installed capacity is likely to be available all of the time. Energy storage systems (e.g. Regenesys) are in development that may in the future be combined with wind turbines and completely eliminate daily variability.

In a hydrogen economy, peak wind, not needed for electricity, can be used to produce hydrogen. The wind resource can be sized to exceed electricity needs during the lowest wind season. At all other times the excess electricity can be stored as hydrogen.

Of the 25 quads of renewable energy needed in 2030 (to be illustrated in a future letter), about 8 will be biomass and hydro (already at 7) and at least 15 can be wind.

Cost

In a 1995 disinformation effort, the coal industry sponsored a report developed by Resource Data International and published by the Center for Energy and Economic Development, projecting wind energy costs of 6.8¢/kWh in 1995, remaining unchanged until 2010.1 In a rebuttal, NREL estimated 5.3¢/kWh in 1995, going to 3.5¢ in 2010.1 The Lake Benton Wind Farm in Minnesota, now going into production, will produce wind at 3.2¢/kWh and the Oregon/Washington Stateline project is expected to be in production in 2002 at 2.5¢/kWh. Lake Benton uses 1 MW turbines.

The latest Danish offshore wind farm uses 2 MW turbines, and 3 MW units are likely to be in production by 2003.

Wind energy costs, of course, will vary depending on the steadiness and intensity of the winds being harnessed. However, we can expect average costs in the future to be cheaper than coal fired plants, with none of coal's environmental issues.

Objections

The usual objections presented by wind skeptics are:

* Bird kill
* Unsightliness
* Land area
* Noise
* Future like the past

In response to these objections one can state:

Bird kill - There is no evidence that new large turbines, with slowly rotating blades, kill even as many birds as power lines do.

Noise - Modern turbines have noise levels below 50 dbm (like a summer breeze in the trees) at distances of about 250 yards.

Unsightliness - Surveys in Palm Springs and Wales (UK) show that neighbors grow to like wind farms and find them attractive. Most wind farms in the USA will be sighted in areas that vary from rural to empty, where the issue is unlikely to arise.

Land area - Class 4 and higher wind areas available for wind development are 6% of total lower 48 land area. Of this area, less than 5% would be occupied by turbines, equipment, and access roads. Cultivation can be carried out almost to the base of the turbines, and livestock like the wind

shadow.

Future like past - Saying that wind will never happen, because it never has is like saying a one-year-old will never walk because he never has.

Benefits

Apart from clean, inexpensive power, the surprise benefits to the economy can be a sharp drop in farm subsidies. Minnesota farmers earn less than $30/acre with livestock, and $250 per acre with crops, but can earn $1,000/acre from land rental for wind farms, and still have the livestock or crop.

The Challenge

A 2 MW wind turbine with a 30% duty cycle and 95% availability will generate 5.8 million kWh/year. Eighteen quads of wind power by 2030 would require 900,000 turbines, or 30,000 per year starting now. That is five times present world production capacity, but is probably a worst-case estimate. At 3MW, 35% duty cycle and 15 quads we would need only half as many. Building 15,000 to 30,000 turbines per year is no big deal for an economy that can build 17 million cars, trucks, and busses per year, but still, we had better get cranking. It can't wait until after 2020.

Respectfully yours,

Murray Duffin

MD/mmb

INSTITUTE OF THE AMERICAS
INSTITUTO DE LAS AMÉRICAS • INSTITUTO DAS AMÉRICAS

FACSIMILE

TO: **The Honorable Spencer Abraham**
Secretary of Energy
Department of Energy
1000 Independence Ave, SW
Washington, DC 20585

Attention: **Lilia/ Robin Johnson**

Date: July 6, 2001

Tel : 1-202-586-6210
Fax1: 1-202-586-4403
Fax2:

Do we have your correct Email address ?

FROM: Patricia Bennett
Program Director - Energy Programs

If you do not receive this fax correctly please contact :
Bennett, Patricia (858) 453-5560 X 120 Email: patricia@iamericas.org

Total # of pages: 4

CONTENT & MESSAGE:

Please see attached
- invitation letter to participate as a Keynote Speaker
- draft outline
- information about the Energy Program of the Institute

2001-016228 Jul 9 A 9:46

10111 NORTH TORREY PINES ROAD • LA JOLLA • CALIFORNIA • 92037 • U.S.A
TEL: (858) 453-5560 • FAX: (858) 453-2165 • HTTP://WWW.IAMERICAS.ORG

INSTITUTE OF THE AMERICAS

Contact
Patricia Bennett
Director
pbennett@iamericasorg
ext. 120

Friday, July 06, 2001

The Honorable
Spencer Abraham
Secretary of Energy
Department of Energy
1000 Independence Ave, SW
Washington, DC 20585

Dear Secretary Abraham:

The Institute of the Americas, in collaboration with the Inter-American Dialogue is organizing a one day seminar to explore the Bush Administration National Energy Policy and its linkages with Latin American energy strategies. The event is scheduled to take place on September 4, 2001 at the St. Regis hotel in Washington, D.C.

We would be honored if you would accept to give the Keynote Speech on this important international forum.

Following a recommendation by our Steering group member companies, listed at the margin, the Institute is convening this high-level forum to analyze how US Energy Policy both in its national and international scope, influences the Latin American energy sectors and indirectly, their economies. Included among the key topics to be covered are: the benefits and challenges of hemispheric energy globalization; cross-boundary energy trade; lessons learned, similarities and correlation of electric power crises in Brazil and California; and multilateral and bilateral trade agreements advancing competition and investment.

We anticipate participation of the US Secretaries of State, Energy and Commerce, representatives from Latin American Energy Ministries, particularly Bolivia, Brazil, Mexico, Peru, and Venezuela, and private sector representatives of the financing and energy industries interested on Latin American investment addressing issues enhancing global alliances and energy security.

Attached is a draft outline of the program, for your information. We welcome your comments or suggestions regarding this program.

Patricia Bennett, Director of Energy Programs for the Institute will be in touch with your office to verify availability. Meanwhile, if you need to contact us, please do so at (858) 453-5560 via fax at (858) 453-2165 and via e-mail at pbennett@iamericas.org

Sincerely,

Paul H. Boeker
President

Institute of the Americas
US Energy Policy and its implication on Latin American Economies
St. Regis Hotel, Washington D.C.
September 4, 2001
Preliminary Agenda

Tuesday, September 4

8:00 Registration

8:45 Welcome and Opening Remarks
Paul H. Boeker, President, Institute of the Americas

9:00 The Implementation of the National Energy Policy
US Dept. of Energy

9:30 Demand vs. Capacity: The Energy Challenge for the Americas

10:00 Achieving Common Prosperity: Sharing the Benefits of Globalization
US Dept. of Commerce (OECD) (WTO) (FTAA)

10:30 The Role of Multilateral Organizations and Bilateral Relationships: Advancing Competition, trade and investment

11:00 Coffee Break

DEVELOPING ENERGY INTEGRATION: Policy, Trade, and Investment Analysis

11:30 Mexico:
North American Energy Group
Oil, natural gas, and electricity cross-border trade
Border Region and "Presidential Permitting"
Mexico's Electric Power Opening
(US Secretary of Energy, FERC, Mexico Secretary of Energy, CRE, US Private sector energy companies,
Multilateral Trade Policy in the Ministry of Economy of Mexico

1:00 Lunch

2:00 Bilateral Investment Treaties:
Venezuela
Brazil
(US Commerce Dept. and Venezuela and Brazil Energy Ministries)

3:00 North-Bound Trade: South American Gas for US Markets
Bolivia

3:30 Coffee Break

4:00 Promoting Sustained Economic Growth: Collaborative market based solutions to environmental concerns

5:00 Hemispheric Implications of US Energy Policy

6:30 Reception

Institute of the Americas
Energy Program 2001

The Institute of the Americas' energy sector program main goals are to promote economic integration in the region and to identify new project opportunities, new financing mechanisms, and means for the public and private sectors to work together for trade liberalization and cooperation that will facilitate business transactions and investment throughout the hemisphere.

We accomplish these goals by working closely with the public and private sectors as well as with the multilateral financial institutions that are major sources of funding for such projects.

To keep pace with the events in the rapidly evolving energy sector, the Institute brings together experts in business development, competitive intelligence, and strategic planning on business opportunities in the oil & gas, petrochemicals, and electric utilities sectors in Latin America.

The Institute's work focuses on the importance of the regulatory structure governing private involvement and sector integration to help identify, evaluate, and develop the critical planning strategies required for a successful enterprise, in collaboration with the various energy ministries.

Tenth Annual Latin America Energy Conference

Celebrating ten successful years, *The La Jolla Conference*, was held on May 21-22, 2001, convening the most influential players of the Latin American energy sector. The meeting addressed energy integration, private sector restructuring strategies, energy trade, and the latest policies and plans affecting the Latin American markets, incorporating in-depth analysis of the energy trade, emerging trends, and opportunities for private investment in Latin America.

Roundtables

The Energy Roundtables offer opportunities to examine energy policy issues and its implication, by encouraging greater strategic input from business and fostering understanding amongst key energy sector players.

These private events, held in cooperation with the pertinent government agencies, address energy sector's pressing issues, relevant policies and practices, market opportunities, and prospects through open and candid dialogue.

Scheduled for 2001 are five energy executive meetings

- Mexico Power Roundtable, Mexico City, March 13-14
- Brazil Energy Roundtable, Rio de Janeiro, June 25-26
- US Energy Policy and its Implications on Latin American Economies, Washington DC, September 4
- Central American Energy Roundtable, Antigua, Guatemala, October 2-3
- Venezuelan Oil and Gas Roundtable (date and venue to be defined)

Energy Sector Steering Committee

AES Corporation
Arthur Andersen
Bechtel Corporation
BP
Caterpillar/Solar Turbines
Chevron Overseas Petroleum
CMS Energy
Duke Energy International
elpaso
Enron
ExxonMobil Gas Marketing Company
GE Capital, Structured Finance Group
GE Power Systems
INTESA
JP Morgan
PSEG Americas
SAIC
Sempra Energy International
Shell International Exploration & Production
Shell International Gas Limited
Société Générale
Techint Group
Thelen Reid & Priest LLP

For additional information, please contact: Patricia Bennett, Director of Energy Programs, at +(858) 453-5560 ext. 120, email: *pbennett@iamericas.org*

To find out about sponsorship or Steering Group opportunities, please contact Marcy Morrison at +(858) 453-5560 ext.123, or via e-mail at: *mmorrison@iamericas.org*

For our latest calendar, registration, and more information, please visit our Web site at: http://www.iamericas.org

Patricia Bennett, Director of Energy Program, ext. 120 pbennett@iamericas.org Susana Crews, Associate Director, Energy Program, ext. 103, susana@iamericas.org
Institute of the Americas, 10111 North Torrey Pines Road, La Jolla, CA 92037 Tel +(858) 453-5560 Fax +(858) 453-2165; +(858) 453-4062 www.iamericas.org

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President & Chief Executive Officer

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July 12, 2001

The Honorable Spencer Abraham
Secretary of Energy
U.S. Department of Energy
Forrestal Building
1000 Independence Ave. SW
Washington, DC 20585-1000

Dear Mr. Secretary,

It's clear to me that the time for a rational discussion on this country's energy policy is long overdue. That's why I'm writing to invite you to participate as a guest commentator at an energy scenarios forum this fall. This event will only yield solutions if we have true representation of the diverse range of opinions on this complex subject. It's time we come together to create a dialogue around the future of the U.S. energy environment and the recent events in California – no matter how much our opinions differ. I think you'll agree that we don't need any more empty rhetoric. We need solutions.

The forum, **"U.S. Energy Policy at a Crossroads: Alternative Futures for the Current Energy Crisis,"** will be held at The Ritz-Carlton just outside of **Washington, DC** on **October 3-4, 2001.** We want to bring together some of the country's leading thinkers and stakeholders to actively explore the real scenarios that affect us all. While certain members of the press are invited, the discussions on October 4 will be entirely off the record.

Don't expect a traditional meeting. Enron has engaged a third party global information solutions firm—Intellibridge Corporation—which uses simulation techniques at conferences all over the world. We will use them to explore the impact of energy supply, markets and regulatory policies.

That's where you come in. Given your high profile in advocating the new Bush energy plan as well your well-known ability to assimilate a range of perspectives, I would be honored if you would add your point of view as a featured commentator for the Differing Visions of America's Energy Future, from 7:00 - 9:00 p.m. on Wednesday, October 3. These are moderated discussions in which guest commentators are called upon to speak multiple times and invited to participate throughout the entire program. Please note that the preliminary program agenda is attached and includes names of a number of commentators who have not yet confirmed.

I very much hope you'll join us for this important event. Please call (202) 298-7946 if you have any questions. We'll be in touch with your office in the next few days to discuss your participation.

Sincerely,

U.S. Energy Policy at a Crossroad: Alternative Futures for the Current "Energy Crisis"

PRESENTED BY ENRON IN PARTNERSHIP WITH INTELLIBRIDGE CORPORATION

October 3-4, 2001
The Ritz-Carlton Hotel, Pentagon City, Arlington, VA

WEDNESDAY, OCTOBER 3

5:30-7:00 p.m. Cocktail Reception and Registration for Delegates

7:00-9:00 p.m. "Differing Visions of America's Energy Future"
A keynote address followed by a dinner conversation with a panel of leading policy makers:

- Richard B. Cheney, Vice President of the United States
- Spencer Abraham, Secretary, Department of Energy
- Jeffrey K. Skilling, President & CEO, Enron Corp.
- Bill Richardson, Former Secretary, Department of Energy
- Gray Davis, Governor, California
- Dianne Feinstein, California, Committee on Energy and Natural Resources

THURSDAY, OCTOBER 4

7:30-8:30 a.m. Continental Breakfast and Registration for Delegates

PLEASE NOTE: OPENING AND CONCLUDING PLENARY SESSIONS WILL BE OPEN TO THE GENERAL PRESS. IN THE INTEREST OF CANDOR, ALL OTHER SESSIONS WILL BE OFF THE RECORD WITH PRESS PARTICIPATION BY INVITATION ONLY.

8:30-9:30 a.m. Opening Plenary Session: "Markets vs. Regulation: Finding the Proper Mix"

Featured Remarks: Pat Wood, Commissioner, FERC

9:45-11:45 a.m. Scenario Session I
Scenario A - The Crisis is Contained. Anticipating the Next Challenge: Under this first scenario, natural gas and electricity prices continue to subside. Public concern fades as energy prices gradually decline. The crisis remains contained to California. Hydro conditions improve during Winter 2001, and other western states are able to manage any emerging supply problems. Potential trouble states in other regions, like New York, manage to install enough capacity and alleviate

transmission constraints, both in gas and electricity. Efforts to mitigate the energy crisis overachieve in some regions. The nation's energy supply mix shifts slightly in response to policy changes.

Scenario B - Crisis Worsens, Spreads to Other States: Efforts to mitigate California's electricity crisis prove insufficient, or even exacerbate the problem. Shortages worsen in the Pacific Northwest, and Desert Southwest, pinching import-dependent California even further. Neighboring states refuse to export to California. Other resource supply shortages emerge as well: Natural gas prices surge, sharing of water resources between California and the Pacific Northwest become a serious point of contention. California quickly burns through the money raised by its bond issue, and the state finds itself in severe financial trouble. Federal and state authorities respond to perceived infrastructure shortages by relaxing right-of-way and environmental regulations. States in other regions also suffer supply shortages during the summers. Trends toward deregulation are halted in various states, reversed in others.

Featured Commentators

- Paul J. Joskow, Director, Center for Energy and Environmental Policy Research, Massachusetts Institute of Technology
- Robert Hahn, Director, AEI-Brookings Joint Center for Regulatory Studies
- Linda Breathitt, Commissioner, FERC
- Jeff Bingaman, New Mexico, Chairman, Committee on Energy and Natural Resources
- Brian Malnak, Staff Director, Senate Committee on Energy and Natural Resources

12:00-2:00 p.m. **Luncheon Roundtable "Virtual Energy Markets: A Look Ahead"**

This luncheon discussion will focus on the challenge ahead for the energy industry itself. To what extent will "virtual" energy contracts overcome physical imbalances? Is there a trend toward "financialization" of the energy industry? What mitigating role might risk management instruments have played in California's energy crisis? Could they help avert possible future crises elsewhere?

Opening Remarks: Jeffrey K. Skilling, President & CEO, Enron Corp.

Featured Commentators

- James Newsome, Acting Chairman, Commodities Futures Trading Commission
- Lawrence Eagles, Director of Research, GNI, Ltd.
- Kit Konolige, Managing Director, Morgan Stanley Dean Witter, New York
- Vito Stagliano, Policy Advisor, Electric Sector Restructuring and Regional Transmission Organizations (RTOs) in association with Arthur Andersen LLP
- Vijay Vaitheeswaran, Energy and Environment Reporter, *The Economist*

2:15-4:15 p.m. **Scenario Session II**
"Political Aftershocks and Regulatory Responses"

Scenario A – More government, less markets: Under this first scenario, regulators react to the energy crisis by taking a more active role in state electricity markets. As other states experience their own, or inherit California's, electricity shortages, public opinion calls for price caps, not just mitigation, and at least some regulators respond. Congress drafts comprehensive energy legislation extending powers of a number of federal agencies to facilitate the building of infrastructure.

Scenario B – More markets, less government: Price mitigation measures are removed after a time in California, and other states (like New York) considering such measures drop their plans. Customers either benefit from lower prices, or at last come to grips with realities of a deregulated power sector, finding other ways (fixed price contracts, load curtailment programs, installing their own energy sources) of protecting themselves from price spikes. Comprehensive energy legislation fails to emerge or serves to ease restrictions on infrastructure development.

Featured Commentators

- Lawrence Makovich, Senior Director, Cambridge Energy Research Associates (CERA)
- John Tuck, Former Deputy Energy Secretary, Of Counsel, Baker Donelson
- Fiona Woolf, Director Utilities Practice, CMS Cameron McKenna
- Glenn Lovin, Director, Power Marketing Association
- Keith Stuart Richman, State Assemblyman, 38th District, California
- John D. Dingell, Michigan, Ranking Member, Committee on Energy and Commerce

4:30-6:00 p.m. – Cocktail Reception and Concluding Plenary Session
"Lessons from Elsewhere and Arriving at Consensus"

How have other states (or other countries) dealt with, or how do they plan to deal with impending energy shortages? Which represents the best path forward for U.S. state and federal energy policy?"

Opening Remarks: John Hanger, Former Pennsylvania PUC Commissioner

Featured Commentators

- Dennis E. Eyre, Executive Director, Western Systems Coordinating Council
- Larry Ruff, Independent Consultant and Former Senior Vice President, National Economic Research Associates (NERA)
- Robert Littlechild, Director, London Economics Consulting Group, Former UK Director General of Electricity Supply
- Peter Behr, Columnist, *The Washington Post*
- Peter Overby, Correspondent, National Public Radio
- Andrew Cassell, Columnist, *The Philadelphia Inquirer*
- Kathryn Kranhold, Reporter, *The Wall Street Journal*

Includes proposed names of some commentators who have not yet confirmed as of 7/11/01.

016840

INSTITUTE OF THE AMERICAS

ENERGY STEERING GROUP MEMBERS

AES Corporation
Arthur Andersen
Bechtel Corporation
BP
Caterpillar/Solar Turbines
Chevron Overseas Petroleum
CMS Energy
Duke Energy International
elpaso
Enron
ExxonMobil Gas Marketing
GE Capital, Structured Finance Group
GE Power Systems
INTESA
JP Morgan & Company
PSEG Americas
SAIC
Sempra Energy International
Shell International Exploration & Production
Shell International Gas Limited
Société Générale
Techint Group
Thelen Reid & Priest LLP

Contact
Patricia Bennett
Director
pbennett@iamericas.org
ext. 120

Friday, July 06, 2001 2001-016840 7/13 10:03

The Honorable
Spencer Abraham
Secretary of Energy
Department of Energy
1000 Independence Ave, SW
Washington, DC 20585

Dear Secretary Abraham:

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We would be honored if you would accept to give the Keynote Speech on this important international forum.

Following a recommendation by our Steering group member companies, listed at the margin, the Institute is convening this high-level forum to analyze how US Energy Policy both in its national and international scope, influences the Latin American energy sectors and indirectly, their economies. Included among the key topics to be covered are: the benefits and challenges of hemispheric energy globalization; cross-boundary energy trade; lessons learned, similarities and correlation of electric power crises in Brazil and California; and multilateral and bilateral trade agreements advancing competition and investment.

We anticipate participation of the US Secretaries of State, Energy and Commerce, representatives from Latin American Energy Ministries, particularly Bolivia, Brazil, Mexico, Peru, and Venezuela, and private sector representatives of the financing and energy industries interested on Latin American investment addressing issues enhancing global alliances and energy security.

Attached is a draft outline of the program, for your information. We welcome your comments or suggestions regarding this program.

Patricia Bennett, Director of Energy Programs for the Institute will be in touch with your office to verify availability. Meanwhile, if you need to contact us, please do so at (858) 453-5560 via fax at (858) 453-2165 and via e-mail at pbennett@iamericas.org

Sincerely,

Paul H. Boeker
President

Institute of the Americas
US Energy Policy and its implication on Latin American Economies
St. Regis Hotel, Washington D.C.
September 4, 2001
Preliminary Agenda

Tuesday, September 4

8:00 Registration

8:45 Welcome and Opening Remarks

Paul H. Boeker, President, Institute of the Americas

9:00 The Implementation of the National Energy Policy

US Dept. of Energy

9:30 Demand vs. Capacity: The Energy Challenge for the Americas

10:00 Achieving Common Prosperity: Sharing the Benefits of Globalization

US Dept. of Commerce (OECD) (WTO) (FTAA)

10:30 The Role of Multilateral Organizations and Bilateral Relationships: Advancing Competition, trade and investment

11:00 Coffee Break

DEVELOPING ENERGY INTEGRATION: Policy, Trade, and Investment Analysis

11:30 Mexico:

North American Energy Group

Oil, natural gas, and electricity cross-border trade

Border Region and "Presidential Permitting"

Mexico's Electric Power Opening

(US Secretary of Energy, FERC, Mexico Secretary of Energy, CRE, US Private sector energy companies,

Multilateral Trade Policy in the Ministry of Economy of Mexico

1:00 Lunch

2:00 Bilateral Investment Treaties:
Venezuela
Brazil
(US Commerce Dept. and Venezuela and Brazil Energy Ministries)

3:00 North-Bound Trade: South American Gas for US Markets

Bolivia

3:30 Coffee Break

4:00 Promoting Sustained Economic Growth: Collaborative market based solutions to environmental concerns

5:00 Hemispheric Implications of US Energy Policy

6:30 Reception

7/6/01

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Institute of the Americas
Energy Program 2001

The Institute of the Americas' energy sector program main goals are to promote economic integration in the region and to identify new project opportunities, new financing mechanisms, and means for the public and private sectors to work together for trade liberalization and cooperation that will facilitate business transactions and investment throughout the hemisphere.

We accomplish these goals by working closely with the public and private sectors as well as with the multilateral financial institutions that are major sources of funding for such projects.

To keep pace with the events in the rapidly evolving energy sector, the Institute brings together experts in business development, competitive intelligence, and strategic planning on business opportunities in the oil & gas, petrochemicals, and electric utilities sectors in Latin America.

The Institute's work focuses on the importance of the regulatory structure governing private involvement and sector integration to help identify, evaluate, and develop the critical planning strategies required for a successful enterprise, in collaboration with the various energy ministries.

Tenth Annual Latin America Energy Conference

Celebrating ten successful years, *The La Jolla Conference*, was held on May 21-22, 2001, convening the most influential players of the Latin American energy sector. The meeting addressed energy integration, private sector restructuring strategies, energy trade, and the latest policies and plans affecting the Latin American markets, incorporating in-depth analysis of the energy trade, emerging trends, and opportunities for private investment in Latin America.

Roundtables

The Energy Roundtables offer opportunities to examine energy policy issues and its implication, by encouraging greater strategic input from business and fostering understanding amongst key energy sector players.

These private events, held in cooperation with the pertinent government agencies, address energy sector's pressing issues, relevant policies and practices, market opportunities, and prospects through open and candid dialogue.

Scheduled for 2001 are five energy executive meetings

- Mexico Power Roundtable, Mexico City, March 13-14
- Brazil Energy Roundtable, Rio de Janeiro, June 25-26
- US Energy Policy and its Implications on Latin American Economies, Washington DC, September 4
- Central American Energy Roundtable, Antigua, Guatemala, October 2-3
- Venezuelan Oil and Gas Roundtable (date and venue to be defined)

Energy Sector Steering Committee

AES Corporation
Arthur Andersen
Bechtel Corporation
BP
Caterpillar/Solar Turbines
Chevron Overseas Petroleum
CMS Energy
Duke Energy International
elpaso
Enron
ExxonMobil Gas Marketing Company
GE Capital, Structured Finance Group
GE Power Systems
INTESA
JP Morgan
PSEG Americas
SAIC
Sempra Energy International
Shell International Exploration & Production
Shell International Gas Limited
Société Générale
Techint Group
Thelen Reid & Priest LLP

For additional information, please contact: Patricia Bennett, Director of Energy Programs, at +(858) 453-5560 ext. 120, email: *pbennett@iamericas.org*

To find out about sponsorship or Steering Group opportunities, please contact Marcy Morrison at +(858) 453-5560 ext.123, or via e-mail at: *mmorrison@iamericas.org*

For our latest calendar, registration, and more information, please visit our Web site at: http://www.iamericas.org

Patricia Bennett, Director of Energy Program, ext. 120 pbennett@iamericas.org Susana Crews, Associate Director, Energy Program, ext 103, susana@iamericas.org
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2

DOE - Energy ...

proposed energy program

TO: George W. Bush
President of the United States

FAX NUMBER 1-202-456-2461

Pages including cover: 39

FROM: Charles Campbell

FAX NUMBER. b6

Subject: US Energy Crisis and Related Environmental Issues!

I would appreciate your review of what I have attached and try to use these points to modify the proposed energy program.

Sincerely yours,

Charles L. Campbell
(b)(6)

16 June 2001

b6

9 July 2001

29846

'2001-017673 7/26/01 8:03am

THE WHITE HOUSE
WASHINGTON

July 4, 2001

Sent to Gen Solit

Forwarded to me by Cabinet Affairs

Dear Mr. Lipton:

On behalf of Secretary Andrew Card, Chief of Staff to the President, let me assure you that your ideas concerning solar energy were not only appreciated, but have been forwarded to the Secretary of Energy for his consideration.

Thank you for taking the time again to convey your views.

Sincerely,

Larry Lindsey

Lawrence B. Lindsey
Assistant to the President for Economic Policy

Mr. Robert D. Lipton

b6

29847

George W. Bush
President of the United States
The White House
1600 Pennsylvania Avenue
Washington D.C.
20500

Subject: US Energy Crisis and Related Environmental Issues

Dear President Bush:

Earlier this year I wrote to you concerning your proposed energy policy. After reading the official report, I commend your staff for identifying nuclear power and solar power as part of the overall solution; however, a return to the prior methods for developing nuclear power will lead no where. The approach to solar power is essentially more of the same minimalist attitude we have had over the last 25 years and will produce nothing in another 25 years.

The offer of tax incentives for the purchase of hybrid high mileage automobiles is also a good intermediate step toward reduced energy demand but the proposed plan offers nothing for the ultimate development of a zero emissions vehicle. The program continues to ignore the much broader energy-environment relationship that has been mishandled by all administrations since the loss of control of oil reserves to OPEC in the mid-1970s.

I have seen statements from your staff that this is the first real energy policy in several years. Actually, there has never been a US energy policy but there has been crisis-related legislation that generally had a negative impact on the total energy situation. Since 1976 both political parties have elected the presidents 50% of the time so there can be no political fallout which favors Republicans or Democrats in the rush to point fingers for the current crisis. I have attached a recommended strategy that I previously sent to your office and have expanded it to provide data on the world's most successful combined energy – environment program.

Your staff"s proposed energy program does not include any attempt to resolve the most pressing problem – the cost of electric power. The power crisis in California is only a symptom of a much larger problem that has degenerated into a Tower of Babel. If nothing constructive is accomplished the problem will spread north and east. Since January the US energy situation has followed the usual pattern of accusations by consumer advocates, legislators and lobbyists of conspiracy by the power generators, gas producers, gas pipeline companies and more recently, with summer upon us, the refiners with no rational views toward solving the problem.

The conspiracy theories and muddled legislative moves with power price caps and lawsuits are reminiscent of the oil crises in 1974 and 1980. While it is impossible to determine the total cost of deregulation of power with the limits on retail rates, bumbling state purchases of power with attendant legal penalties, and impending bond issue to continue subsidization of low retail rates it is very evident that there will never be enough future savings on lower rates in California to recover the startup costs of this flawed deregulation legislation.

This does nothing to solve the problem which, if no handled promptly and forcibly at the federal level, will overwhelm any other programs that your administration and congress may be contemplating. No amount of new crude oil production in Alaska will effect the current and impending shortage of power plants and refining capacity. Interest rate cuts are not the answer. Japan's rates have been close to zero for the last several years and their economy is still in serious trouble even with a rational energy policy.

The staff who advised you to dismiss the Kyoto Protocol without offering any alternatives has done a serious disservice to your administration and has had a serious effect on our international relations that was unnecessary. It is obvious that they have little practical experience in energy policy and environmental management. All manner of commercial companies and prestigious technology institutions support the intent if not the letter of Kyoto. This includes Ford, BP, Shell, MIT and the National Academy of Sciences. Reducing carbon dioxide emission need not effect economic growth and if properly handled will actually enhance industrial development.

No new technology is required to solve our energy problems. Some development work is required to bring down the cost of some of our alternatives but other industrialized nations have successfully instituted extensive national energy plans over the last quarter of a century using technology that has been ignored or politically unpopular in the US.

France has instituted economic and environmental programs that have been very successful. We should seriously consider following their model which has shown these results:

1) Using a common design, France has developed a nuclear power generating base which provides 75% of the nations total electricity and has eliminated the use of fossil fuels in power generation.
2) France reprocesses their nuclear waste and minimizes the problems with storage.
3) France has developed the worlds most sophisticated high-speed electric train system and reduced the need for automobile and air travel as well as airport congestion.
4) French cities use electric vehicles for government transportation needs
5) France has reduced the total carbon dioxide emission by 25% over the last 20 years; currently US emissions are 4 times as high per person as France and continue to grow unabated.
6) France has reduced sulfur dioxide emission 75% and nitrogen oxides emissions by 20% since 1983

The French experience is not a hypothetical case study on how to manage an environment program and at the same time advance economic growth. The French have results from a 25 year program. All of these activities have actually advanced France's industrial development while at the same time reducing that country's reliance on foreign crude oil sources and the attendant foreign exchange imbalance. No matter how many high level studies are commissioned in the US to study the problems, they will never be able to refute the results of the actual French experience.

There are long term solutions to our problems that require short term and immediate decisive federal legislative action. The US had very low cost and extremely reliable electric power in the 50 year period prior to deregulation. Return electric power to a regulated format of 1990 with modifications for cogeneration and power supplied by small businesses and individuals to enter the grid.

The May 8 edition announced the USA Today's winners of their Quality Cup awards for high standards 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. So far the flawed deregulation program has not damaged the TVA's operations. Hopefully, the US power industry can be returned to the conditions prevailing in 1990 before TVA's excellent record is tarnished.

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. Use the TVA as a model to re-regulate the power industry.

I am sure that there will be a vigorous debate concerning your energy plan. I believe that there is a much higher probability of passage of those items which you deem to be important if there is greater concern shown for environmental issues and you receive votes from the green political proponents. The attached Exhibit 1 gives a rational program to follow to meet the US future energy needs, provide an environmental model which should satisfy Kyoto and maintain a vibrant US economy. This proposal essentially follows the French model plus adds action based projects to improve on that model.

Details are provided in the attachment. I would appreciate your review of what I have attached and try to use these points to modify the proposed program and start the solution to this massive problem before we are all freezing or sweltering in the dark, unable to pay for gasoline to escape the heat (or cold) or sitting on an airport runway indefinitely trying to leave these problems behind.

Sincerely yours,

Charles L. Campbell]b6

9 July 2001

Exhibit 1

A Rational Integrated Energy & Environmental Program

Short Term Action Required

1 The US had very low cost and extremely reliable electric power in the 50 year period prior to deregulation. Return electric power to a regulated format of 1990 with modifications for cogeneration and power supplied by small businesses and individuals to enter the grid.

2) The US had a very low cost and reliable petroleum products delivery system in the 50 years prior to the imposition of EPA and CARB regional product specifications. Return to US gasoline, heating oil and diesel fuel specifications of 1990 to allow fungible products to be delivered anywhere in the US.

2 Remove 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

Long Term Solution

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

2 Set up a national company to install facilities to reprocess spent nuclear fuel.

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

4 Set up a government purchasing program for fleets of electric cars to be used by government employees in Washington to build a critical mass for development and commercialization of a zero emissions vehicle.

5 Set up a national research program to reduce the cost of photovoltaic cells and install roof mounted systems in a specific southern California residential area to build a critical mass for development. and commercialization of solar power systems.

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

7 Set up a national agency 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

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

Integrating Energy and Environment

Index

A) The US Inter-related Problems of Power, Refining and Transportation

1 Political Problems
2 Global Warming

B) The French Solution

1 Nuclear Power
2 Reprocessing Nuclear Waste
3 High Speed Rail Transportation
4 Environmental Results

C) Short Term US Action Required

1 Return electric power to a regulated format of 1990 with modifications for cogeneration and power supplied by small businesses and individuals to entry the grid.

2 Return to US gasoline, heating oil and diesel fuel specifications of 1990 to allow fungible products to be delivered anywhere in the US.

3 Remove 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

D) Long Term Solution

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

2 Set up a national company to install facilities to reprocess spent nuclear fuel.

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

4 Set up a government purchasing program for fleets of electric cars to be used by government employees to build a critical mass for development and commercialization.

5 Set up a national research program to reduce the cost and improve efficiency of photovoltaic cells and systems.

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

7 Set up a national agency 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.

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

The U S Problem

A.1 Political Problems

To date there has been no attempt to review the US energy problems in their entirety. With the California power crisis the whole problem is spinning out of control whereas strong central leadership is required. The US is currently facing the following severe interrelated problems:

1) A shortage of power generation and transmission facilities
2) A shortage of refining capacity crude and product supply facilities
3) A shortage of natural gas productive capacity
4) Gridlock in the air transportation system

The brilliant former Israeli Foreign Minister, Abba Eban, once said: "History teaches us that men and nations behave wisely once they have exhausted all other alternatives." Our current energy problems serve to exemplify his thesis. Based on the decisions to date related to California at the federal and state level it would appear that there is not enough experience yet with alternatives to "behave wisely" with a rational approach.

In the 50 years prior to 1990 the US had a low cost and extremely reliable electric power system under a regulated format. The only problems were related to the entry of co-generation power from non-monopoly generators that could have easily been accommodated in a regulated environment. Since the California situation began there have only been proposals on how to make the current system more complex to save deregulation and no rational analysis of the cost of power today compared with the regulated system.

Pacific Gas and Electric (PGE) is now in bankruptcy court and Southern California Edison (SCE) should also be there. These companies were among the most prosperous power companies in the US 5 years ago. The California Power Exchange (PX), the state sanctioned electricity auction market, has also filed for bankruptcy. All manner of political actors and economic gurus with no practical experience continue to provide a set of suggestions on cause and effect and solutions which are not valid. No one has asked the rather obvious question – what is the total startup cost of deregulation and how many years are required to pay out the startup costs? The $12 billion losses which Southern California Edison (SCE) and Pacific Gas and Electric (PGE) have incurred will soon be matched by $12 billion in bonds which the state government intends to sell to subsidize low regulated retail prices and are investment costs in a flawed experiment.

While the California problem is muddled by the deregulation of wholesale power sales with the continued regulation of retail rates, the costs for this flawed experiment will never be recovered by the lower rates deemed to accrue in the future. In the Canadian province of Alberta, deregulation was forced at both the wholesale and retail level with the same results as California. Canada will probably wisely return to their prior power systems management. The California governor was quoted as saying: "If I wanted to raise rates, I could solve this problem in 20 minutes." His irrational actions have only exacerbated the problems.

Electric power is unlike any other commodity. There is no ability to store power and the only way to provide for normal daily and seasonal peaks is the construction of excess generating and transmission capacity. There is no technology available to import power except from contiguous nations. Electric power generation in its simplest form is not high technology. The basic operation is boiling water to generate steam to drive turbines. The high technology end of power generation is the forecasting of future power needs and the construction of facilities to meet both growth in power consumption and the peak load facilities that are idle a high percentage of the time. Power generation is basically a capital intensive industry. Regulated, it provided power at cost and the only inefficiency possible was the utilities' potential to have too much spare peak shaving capacity available. This is a small price to pay for reliability.

The proponents of deregulation point out Pennsylvania as a state where deregulation works. What they don't discuss is that Pennsylvania's demand for power is not rising nearly as rapidly as California's and all of the peak shaving equipment built prior to deregulation is still available for the intended purpose. So long as there is 1 megawatt of previously built excess power generating capacity the system will support deregulation theory. Once the limit is breached spot prices increase to very high levels over in a matter of minutes and a power grid either faces massive total power failures or planned rolling outages. Pennsylvania's energy situation will give the illusion of stability until the day demand exceeds peak shaving capability. Then the state will look like California.

England is also given as an example of a deregulation success. The situation is the same as Pennsylvania with a lot of excess capacity for peak shaving. Following privatization Scottish Power became the owner of a facility that had three idle 600 megawatt oil fired units. These units were built as a hedge against coal miners' strikes in the UK and were activated only once for less that a year in the early 1980s. In 1995 Scottish Power was still maintaining two of the units in mint condition turning the rotors daily. The rotor from the third unit had been removed and installed at another location when that unit's original rotor failed. A new rotor could quickly be installed if the units were needed for peak power generation. The point of this is that the UK has significant excess capacity which allows deregulation to work.

Sometime in the future Pennsylvania and the UK will be faced with the same problem that is now plaguing California and the question is the same – who is responsible for installing and maintaining peak shaving equipment which will only be operated a small percentage of the time?

The national implications of the California power problems are most significant and it was very unwise for the new administration and congress to ignore this serious problem and focus on a tax reduction which at best will provide for a very small percentage of the increases in middle class power/gas bills that are now sweeping the country. To recap the situation:

1) The US government approved the deregulation of electric power in 1992.

2) From 1992 with the chaos of deregulation and the restrictions of CARB and the EPA no new power plant were built in California.

3) Deregulation was approved in California in 1996; SCE and PGE were forced to sell their generating capacity and were not allowed to sign long term contracts for power supply with the companies that bought their power plants.

4) Retail prices continue to be regulated and wholesale prices were allowed to float in a free market.

5) California power requirements now outstrip generating capacity with the expected massive increases in spot prices which are paid by SCE and PGE.

6) The mathematics are rather simple. By government design SCE and PGE have bought high and sold low and are now $12 billion in debt.

7) The US government forced the wholesalers to continue selling power to SCE and PGE irrespective of their ability to pay. If the wholesalers aren't paid there will likely be a second tier of bankrupt companies.

8) The governor of California designated the Department of Water Resources to replace SCE and PGE as the purchasing agent for power and has recommended a $12 billion bond issue to buy power – now at term rates.

9) The California State government will purchase SCE, PGE and San Diego Power distribution systems.

To reiterate, under a regulated monopoly system in place in 1990, California and the rest of the nation were provided low cost and extremely reliable power. Government decisions on how the industry was structured as well as government induced environmental regulations that deterred the construction of new generation capacity are the root cause of the current situation. And now the California State government will be the solution?

After deciding that the companies which provided California with low cost and reliable power for over 50 years were incompetent to handle the problems with deregulation caused by the US and California legislators, the governor's program making a state agency the major power buyer now shows six months of results that are less than admirable. As reported in the June 19 Wall Street Journal (WSJ), the State Department of Water Resources (DWR) purchased too little power for the first five months of 2001 and as such has the potential for triggering a $1 billion fine by violating FERC rules.

The same WSJ article suggests that during the last few weeks the DRW has bought too much power and will be saddled with large take or pay contracts. The DRW has also signed a large number of long term contracts locking in rates for 20 years well in excess of what market prices are forecast to be. About half of the long term contracts are fixed price which are high risk.

The WSJ article of June 19 describes the price caps which the FERC is now going to impose on a proxy price for electricity that is reset each month and is in effect the posted price against which all wholesale energy sales are considered to be acceptable or unacceptable. This proxy or posted price will apply to the 11 state interconnected region including everything west of Kansas. Geographically the region includes about half the contiguous US and about 65 million people.

In parallel action the California governor has been continuing pressure on the FERC to force the power generators to refund past payments for "unreasonable" charges. The governor is claiming $9 billion in overcharges. So far the FERC has identified $124 million in questionable charges and the power generators have contested most of those. So far there has been no learned body which has stepped up to actually solve the problem.

There are also theories that power generators with held power to increase prices. Having been through the 1974 and 1979 oil crises and having been accused of holding oil offshore to drive up product prices, in my view, this is a very superficial analysis of the whole problem. If SCE and PGE had not been forced by the state to sell their generating facilities the question would be irrelevant. If SCE and PGE had been allowed to sign long term contracts for supply the question would also be irrelevant.

Without long term contracts there is no legal or contractual obligation from the wholesalers to provide power; they can shut down anytime they chose to do so. However, no single generator would ever assume that they could independently influence the market and no manager would violate his fiduciary responsibility by giving up high current profits speculating that his single action would provide more return in the future by providing less power today. This could only be accomplished by collusion among generators and no manager is going to risk his job and possibly do time in prison for anti-trust violations.

Frivolous law suites are beginning to develop concerning the power generators, the natural gas pipelines and producers and now the refiners. For refiners this is a replay of similar charges following the 1974 and 1980 international oil crises. All of these actions move the focus away from the legislation responsible for the problems and do nothing to solve the problems.

California is the world's 6th largest economy and that by itself is enough to mandate intensive federal concern for the entire US energy problem. The state of Washington is now seeing the fallout of the California crisis. While the end of the information technology bubble had little to do with the beginning of the current energy crisis the results feed on the energy related issues. The confluence of long ignored energy problems; OPEC's new resolve on pricing and the crash of the dot.com society have set up the potential for "The Perfect Recession". The total energy problem falls into three areas. Specifically:

1) The California problems directly and quickly spread to the entire US energy price base via alternative markets and fuels.

   a) High California power costs are related to shortages and very high prices for natural gas on the West Coast.
   b) The high West Coast gas prices translate back to high well head prices in Canada.
   c) The alternative disposition for Canadian gas via the TransCanada Pipeline Ltd. system is the US Midwest and Northeast and prices rose across the US to reflect the point of indifference from Canadian suppliers for spot sales to the US East of the Rockies versus the West Coast.
   d) Prices for Canadian gas East of the Rockies equilibrated with and drove up gas prices supplied via Henry Hub and at the well head in the US Southwest.
   e) High US produced gas prices have driven industrial consumers and power generators with multiple fuel capabilities to liquid fuels.
   f) These same liquid fuels have an alternative market as residential home heating fuels, diesel fuel and kerosene used as jet fuel; prices of these fuels rose rapidly as liquid fuels buyers chased a declining supply as these fuels were purchased for burning under boilers.
   g) To complete the cycle, the liquid fuels used for industrial consumption, power plant feed, residential heating oil and jet fuel are also evaluated as unfinished intermediate refining streams which can also be reformed or cracked to gasoline thus raising their refinery feedstock values and ultimately the price of gasoline.

   Simply stated; California's energy problems cannot be isolated from the nation's total energy mix and in effect are driving the entire US economic slowdown via significant price increases for all fuels.

2) Gasoline, jet fuel, heating oil and diesel fuel prices would have risen irrespective of the electric power crisis. No new large grass roots refineries have been built in the US since 1975 and during the 1980s refining capacity in the US was reduced from 18.5 to 15.5 million barrels per day as refiners decided to shut down facilities rather than install government mandated equipment which added no value to the finished products. A combination of limited refinery capacity and increased imports of crude and products continually produces constraints and shortages in the total pipeline supply and distribution system.

   As a separate issue petroleum products have greatly reduced fungibility. This means that products may no longer be easily transferred from one region of the country to another to balance supply shortages because of regional EPA and CARB regulations which give rise to a geographical patchwork of incompatible quality specifications.

   Finally, imported oil has risen from 37% of US demand in 1980 to 52% in 2000 and will grow to 63% by 2020 if the current attitude toward energy continues. This is a significant drain on our economy via our balance of payments. After OPEC's two exposures to low crude prices in 1986 and 1998, it appears that they have developed a much better collective approach to sharing production and now have the capability to increase and maintain high crude prices much more successfully than in the past. This will exacerbate our high petroleum products prices and our balance of payments problems.

An inter-related problem involves national security. Not only are we exposed to an increasing outflow of funds for foreign oil imports but also our foreign supplies remain tenuous. While the global reliance on OPEC production has slowly declined with time, Saudi Arabia, Iran, Iraq, Kuwait and the Emirates make up a significant portion of the total world oil reserves and coupled with other regional producers such as Oman, Yemen and Qatar, the Middle East continues to hold well over 50% of the world's crude oil supplies. Saudi reserves are approximately 10 times US reserves and Iran, Iraq, Kuwait and the Emirates each have reserves that are 5 times US reserves.

Revolution has been the primary method for changing governments in many of the oil producing nations. With increased reliance on foreign sourced hydrocarbons the US economy will be affected much more by international incidents today than during the last 25 years.

3) Transportation congestion has reached a critical mass and is leading to air/road rage as well as a very inefficient business environment. In addition to the frustration of long traffic delays, commuting by automobile compared to rail transportation is extremely inefficient on an energy use basis.

US air traffic control systems are outdated. There is no possibility of building new airports near major cities where gridlock is most prevalent. Only 5 new runways have been completed at existing airports in the last 15 years.

Jet fuel consumption is impacted directly by a transportation system that uses fuel sitting on the ground, circling in holding patterns and diverting passengers to the wrong locations. Hydrocarbons used as jet fuel compete directly with demand for home heating oil, diesel fuels and power plant fuel. A quarter of all flights, affecting 119 million travelers, were delayed, canceled or diverted in 1999. Customer complaints were up 16% over the prior year. As the air travel infrastructure approaches 100% of operating capacity any minor problems quickly expand exponentially to the entire US transportation grid and ultimately leads to an inefficient use of fuel.

No new technology is required to solve our energy problems. Some development work is required to bring down the cost of some of our alternatives. Other industrialized nations have successfully instituted extensive national energy plans over the last 25 years using technology that has been ignored or politically unpopular in the US.

No matter how may rocket scientists are locked in a room to solve the US energy and economic problems the answer will always come out the same. In terms of a rational energy policy technical solutions will take 5 to 10 years but political action required to implement these technical solutions is required immediately. There are some short term solutions which violate the limits imposed in a long term plan in order to protect the economy and national security but the ultimate solution must result in a reduction in the use of hydrocarbons and a reduction in foreign energy imports as well as a reduction in governmental impediments to the solution.

A.2 Global Warming

One of the administration's misguided policies is the President's movement away from the Kyoto Protocol without any alternative. The only rational given by his advisors is that increasing carbon dioxide equates with increased industrial activity and economic growth. This might have been true in the 1950s but the world has moved to a higher level of technology and the savings from reduced development in heavy industry may actually increase development of high technology segments of the US total industrial base. While some academics question the effect of carbon dioxide on global warming companies which will be most effected by reductions in carbon dioxide such as Ford, Shell and BP support the general aims of Kyoto. The Economist of April 7 has a very good article on global warming and discusses a study by MIT that supports the thesis that global warming will increase without changes in our consumption patterns.

Conservation in a superficial context implies restrained economic activity with restrictions on power generation. Carbon dioxide emissions can be reduced without severe restriction on industrial activity. In a rational energy policy, reduction in carbon dioxide levels will actually promote economic growth by leaving consumers additional cash to spend on products other than gasoline, heating oil, natural gas and power.

As presented by The Economist, the tons of carbon emissions per person per year are as follows:

United States	5.5
Britain, Germany, and Japan	2.5
France	1.5
China and India	0.5

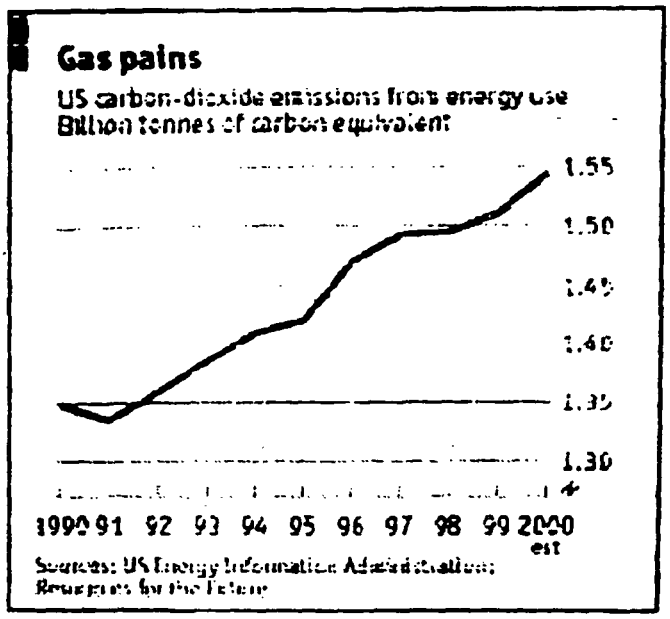
The French have eliminated the use of fossil fuels in power generation by use of nuclear facilities and have reduced the use of gasoline and jet fuel via TGV high speed trains. Germany, Japan and Britain have rational views toward nuclear power. Most of Europe and Japan have high speed rail service which displaces automobile and air travel and consequently reduces the burning of fossil fuels.

They have all reached these levels of carbon emissions without any Draconian limits on industry such as CARB and the EPA impose. China and India with a total population 10 times that of the US emits about the same total carbon as the US so it seems rather cavalier to suggest that they are somehow given a big advantage by Kyoto.

The following are exerts from the June 14th Economist article on a new report from America's National Academy of Sciences which confirms the reality of global warming. Three months ago, the administration's advisers advised the President to move away from his campaign pledge to regulate emissions of carbon dioxide He also reemphasized his long-standing opposition to the Kyoto Protocol without suggesting any alternatives.

After the fact on May 11th the administration asked that the National Academy of Sciences (NAS) to provide guidance on the matter. The results of their efforts are not surprising. They have concluded those greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface air temperatures and subsurface ocean. temperatures to rise. Temperatures are, in fact, rising. The changes observed over the last several decades are likely mostly due to human activities, but we cannot rule out that some significant part of these changes are also a reflection of natural variability. Human-induced warming and associated sea level rises are expected to continue through the 21st century.

The NAS's conclusions confirm a recent report from the United Nations' Inter-governmental Panel on Climate Change (IPCC) that laid out the scientific case for taking global warming seriously. ". An earlier IPCC report had predicted that, if current trends continued, the temperature of the atmosphere could rise by 2 to 6° F by 2100; the latest one expanded the range of likely warming to 3 to 11° F.



The result is bad news for those who had hoped for a rejection of the IPCC's conclusions. And, though the skeptics on the NAS panel itself have rushed to make it clear that their report does not, in any way, endorse Kyoto, that is largely because the report offers no views whatsoever on any policy options. Nobody who takes this report seriously can easily argue for doing nothing.

The French Solution

B.1 French Nuclear Program

France began the development of its nuclear energy program in 1945 with the creation of the Commissariat à l'Energie Atomique (CEA). The CEA worked with Electricité de France, the state-owned French utility, to develop and industrialize nuclear power using UNGG technology (Natural Uranium, Graphite moderated, Gas cooled). EDF began commercial operation of the first UNGG reactor in 1963 at the site of Chinon.

In the 1950s France used Westinghouse Pressurized Water Reactor -- PWR -- technology. This technology was improved under Framatome, with the scientific and technical support of the CEA.

In the 1970s and 1980s, a period during which the world experienced two oil crises, the French government decided to build thirty-four 900 Mwe reactors using identical designs. The first program was launched in 1974; two years later it was decided to build an additional twenty 1,300 MWe reactors using identical designs.

A third program to build four additional "new generation" PWR (a 1450 Mwe unit, called "N4") has been implemented. The first N4 reactor (Chooz B-1) went critical in July 1996 and the last (Civaux 2) was connected to the grid in May 2000. These are the most powerful reactors in operation today.

Due to the successful implementation of its civil nuclear program, France has succeeded in meeting the challenges that have arisen as a result of two successive oil crises in 1974 and 1979, and has now entirely replaced fossil fuel plants with nuclear units. France now has 58 pressurized water reactors with a net installed capacity of 63,000 MWe. In 2000, nuclear energy represents 75 percent of the country's electricity production, satisfying national needs and representing a growing volume of export sales.

With 103 reactors operating, the U.S. is still the world's largest producer of nuclear power in absolute terms. With 58 reactors generating 75% of its electricity, France produces the most nuclear power in relative terms.

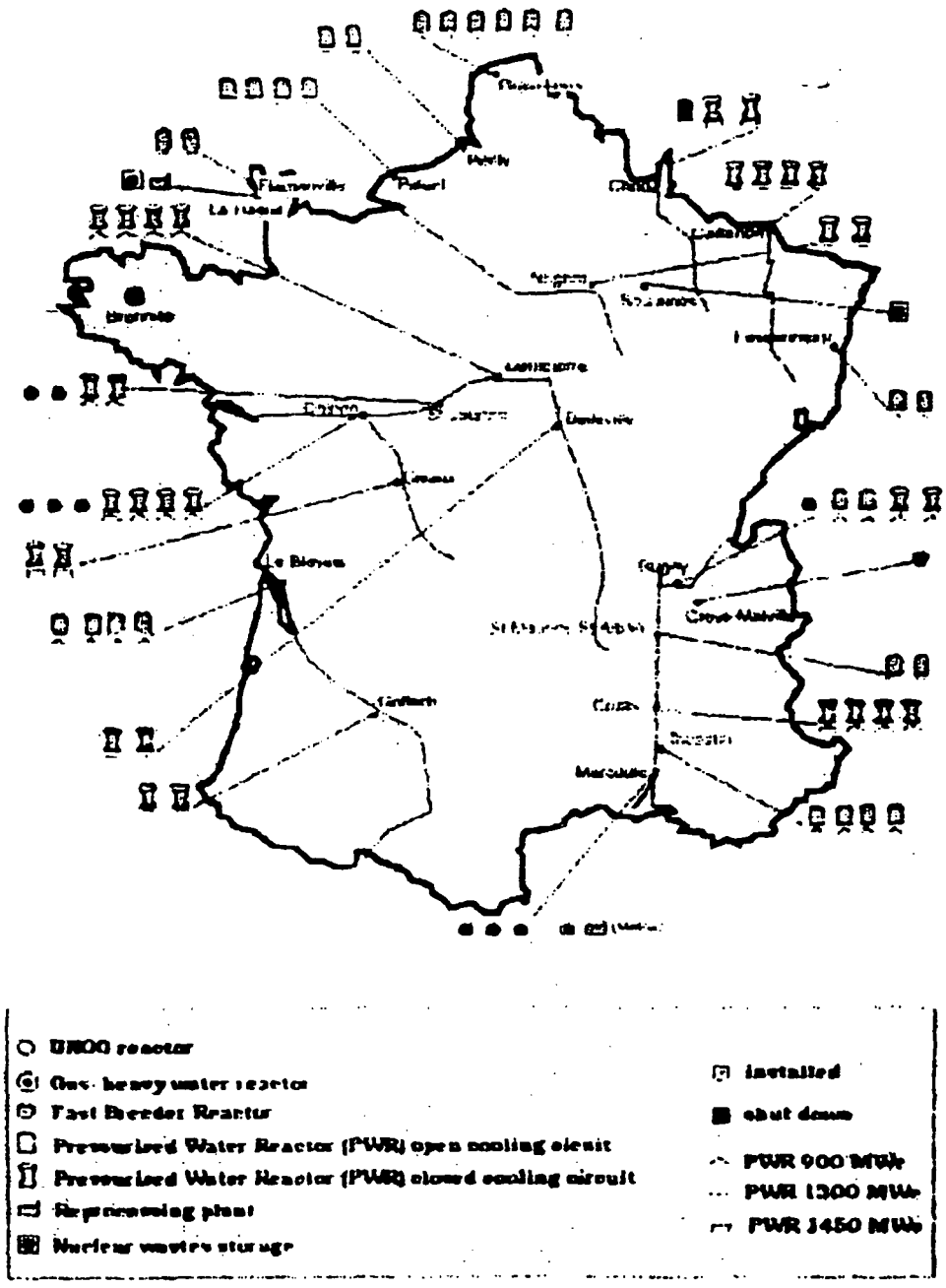
France has little or no fossil fuel. Regardless, fossil fuels are used for 58% of primary energy sources. The same energy sources account for 88% in the U.S.

1999 Consumption Data	U.S.		France	
	Quads	%	Quads	%
Oil	37.98	40.7%	3.98	37.5%
Coal	21.58	23.1%	0.57	5.4%
Gas	22.23	23.8%	1.40	13.2%
Nuclear	7.73	8.3%	3.48	32.8%
Hydro	3.37	3.6%	0.68	6.4%
Renewables	0.36	0.4%	0.49	4.6%
Total Fossil	81.75	87.7%	5.96	56.1%
Total	93.21	100%	10.62	100%

(1 Quad = 25.1 Mtoe)

The French consumption of energy by source has changed significantly since 1973 when fossil fuels accounted for 81.6% (oil 69.1%; coal 15.2% and gas 7.3%) and nuclear plus hydro for only 7.3%.

French nuclear reactors and facilities in 2000



Caractéristiques des REP [1] 900, 1300 et 1450 MWe en France

Characteristics of French PWRs 900, 1300 and 1450 MWe [1]

Principales caractéristiques	REP 900		REP 1300		REP 1450
Puissance électrique nette (MWe)	880 à 915		1 300 à 1 335		1 455
Puissance thermique (MWth)	2 785		3 800		4 250
Rendement (%)	31,? à 33,0		34,2 à 35,1		34,2
Nombre d'assemblages de combustible	157		193		205
Nombre de crayons par assemblage	264		264		264
Poids d'uranium par assemblage (kg)	461,7		538,5		538,5
Première charge / Initial loading					
Masse d'uranium enrichi (tonnes)	72,5		104		110,5
Enrichissement métal moyen (%)	2,43		2,29		2,29
Besoin en uranium naturel (tonnes) (6)	316		[illegible]		449
Besoin en enrichissement (milliers d'UTS)	225		294		312
Recharge à l'équilibre / Equilibrium reload	(1)	(2)	(3)	(4)	(5)
Nombre d'assemblage par recharge	40	28 (+ 16)	64	64	69
Masse de métal lourd (tonnes)	18,5	12,9 (+ 7,4)	34,5	34,5	37,2
Enrichissement (%)	3,7	3,7	[illegible]	4,0	3,4
Besoin en uranium naturel (tonnes) (7)	[illegible]	[illegible] (8)	[illegible]	[illegible]	280
Besoin en enrichissement (milliers d'UTS) (7)	87	[illegible] (8)	123	132	154
Irradiation moyenne (MWj/t)	41 700	(33 800)	37 ?00	43 500	39 000
Séjour en réacteur (mois)	48	49 (36)	36	54	36

(1) Rechargement par quart de cœur (annuel) / Reload by 1/4 core
(2) Rechargement (Mox) par tiers de cœur (annuel) / Reload by 1/3 core (Mox)
(3) Rechargement par tiers de cœur (annuel) / Reload by 1/3 core
(4) Rechargement par tiers de cœur (allongé à 18 mois) / Reload by 1/3 core (18 months)
(5) Prévisionnel par tiers de cœur, susceptible de modification / [illegible]
(6) Pour un taux de rejet de 0,25 % / Assuming 0.25 % tails assay [illegible]
(7) Pour un taux de rejet de 0,3 % / Assuming 0.3 % tails assay [illegible]
(8) Mox fabriqué avec [illegible] / [illegible]

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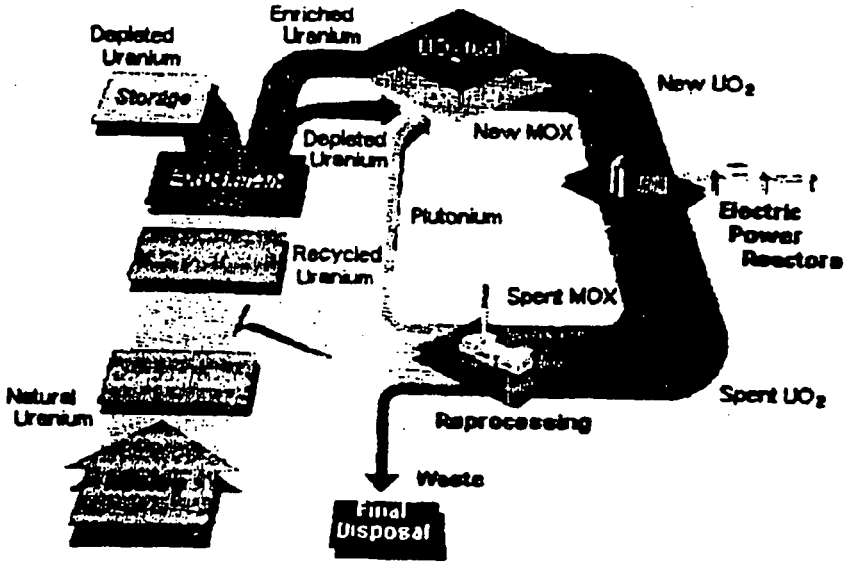
B.2 French Fuel Cycle

France, through COGEMA Group, is the world's largest integrated nuclear fuel cycle supplier. This activity wase initiated 25 year ago as an adjunct to the French nuclear power plant construction program.

In addition to serving the needs of the French nuclear industry, COGEMA has the capability to service other countries needs, Most notable is Japan. Since 1969 there have been over 160 shipments of spent nuclear reactor fuel from Japan to Europe. Reprocessing of the Japanese spent fuel is undertaken in UK and France under contract with Japanese utilities. Recovered fissile materials are returned to Japan as reactor fuel, notably the mixed-oxide (MOX) fuel shipments in 1999 and 2001. The first shipment to Japan of immobilised high-level waste from reprocessing took place in 1995 and the sixth was in 2000.

The fuel cycle is shown as follows



The French Nuclear Fuel Cycle

The origin of High-Level Waste in the nuclear fuel cycle

For most of the world's nuclear reactors, uranium oxide concentrate from the mine is first converted into uranium hexafluoride so that it can be enriched. Natural uranium contains only 0.7% U-235 (with 99.3% U-238), but this needs to be increased to about 3.5% U-235 for use in a nuclear reactor. After enrichment, the uranium, as an oxide, is made into fuel pellets which are assembled into rods for use in the reactor core.

The fuel stays in the reactor for three or more years during which time it is altered by the fission process. Some of the U-235 is 'burned' and produces energy as heat. This results in the formation of fission products, - atoms of around half the original atomic weight and which are generally highly radioactive. Some of the U-238 captures neutrons and through a series of radioactive decay stages, isotopes including Pu-239 and Pu-241 are formed. These two isotopes,

like U-235, are fissile and much of them is 'burned' in the reactor to produce about one-third of the total energy. Some Pu-240 is also formed, along with other transuranic elements (elements of higher atomic number than uranium).

After three years or more these various changes in the fuel assemblies cause the efficiency of the nuclear reaction to be reduced. Consequently every year or so about one third of the fuel assemblies are removed and replaced by new ones. The spent fuel is then stored under water in ponds at the reactor site while it cools and the initially intense radioactivity starts to diminish.

A number of countries simply regard this spent fuel as waste. These countries, notably USA and Sweden, therefore aim to store spent fuel for several decades until a lot of the radioactivity has decayed. They then intend to dispose of the fuel elements in an underground repository.
However, several countries, notably Japan, France, Germany and UK, currently reprocess their spent fuel so as to return the useable uranium and plutonium to the front-end of the fuel cycle. They are then left with about 3% of the quantity as high-level waste, which includes almost all of the radioactivity from the spent fuel.

Reprocessing arrangements

A total of ten Japanese electric utilities have contracts with the French company Cogema to reprocess their spent fuel. These Reprocessing Service Agreements date from 1977-78. Other contracts are with British Nuclear Fuels Limited - BNFL.

After the spent fuel has been in storage for some time at the reactor site, it is shipped to France for reprocessing. There have already been over 160 such shipments. All the high-level waste from reprocessing the spent fuel will eventually be returned to Rokkasho in Japan for long-term (30-50 year) storage prior to ultimate disposal.

So far one shipment of plutonium recovered from spent fuel reprocessing has been returned to Japan. This was reactor-grade material, with about 30% Pu-240 in it and therefore useable only as a reactor fuel. It is not suitable for nuclear weapons. In future the plutonium will be returned as a mixed oxide (MOX) fuel, in which the plutonium is mixed with depleted uranium and fabricated into fresh fuel elements ready for use in a power station reactor. Shipments of MOX fuel assemblies were sent in mid 1999 and early 2001. See also UIC briefing paper on MOX.

Japan has a small (210 tonnes/year) reprocessing plant already in operation at Tokai, associated with the Monju fast neutron reactor. A much larger reprocessing plant is being built at Rokkasho.

Meanwhile Japanese spent fuel is reprocessed by Cogema in France and by BNFL in the UK. Japanese utilities have contracts with these for the reprocessing of some 7000 tonnes of spent fuel. A total of more than 3000 canisters of high level waste will be returned to Japan, in about 110 casks. Two thirds of this will be from Cogema and the rest from BNFL.

Vitrification od separated waste

To enable safe storage and transport, the high-level waste is mixed with molten borosilicate glass and poured into 1.3 metre high stainless steel canisters. The waste becomes locked into the matrix of the glass as it cools, making it stable and resistant to leaching. Lids are then welded on to the canisters to seal them.

Each canister contains 150 litres of glass weighing 400 kilograms. Some 14% of the content is high-level waste derived from the reprocessing of about 1.3 tonnes of spent fuel. The thermal output of each canister as shipped is less than 1.5 kilowatts.

Transport

The half-tonne stainless steel canisters containing high-level waste are transported in specially-engineered, heavily shielded steel and resin containers called casks or flasks. Each weighs about 100 tonnes. Those used for the high-level waste are very similar to those for transporting the spent fuel from Japan to Europe in the first place, and the MOX on the return voyage. A flask holds up to 28 canisters of vitrified waste.

The ships involved are 104-metre, specially designed double-hulled vessels used only for the transport of nuclear material. Three ships belonging to a British company associated with BNFL have been approved for the transport of vitrified residues, and conform to all relevant international safety standards.

Japan's Energy Policy

Nuclear power provides about one-third of Japan's electricity, and with the enhanced efficiency brought about by reprocessing spent fuel to recycle the uranium and plutonium, it represents a major part of Japan's endeavours to achieve maximum self sufficiency in energy. Certainly plutonium is seen as a valuable energy resource, not to be spurned as a source of electricity.

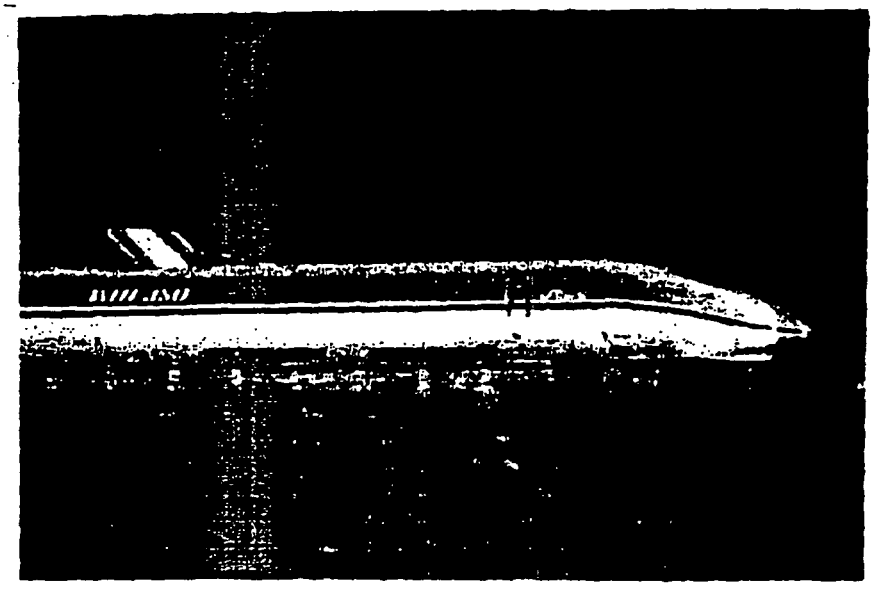
The Japanese see this in both commercial and ethical terms, avoiding the depletion of fossil fuels and maximising the utilisation of uranium. More recently the policy has enabled them to commit to much greater reductions in greenhouse gas emissions than countries such as Australia.

Japan plans to have one third of its 53 reactors using some MOX by 2010, and has just approved construction of the world's first advanced reactor which will have a complete fuel loading of MOX. This large reactor will have recycled plutonium as its main energy source and is expected to enter service in 2007.

B.3 French Trains

Over the last 25 years France has developed the most modern and extensive rail transportation system in the world. The system connects all major French cities and is linked to similar but less complete systems in contiguous European countries. The beginnings of the French system were actually in Japan 50 years ago.

Over the past 50 years Japan and Europe have developed fast trains, exceeding 175 miles per hour, in part to relieve congestion on roads and at airports while minimizing the use of petroleum products and pollution. French airports do not suffer the same congestion problems as similar US facilities. Coupled with a nuclear power generation program, France has drastically reduced their reliance on imported crude and products as well as the accompanying foreign exchange drain.



The idea of the bullet train as a standard new railway between Tokyo and Shinmonoseke was conceived prior to World War II but was not actively pursued until the late 1950s when Japanese National Railways launched a massive program to increase its trunk line capacity, including construction of the Takaido Shinkansen between Tokyo and Osaka which is 300 miles away.

Engineers knew that simply by using more power they could force some conventional trains to reach 200 mph - much faster than the 100 mph top speed of today's US long-distance trains. But the higher speeds were deemed infeasible for commercial application because the fast-moving vehicles damaged the tracks severely. High-speed trains, it seemed, would have demanded extensive, and thus prohibitively expensive track maintenance efforts.

However, Japanese designers found ways to exploit existing technology to improve speeds to about 125 mph between some cities. For instance, without major design changes to the trains, the Japanese engineers achieved gains by restructuring the track layouts to eliminate curves and steep grades. The huge popularity of their original Shinkansen, or bullet train, which began operation in 1964 between Tokyo and Osaka, sparked new interest in overcoming the technological obstacles to operating routinely at still higher speeds.

Today the Shinkansen network consists of four lines totaling 1200 miles with an average passenger load of 810,000 per day. The early trains were limited to 100 mph because of noise problems. In 1985 the Series 100 was developed with double-decked cars. In 1992 the WIN 350 and STAR 21 were introduced with speeds of 200 mph.

Following the loss of control of oil reserves by the major international companies in 1974, France initiated a study of the Shinkansen and developed a French version that was introduced in 1981. The Train le Grande Vitesse translated to English as the "train of big speed" with the acronym TGV used to denote this high speed service.

The first TGV traveled at 170 mph in service with a test speed of 235 mph. The Atlantique version was introduced in 1989 with a test speed of 320 mph and a speed of 185 mph in commercial use. A double decked version was introduced in 1996 with a 45% increase in capacity with only 4% greater drag than the regular TGV.

In Germany the Intercity Express (ICE) was started much later than France. The first high-speed lines were open in 1992 at 155 mph. ICE3 was introduced in1998, it's the first tilting train design. These trains are used between Germany and the Czech Republic. Developed with the involvement of Siemens, the train has speed of 145 mph over rough rail systems that cannot be handled by the original ICE and the TGV.

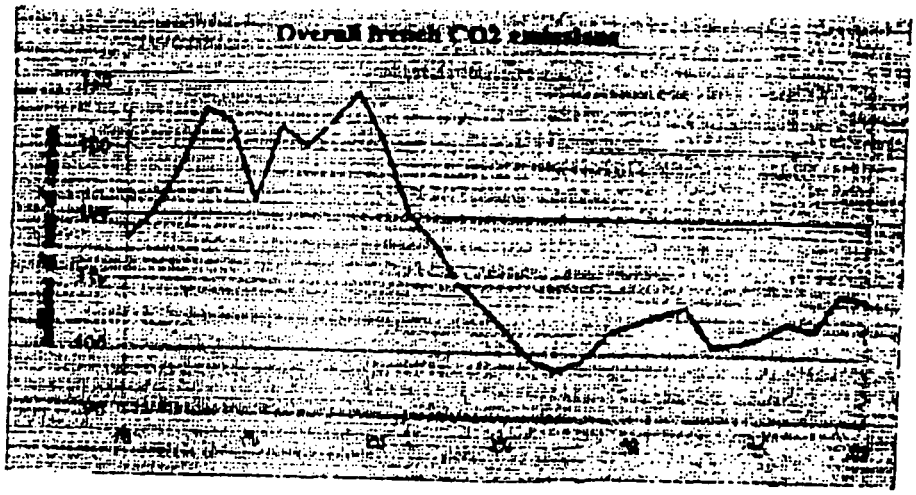
In 1999 the ICE VT diesel electric train was introduced to give high speed service to the non-electrified sections of the rail system. This diesel model will travel at 125 mph.

Other high speed trains in Europe include the Eurostar trains linking Paris and Brussels with London by way of the English Channel Tunnel ("Chunnel"). Other high speed trains have been developed in the Netherlands, Spain and Italy. Development is under way in France to produce the next generation of TVG trains with commercial speeds up to 225 mph.

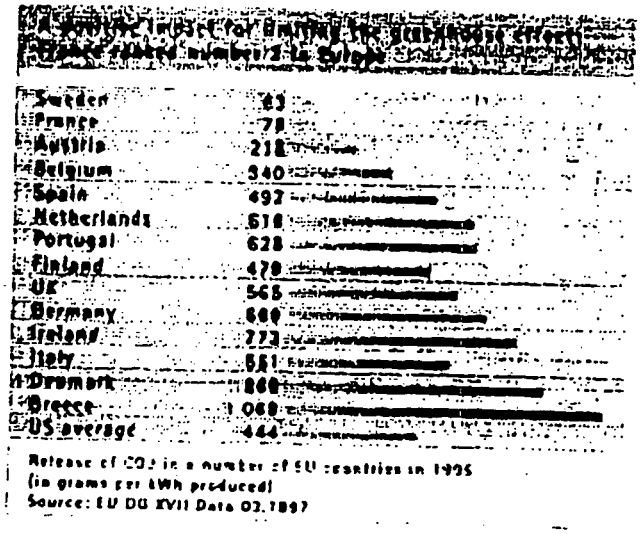
B.4 French Environment

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.

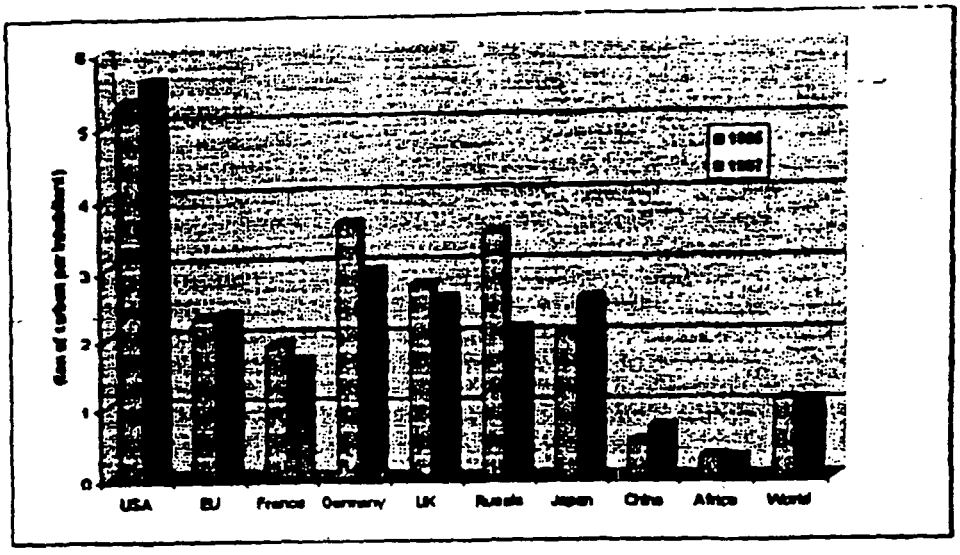


France's emission of total carbon dioxide per KWH of power producrd is second only to Sweden in Europe. US emissions per KWH are 5 times higher than France.

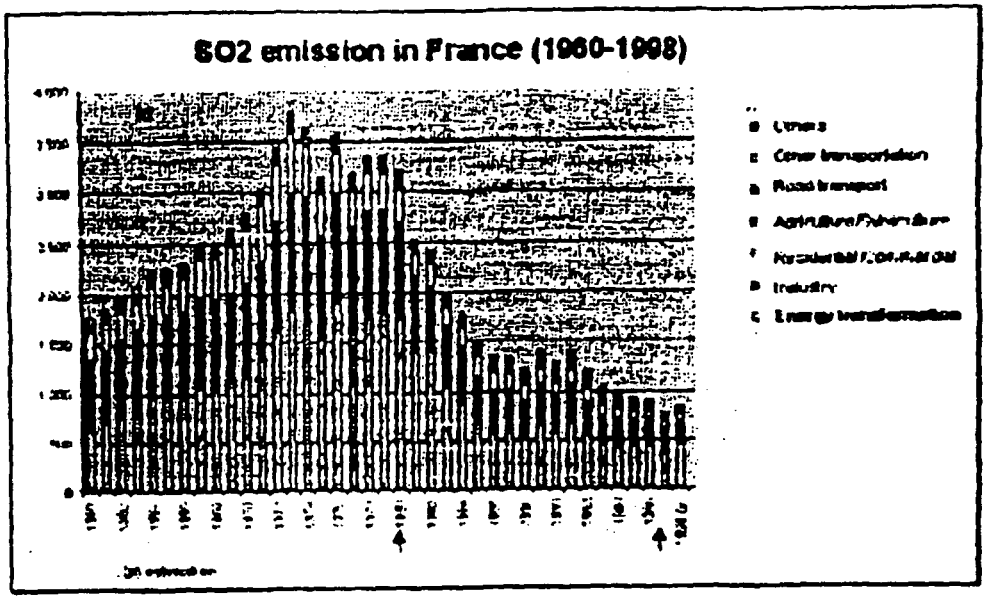


Release of CO2 in a number of EU countries in 1995
(in grams per kWh produced)
Source: EU DG XVII Data 03.1997

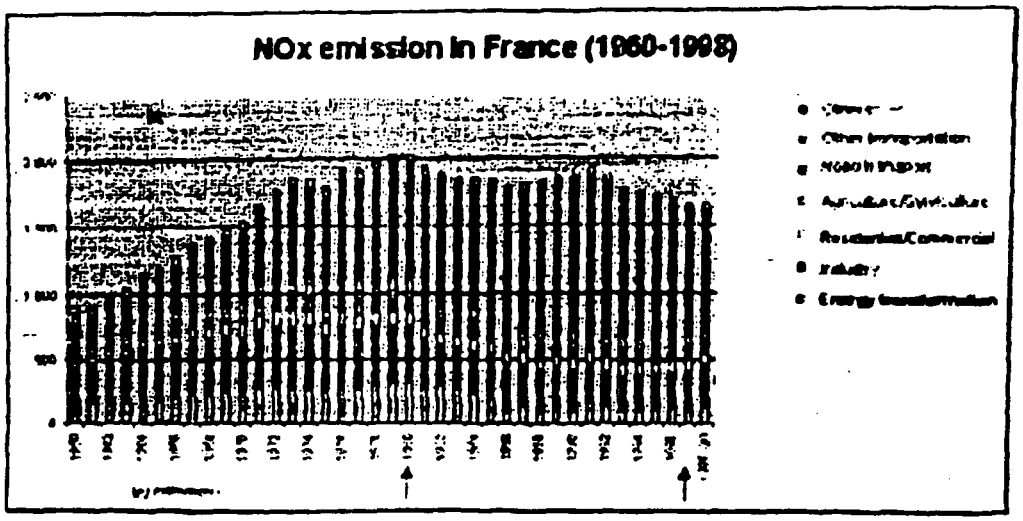
France is lowest among industrial nations in the emission of carbon dioxide per inhabitant.



Sulfur dioxide (SO2) has been reduced 75% since the nuclear power program was initiated.

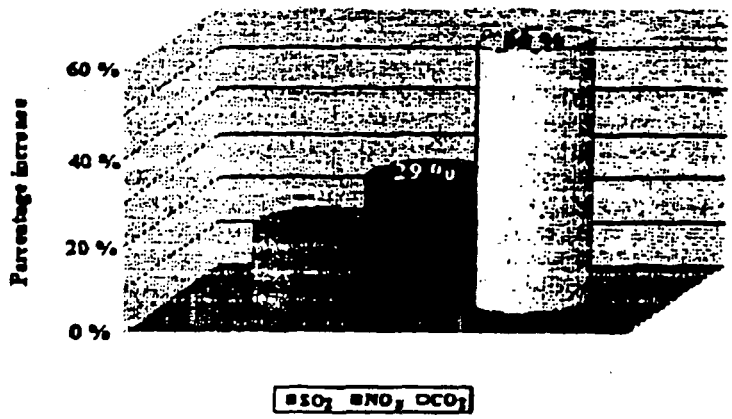


Nitrogen Oxides (Nox) responsible for smog have been reduced 20%.



A 1993 comparison between France's atmospheric emission 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.

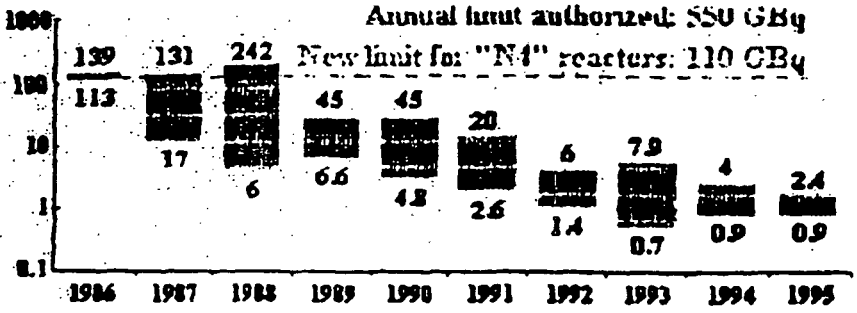
France resorting to clean coal technologies: differences with today's national emission levels



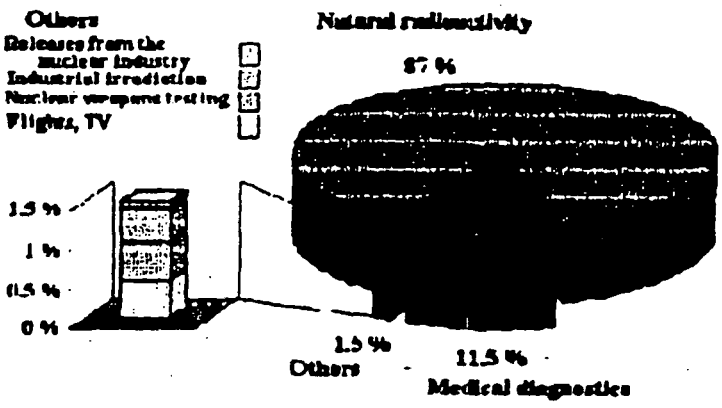
According to the Ministry of the Industry, French nuclear power plants prevent the emission of 1.7 million tons of SO2 and 890 thousand tons of NOx each year.

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 up-coming generation of nuclear plants (N4), in order to closer approximate the real amount of radioactivity released.

Minimum and Maximum radioactivity released per 1,300 Mwe 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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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 sit idle most of the time for peak shaving. 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 1998 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 provides 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 1998 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 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 underutilized 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 1990 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 1990 and return to fungible products.

Since the early 1980s 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,

volatility 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.

D 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 waste. France and other industrial national 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.5 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.

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..

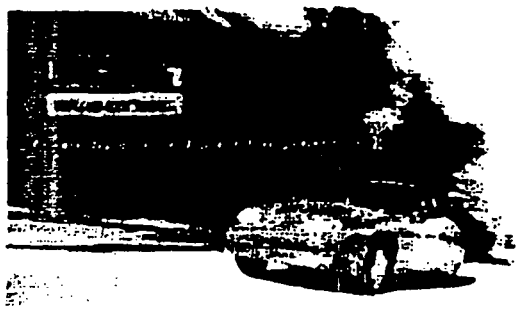
The cost of this program would be less than 5% of the administrations proposed tax incentives for use of hybrids and will have a much greater ultimate effect on the US energy balance. The ultimate goal in a 10 -20 year period is to have a large portion of the US automobile fleet battery driven and powered 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 38 cents per kW-hour. 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.



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, GN, 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.

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 pwer 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, Sasoil, is the world's most advanced organization in coal liquefaction technology and is the world's largest manufacturer of oil from coal.

The Sasoil 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.

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."

RC 712
DOE

Dear President Bush,

June 24, 2001

Thank you for your statement last November.

Good news from Sec. Abraham's EOE!

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, GM, 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

"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 it in your energy proposal.

Sincerely,

Florence Burghorn

Ms. Florence Burghorn
(b)(6)

Department of Energy
Washington, DC 20585

July 11, 2001

Mr. Frank Boring Fitzgerald

b(6)

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 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,

Margot Anderson
Acting Director
Office of Policy

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,

Linda Couvillion

[redacted] 06

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

2001-006624 3/12/01 4:30 006624

RICHARD S. LIEBLING, PhD. PAUL WEINBERG, P.E.

b6

March 9, 2001

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 Energy[1], 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 ANWR[2] 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 2020[3]. 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[4]. Indeed, General Motors hopes to come out with a prototype, the HydroGen1, in 2004, which will run entirely on hydrogen and produce the equivalent energy of a 1600 cc internal combustion engine[5]. 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

2. New York Times Editorial, January 31, 2001

3. Energy Information Administration, Annual Energy Outlook, 2001

4. The Economist, July 22, 1999

5. The Economist, June 22, 2000

b/c duplicate
non-response

L. W. Minturn
Energy Researcher

7/21/01 9:45:21 AM

Vice President Dick Cheney
1600 Pennsylvania Ave., NW
Washington, DC 20500

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
The Wall Street Journal
200 Liberty St.
New York, NY 10281

2001-017992 7/31 A 10:20

July 25, 2001

Secretary Spencer Abraham
Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Secretary Abraham:

I am writing to express my concern regarding the Bush Administration's energy policies. The administration has already displayed an unwise preference for older, finite, and environmentally degrading source of energy generation. I, and many other Americans, believe that this strategy will prove damaging to the nation's environment and health, and will ultimately leave the United States no better off in terms of energy efficiency and sufficiency. It will also isolate the US from an increasing interdependent world.

Given the Administration's actions to date, including renouncing both the Kyoto accord and the campaign pledge for carbon dioxide reduction, as well as soliciting little public input for Vice President Cheney's *National Energy Policy*, I am particularly concerned that the Bush Administration will dismantle the *New Source Review*. The National Source Review was designed to address the misuse of a Clean Air Act exemption by owners of coal generating plants. The industry agreed to phase out old plants in return for granting the plants exemptions. Instead, coal fired plants continued to operate thanks to the policy of installing new parts while ignoring the purchase of pollution reducing equipment. Recognizing the stall tactic and cognizant of the continuing damage to air quality and health, the E.P.A., eight states (including New Jersey) and a number of environmental groups used the New Source Review to file suit against the offending companies. Repudiating the New Source Review will simply allow controllable pollution to go unchecked while ignoring long-term energy solutions.

I am also asking that traditional energy producers not be exempted from other safeguards to our nation's environment and health, nor should their already generous benefits such as below-market mining leases continue.

We can not continue to consume so much of the world's resources, pollute so much of our own country, and refuse to acknowledge the dead-end of an overcommittment to fossil fuels. The American people need forward thinking leadership to take us past short-term policies rife with dangers. We need to wean ourselves from the foreign and domestic forces who have their hands on our current energy sources. We need to follow the lead of Japan and Europe in reducing our energy demands while staying economically strong. We need to set policies that encourage new means of energy production. We need to use tax credits that allow business and individuals to use the energy efficient designs and products already available. If we do not, we will soon find ourselves dependent on depleted sources of energy, whether we open all national parks and refuges or not, and will fall to a second-tier world power behind those who were better able to adapt to a new world.

Thank you for you time, I remain hopeful.

Sincerely,

Lawrence F Price

Lawrence F. Price

29896

2001-018230 8/2 A 11:50

Secretary, The

From: (b)(6)
Sent: Tuesday, July 31, 2001 9:10 AM
To: Secretary, The
Subject: Policy

018230 2001 AUG -2 A 11:50

FROM: (b)(6)
NAME: Robert E. Rutkowski, Esq.
SUBJECT: Policy
ZIP: b6
CITY:
PARM.1: TO:the.secretary@hq.doe.gov
STATE: b6
TOPIC: Energy Policy
SUBMIT: Send Comments
CONTACT: email--
COUNTRY: USA
MESSAGE: Representative Jim Ryun U.S. House of Representatives Washington, D.C. Dear Representative Ryun: Next week the Republican leadership may bring an energy bill to the House floor. While I appreciate their attention to this important issue, I disagree with their solution to our energy problems. The plan is short on vision and offers no long-term solution to our energy problem. Vice President Cheney said it best himself: their policy is to continue extracting fossil fuels and consuming them at an unprecedented pace. In fact, in order to keep up with demand, they argue, we need to build a power plant a week for the xt twenty years. Here is a set of principles that should guide ngress as they engage in the energy debate. I believe that we should embrace technology and develop innovative solutions to our energy challenges. I believe that it is outdated thinking to believe that we have to choose between growing our economy and protecting our environment: we can do both. In fact, a growing economy is dependent on a clean, reliable energy source for generations to come. I support market-based incentives and public-private partnerships to address national challenges such as the energy crisis. While I recognize that fossil fuels will continue to be a critical part of our nation's energy supply for years to come, I believe that we need a more visionary plan than one that simply finds and consumes fossil fuels at an unprecedented rate. Conservation and efficiency programs, such as encouraging the building of energy-efficient homes, appliances, and buildings, ensures that our limited supply of fossil fuels lasts longer. It makes no sense to embrace an energy plan based almost exclusively on a finite resource without also aggressively encouraging the conservation of those resources. What will future generations do when the fossil fuels grow ever scarcer? The legislation we will see next week includes drilling in the Arctic National Wildlife Refuge, over $7 billion in royalty relief, $30 billion in tax credits weighed heavily towards the fossil fuel industries, and an increase of only 1 mile-per-gallon in the corporate average fuel economy (CAFI) standards. The plan authorizes $6 billion in R&D investments, which we support, but unfortunately there is no room for those investments in either the President's budget or the Republican budget framework. I understand that a comprehensive gy plan for the future is critical to our nation's long-term sperity. As our country grows in both population and economy,

so too does our demand for energy. In the last few decades, we ve consumed fossil fuels at an unsustainable rate. We must velop a long-term plan to keep the lights on for our children and grandchildren. And we must act now. Already, states like California are spending billions of dollars of their hard-earned surpluses – surpluses that should go to improve our schools, expand access to health care, and help families afford things like child care and after school programs. We can't allow this crisis to spread, and our prosperity to be squandered on an energy plan that will not address provide sustainable energy resources for the future. I support investment in new energy technologies for conservation, efficiency and renewable energy sources Dick Cheney has said that conservation is merely a "personal virtue" and not an energy policy, and that we shouldn't count on renewable energy sources. As a result, the Administration wants to dramatically reduce conservation, efficiency, and renewable efforts, and instead pursue a policy that will have the United States building one new power plant to consume fossil fuels a week for the next twenty years. I believe there is a smarter, more balanced approach. In the short term, we can harness the power of technology and modernize regulations to make existing fossil fuel sources of power cleaner and more efficient. We can explore, develop, and extract fossil fuels in appropriate areas using environmentally-sensitive methods. What's more, we need to make our fossil fuel sources last longer by aggressively making conservation and efficiency work for all Americans. Consider the difference they could make: According to a study by scientists at the country's national laboratories just released this weekend, if the government takes aggressive steps to encourage energy conservation in homes, factories, es, appliances, cars and power plants, we could reduce the wth in electricity demand by 20 to 47 percent. That would be the equivalent of between 265 and 610 big 300-megawatt power plants, a steep reduction from the 1,300 new plants that the Bush Administration claims will be needed over the next twenty years. Second, we need to invest in research and development for renewable sources of energy. Encouraging use of solar and wind power would not only conserve our supply of fossil fuels, it would also get some homes and businesses off the already-crowded power grid. Biomass, fuel cells, ocean turbines - these are just a few of the cutting-edge ideas that American scientists and inventors are developing to produce energy. Both Japan and Western Europe are aggressively pursuing development of alternative sources of energy, and if we don't make the same effort, our economy and environment will be left behind as other countries corner the market on new sources of energy. I believe that developing a long-term energy strategy is one of the most important decisions our country will make. A plan so reliant on expanded drilling and mining oil and coal is a step backwards, and squanders the opportunity to invest in new energy technologies to power our economy. As this debate continues, I hope the Republicans will change course, and work to develop an energy plan that is sustainable and grows the economy – an energy plan for the future. Thank you for the opportunity to bring these remarks to your attention. Yours sincerely, Robert E. Rutkowski, Esq. cc: Speaker Dennis Hastert Andrew H. Card, Jr. Secretary Spencer Abraham

b6

ADDR

2001-017095 7/16 P 4:14

Margaret Millard
(6)(6)

July 12, 2001

Spencer Abraham, Secretary of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Abraham,

It is long overdue that the United States develop a safe and effective energy policy. We will not be able to continue the growth, expansion and our current living standard without reliable and cost effective energy sources. Surely the crisis in California has shown us the tip of the iceberg.

If other countries can build and run safe nuclear energy plants, why can't we. We are leaders in technology and science. How can fear and a few enviornmental activists rule our future. We need strong and tough leadership in this area, or there won't be much left here to run. Our economy is at stake and this is the spector that is going to bring us down.

I am a collector for a small michigan bank in a rural area that was faced with horrible propane prices and gas prices. Some of my customers are still digging out and are behind on other loans. Usually they are caught back up by March. This year it was June and July that they were struggling. The automotive industry in Michigan has been affected by the energy crisis. This has caused lay offs and downsizing and firings. Some Michigan business have shut down as you know. It is a domino effect that is pretty scary for those of us with our pulse on the businesses. You know Michigan and many other states depend on energy to run its plants. You must know this is a crisis.

I hope that you will provide strong leadership to bring sanity to our antiquated energy policies. We are in the dark ages and will literally be there soon if we don't do something now.

Sincerely,
Margaret Millard
Margaret Millard

29899

Doyle T. Grogan

(6)(6)

2001-017434 7/20 P 3:35

July 17, 2001

Mr. Spencer Abraham
Department of Energy
Forrestal Building
1000 Independence Avenue
Washington, DC 20585

Dear Mr. Abraham:

President Bush is attempting to build support for the National Energy Policy recommendations which is bringing opposition from members of Congress representing states that need energy the most.

In 1952 President Harry Truman's Materials Policy Commission warned that in the 1970's, the U.S. would be dependent on Middle East oil, which could result in a serious energy shortage. It happened. The recommendations from this report are as valid today as 49 years ago and are included in President Bush's energy policy.

President Richard Nixon in a special message to Congress June 4, 1971, detailed a comprehensive energy policy because of brownouts and shortages of fuel in some areas of our country. The recommendations in this report are incorporated in President Bush's energy policy.

The ultimate objective of a national energy policy should be to ensure the economic and strategic security of energy supplies. It is not good economics to have to pay $120,000,000,000 per year for imported crude oil and products. Security of supplies cost taxpayers $60,000,000,000 per year, our military personnel are put at risk and supplies can be interrupted in an instant.

After the oil embargo of 1973, when it was apparent that the U.S. was vulnerable to disruptions in the supply of imported oil, Congress should have agreed on an energy policy. Instead they have spent 28 years in confrontation and political posturing. This has been costly for consumers.

By now it should be obvious and alarming to all our citizens and hopefully to Congress that to be a dominate world leader, with military superiority, we cannot allow foreign countries to control our crude oil, gasoline, jet fuel and other oil supplies.

The lessons are clear. It is imperative that we do everything possible to increase the production of all domestic sources of energy. At the same time, conserve to the utmost. It is time for Congress to put our national interest first.

Doyle T. Grogan

Attachments

29900

pmt. 8/01
DOE

Robert T. Rachal
(b)(6)
20 July 2001

President George W. Bush
The White House
1600 Pennsylvania Avenue
Washington, DC 20500

Dear President Bush;

I am writing to voice my opposition to U.S. plans to funnel more of the world's oil reserves to the United States. I especially oppose efforts that are designed to increase the involvement of U.S.-based energy firms in the petroleum industries of Nigeria, Azerbaijan, Kazaskhstan, and the countries of the Persian Gulf. This form of "energy imperialism" can only lead to increased anti-Americanism sentiments overseas and continued energy wars.

The consumption of oil in the U.S. far outpaces any other nation in the world, yet there are no long-term plans to reduce our rate of consumption. The U.S. currently consumes approximately 19.5 million barrels of oil per day and our own government reports project that, with the current energy policy of your administration, consumption will rise to 25.8 million by the year 2020. This means that our import of oil will need to rise by 61 percent to meet this demand. This must stop.

As the last superpower remaining in the world, we should be setting an example of controlled use of the world's limited natural resources and promoting safe alternatives to the use of oil for power. The current energy strategy of the U.S. can only lead to increased U.S. political and military intervention in independent nations around the world. Such a policy is folly for the hope of world peace, something I believe we should be leading the way on.

Please may the appropriate changes in your administration's national energy policy so that we do not face the consequences of threatening protected wildlife areas and further interventions in the autonomous nations of the globe. Your current policy not only threatens the hopes of world stability and peace but also the fragile, ecologically delicate areas of our wildlife refuges. Please re-evaluate your plans and make the necessary adjustments.

Sincerely,

The Rev. Rocky Rachal

2001-017017 JUL 16 P 4:05

CONSULTANT-NONWOVEN/MB Ind

W. John G. McCulloch, Ph.D.
e-mail :

b6

TEL: (
Fax: (

b6

July 13, 2001.

Mr. Spencer Abraham.
Head- US- Department of Energy
1000 Independence Ave, SW.
Washington, D.C. 20585

Dear Mr. Abraham.

I have admired the balanced energy approach that your Department, in conjunction with Vice-President Cheney and President Bush, has developed. I liken it to three legs of a stool- all of which are required for a stable policy. "More" oil discovery, nuclear energy, clean coal, transmission and pipelines –one leg. "Less' energy and water wastage, and less pollution the second leg and "Something Else" in the form of alternative energy sources, as the third leg. It would be very helpful if the Press stopped mis-characterization of your program, and the DNC's reliance on one leg "conservation" (despite the lessons of California) seems to me to be sacrificing our Nation's welfare for political gain.

I have assembled the enclosed information for a future presentation on one aspect of the "Something Else". Since it makes extensive use of DOE publications, I felt your department might have an interest.

Sincerely,

John McCulloch

29902

"Fuel Cells or Not Fuel Cells- That is the Fuelish Question"

By. W. John G. McCulloch. Ph.D.

Introduction.

Although the 20th century is regarded as a century of outstanding technology innovation, the 19th century also had some outstanding energy innovations. In 1800 Alessandro Volta, an Italian, developed the first battery, followed by Sir William Grove, a Welsh physicist's invention of the fuel cell in 1839. Four years earlier, in 1834 the first electric car was tested, 50 years before the internal combustion engine was invented in 1885.Until the 1980s fuel cells, which convert hydrogen and oxygen directly into electricity and heat, had found applications only in niche markets, such as space technology, starting in the '60s. But with easier availability of new materials and manufacturing techniques, efforts to advance this technology have been stepped up on an international scale. In the last decade fuel cells, which offer a virtually pollution-free source of power, have emerged as one of the most promising new/ but old technologies for meeting the Nations, and the Worlds phenomenal increase in energy needs in the 21st century. The first commercial use occurred in 1982, and today there are over 250 fuel cell systems in at least 15 countries, indicating the strong possibility of alternative energy technology versatile enough for cars, homes and power plants.

This presentation will cover the following:

- -How a fuel cell works
- -Why, and why not, fuel cells
- -Types of Fuel Cells
- -Applications for fuel cells
- -Alternates to fuel cells
- -Current status of fuel cell development
- -The question of what fuel to use, short and long term
- -Possible opportunities for nonwovens
- -Conclusions

How a Fuel Cell Works.

The fuel cell is a lean, mean, green machine that utilizes an electrochemical reaction instead of combustion to produce energy (essentially the opposite of electrolysis). It works like a battery that never need re-charging and never goes flat. It is silent, and has no moving parts, similar to a battery, but unlike a battery it contains no hazardous materials and can use a renewable non-polluting fuel source. The heart of a fuel cell is an electrolyte sandwiched between two electrodes. In a proton-exchange membrane (PEM) fuel cell the simplistic steps are tabulated below

- -H_2 molecule ionized at porous negative anode to form proton and electron
- -Proton passes through the special membrane (PEM)
- -Electron cannot, goes to external circuit to provide power
- -Electron continues to cathode to convert proton back to hydrogen
- -H_2 reacts with O_2 from air (Pt. catalyst) to form water

Overall $2H_2 + O_2 = 2 H_2O$ + electricity − heat (Pretty simple!!!)

A diagrammatic representation of the PEM fuel cell is shown in Figure 1.

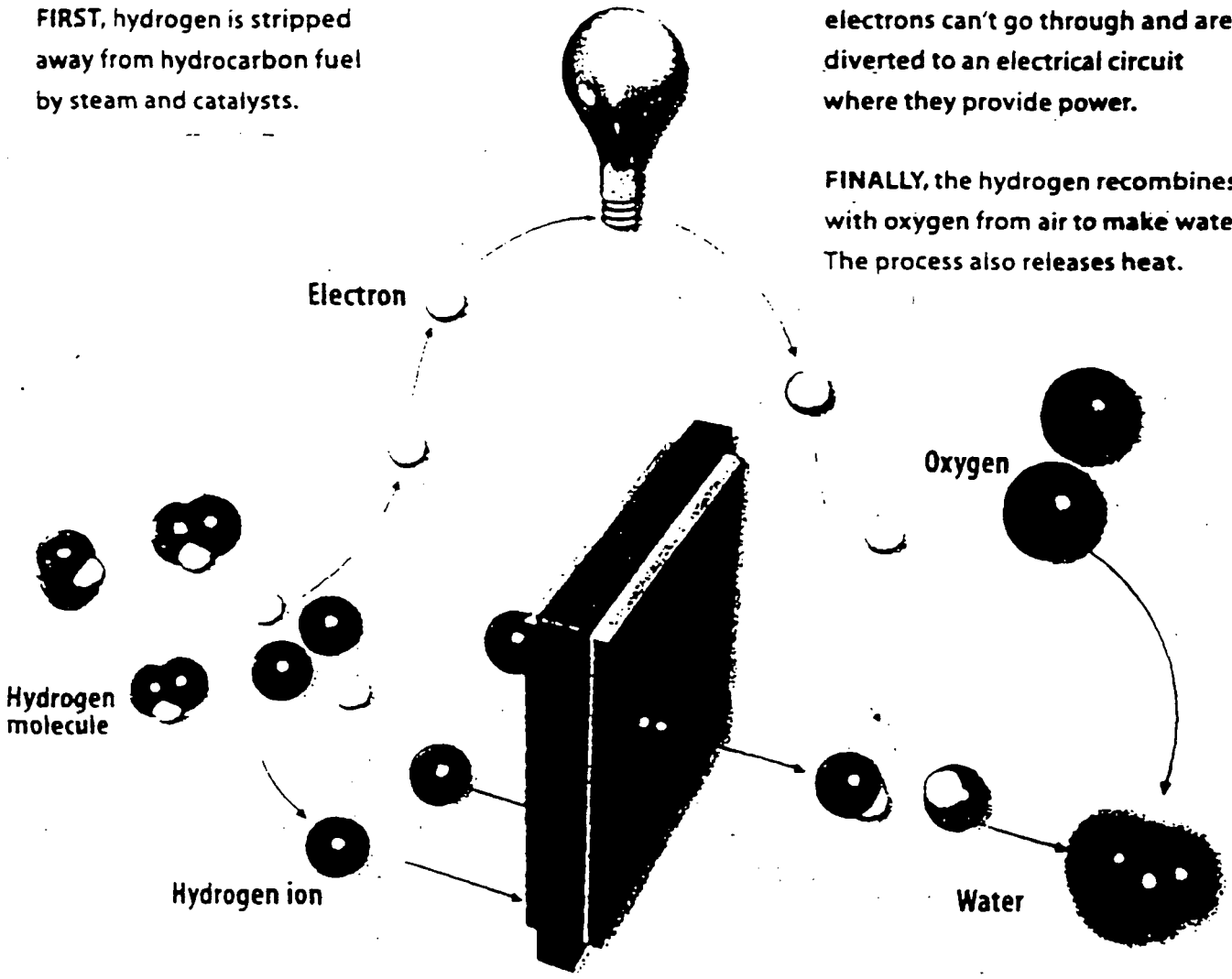
Figure 1

Fuel Cell Fundamentals

FIRST, hydrogen is stripped away from hydrocarbon fuel by steam and catalysts.

NEXT, the hydrogen ions pass through a special membrane; electrons can't go through and are diverted to an electrical circuit where they provide power.

FINALLY, the hydrogen recombines with oxygen from air to make water. The process also releases heat.



Why, and Why Not Fuel Cells?

The DOE, in promoting fuel cells as a better way to produce and deliver energy to consumers, cites these advantages (1)

*Fuel cell power plants produce dramatically fewer emissions. (Natural-gas fuel cell power plants have a blanket exemption from California's strict regulations).

*Fuel cells convert higher proportion of the chemical energy in fuel to electricity (60% without co-generation – nearly twice as efficient as conventional power plants)

*Can convert high grade waste heat for use in commercial, industrial and residential applications including co-generation, heating and air-conditioning. (Efficiency ~85%)

*Can readily size plants to meet loads by combining stacks, and the cost/kilowatt is about the same for small plants as for large plants. (can build plants wherever needed)

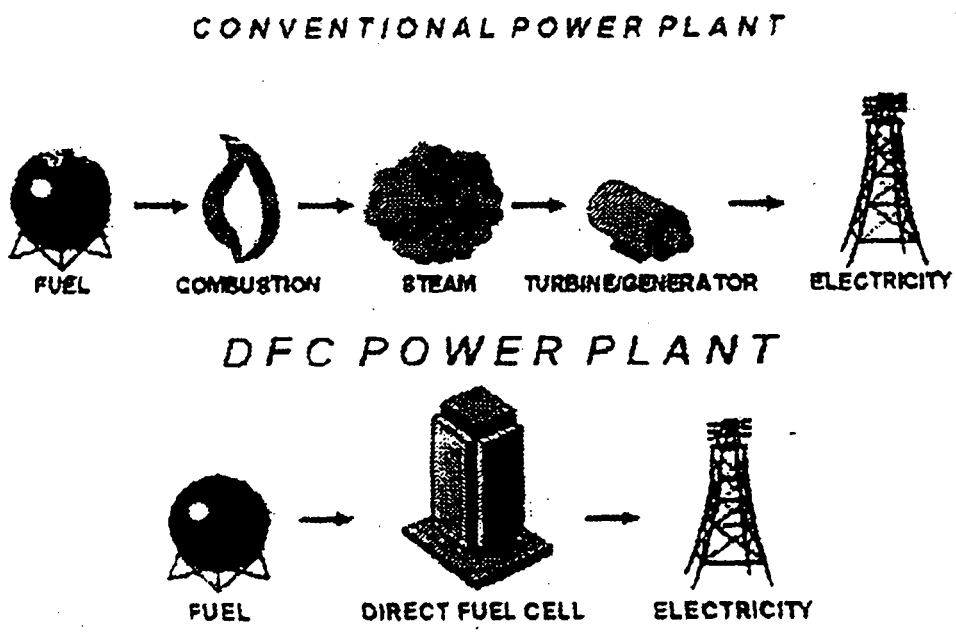
*No moving parts, thus very reliable, safe and silent (good neighbors- a 200-kilowatt plant is about as noisy as an ordinary air conditioner)

*Can use many different types of fuels from hydrogen to hydrocarbons (more later)

*Many different types of fuel cells to meet different requirements (more later)

A comparison of a fuel cell power plant versus a conventional plant is shown in Figure 2

FIGURE 2.



With this imposing list of advantages, what is holding the industry back.

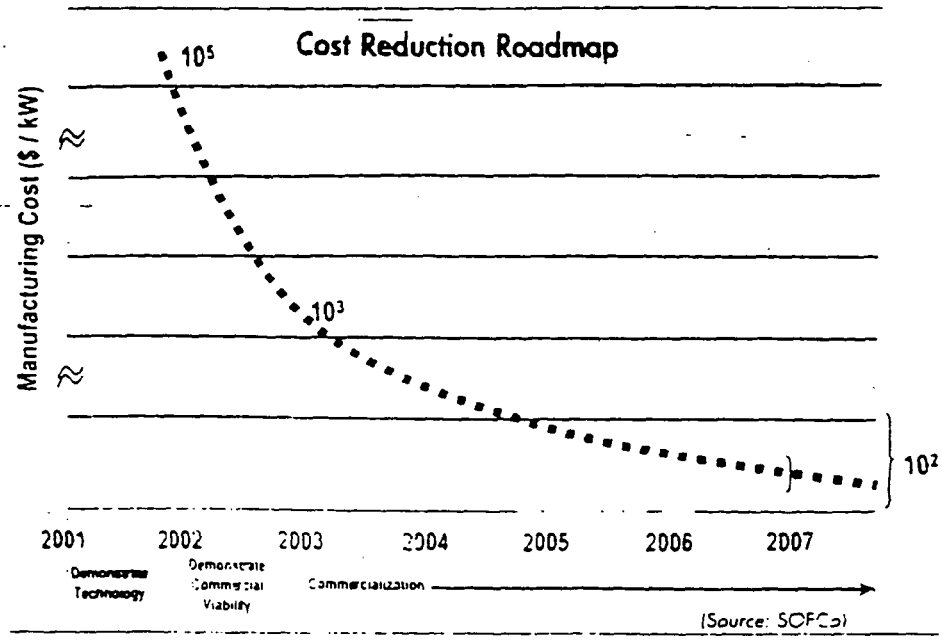
*The first problem is cost. The DOE (2) has established these cost and performance criteria, for the fuel cell to attain significant market acceptance:

- Fabrication and assembly costs ..$100/kW
- System Costs ..$400/kW
- Efficiencies ..70-80%
- Emissions ..Essentially zero
- Compatibility with carbon sequestration

- Overall the cost reduction road map for a 5-kW solid oxide fuel cell (SOFC) is shown in Figure 3 (3).

Economy of scale alone will not meet this target. In addition continuous improvements are needed and are being made in all aspects from lower cost materials, to improved manufacturing processes, to more foolproof operating procedures.

Figure 3.



In addition to cost reduction, as with any new technology, many technical problems must also be solved The problems differ from one type of fuel cell to another, and within a given fuel cell type, on the particular intended application. There are, however, three main categories

* Stationary power for power plants, and for residential use (Distributed Power)
* Portable power for mobile phones and other.
* Transportation for buses and automobiles.

Stationary power awaits the completion of several demonstration projects. Ballard Power has delivered its 4th 250 kW PEM stationary fuel cell power generator for field testing to Nippon Telegraph and Telephone to be used in conjunction with an absorption chiller developed by Ebara Corp. to provide cogeneration capability. Fuel Cell Energy, in conjunction with DOE, is designing, constructing and will operate a 250kW Direct Fuel Cell (DFC) utilizing coal mine methane gas at the Harrison Mining Corp. in Cadiz, Ohio. H Power has installed a propane-powered fuel cell residential cogeneration in Shawinigan, Quebec, and a natural gas residential cogeneration fuel cell system in a model home in France GE MicroGen has recently annoincecits first two distributors for its line of residential-and small commercial-sized FC systems.There are many other similar stationary fuel cell systems now under test for industrial and residential use, and it is anticipated that the "benefits", will justify continual resolution of remaining technical and cost barriers.

The main problem for portable/ specialty power generation is the ability to produce sufficient power in the very small fuel cells required for recharging of portable cell phones. Manhattan Scientifics is working on a fuel cell using a methanol-water mixture as the fuel, and are experimenting with ethanol. Daido and Enable are introducing NeWave, a small portable PEM fuel cell providing up to 50 watts of electrical power. IdaTech plans to commercialize in 2002, their 1 to3kW+ system, utilizing an onboard reformer to convert methanol to hydrogen, for use in uninterrupted power supplies, emergency power and portable and stationary applications. Metallic Power has demonstrated its new zinc/air, 1kW+ fuel cell, which they claim is about 30% smaller than other systems, to operate a variety of power tools, landscaping equipment and auxiliary power for trucks and RVs. The outcome of these and related trials will provide the needed answers as to future use of fuel cells for portable power generation.

The initial tests of fuel cells for transportation will probably be in buses where size and fuel infrastructure is not as critical as in automotive uses. Fuel cell powered buses are now being tested out in Beijing, Germany, Canada and California. In addition to cost, the challenges facing their use in automobiles are more substantial and include low cost infrastructure, range, power density, component integration complexity, water control in PEM FCs and customer acceptance (4). Despite these many problems a consortium of automakers, government agencies and energy suppliers have formed the California Fuel Cell Partnership to "advance the awareness and marketability of fuel cells", and two of the largest companies in the world Exxon Mobil and General Motors are cooperating to demonstrate use of gasoline powered fuel cells in automobiles. Recently Scott Memmer (5) observed General Motors' "HydroGen1" fuel cell-equipped Opel Zafira endurance test at GM's Desert Proving Grounds in the Sonoran Desert. The fuel cell van performed flawlessly in five laps around the circular track averaging between 60 and 65 mph, with plenty of power in reserve GM claimed the vehicle set 15 international records during the test, including covering 1000 km in 11 ½ hours. According to Memmer, GM plans to make, use and sell their own fuel cells Allied Business Intelligence has predicted that by 2010 there will be millions of fuel cell powered automobiles, and that by 2020 will essentially replace ICE's (6) Joachim Grosse, head of the PEM fuel cell project at Siemens believes the cost reductions can be achieved by drastically lowering the price of all components ranging from materials through the compressor right up to the electric drive (7), as well as by moving towards an ultralight car(8)

Types of fuel Cells.

Todays many types of fuel cells will proliferate as more and more cells are tailored for use of different fuels, and different end-uses, which will probably exceed the number of different automobile models The main types of fuel cells, which are primarily determined by the practical operating temperature and useful life of the electrolyte, are discussed below:

* Alkaline (AFCs) were the first to be used in space transport They use an alkali electrolyte, and have a working temperature of 50-200 C. International Fuel Cells, a unit of United Technology Corp., has been the primary supplier to the aerospace industry since 1965, and now claim to be the worldwide leader in fuel cell production. They claim a 15% higher power density (1.5 kw/liter) than other fuel cells (9). Its subsidiary ONSI

Corp. has 74 units, each the size of a minivan, in operation in hospitals and remote hotels. Overall IFC plants have reduced 300k tons of CO2 emissions and reduced NO_x and SO_x emissions by 5k tons

*Direct Methanol Fuel Cells (DMFCs) which use a polymeric electrolyte and operate in the 80 – 200 C range are used for powering portable non-polluting electronic equipment, motor scooters and possibly for providing portable power to soldiers in the field. The JPL-USC development (10) has been patented, and in one development a unit about the size of a thick paperback has run continuously for weeks at a time producing 50 watts of power, as a possible replacement for lithium batteries. A membrane coated with a JPL catalytic coating divides the cell in half with methanol/water fuel on one side and oxygen or air on the other, and runs below the boiling point of water. More development is required to reduce the coated membrane cost and to improve its methanol impermeability

*Phosphoric Acid Fuel Cells (PAFCs), the most mature fuel cell has phosphoric acid electrolyte, operates at 200 degrees , are graphite based and uses platinum as the catalyst. Turnkey 200 kW plants have been installed ay more than 70 sites in the USA , Europe and Japan. They can also produce heat for hot water and space heating, and its electrical efficiency is >40% . ONSI, a subsidiary of IFC has installed a 200 kW. PAFC unit based on use of natural gas (NGFC) (11).

*Polymer Electrolyte Membrane (PEMs) uses a solid ion exchange membrane, platinum catalyst and operates at 80 degrees, with an efficiency < 40%. The cell hardware is carbon based. The PEM fuel cell appears to be the cell of choice for automobilesand buses. Since 1994, Ballard, Vancouver, B.C., has worked with customers in installing its Mark 700 and Mark 900 fuel cell modules in more than 20 on-road vehicles (12). They recently received orders from Honda R&D ($16.5m) and from Nissan Motor Co ($2.2m) for its Mark 900 modules and support services. General Motors is working on their own PEM FC, which they claim is operable down to minus 40 degrees. PEM cells can also be used for portable power, and small scale stationary power applications.

*Molten Carbonate Fuel Cells (MCFCs) are now being tested in full-scale demonstration plants. They operate at higher temperatures (650 degrees), use an alkali carbonate mixture electrolyte, and a nickel catalyst. Unlike the earlier cells where the charge carrier is proton, the charge carrier is the carbonate ion. The cell hardware is stainless steel and the efficiency is 60%, however when the waste heat is used (cogeneration), the efficiency approaches 85%. More detail on the operation of MCFC is available from Delft University of Technology, The Netherlands.

*Solid Oxide Fuel Cells (SOFCs) are currently being demonstrated in a 160kW plant. They offer the stability and reliability of all-solid-state-of-the-art ceramic construction. Operation at 1000 degrees allows more flexibility in choice of fuels. They use a yttria stabilized zirconia solid electrolyte, ceramic cell hardware, perovskites catalyst and oxygen ion as the charge carrier. They have excellent cogeneration capability with efficiencies in the same or higher range to MCFCs. (13) (14). Ceramic Fuel Cells, Australia, completed its experiment in 2000, of a flat-plate SOFC 25kW unit, using liquefied petroleum gas (LPG) to provide data on the operation of larger stacks and system-stack integration. Siemens has completed testing of a 100kW SOFC plant in the Netherlands.

Applications of Fuel Cells. (15)

The following examples are intended to show the wide diversity of fuel cell applications. and is no means a complete listing, nor do they include those still in the R&D stage. (Several applications have already been identified in earlier sections.)

* ZeVco has sold the first fuel cell van for $47k to London's City Council for upkeep of London's parks< they claim it is 50% cheaper to run than a conventional ICE vehicle.
* DaimlerChrysler has sold its first fuel cell buses, and will equip up to 30 of its Mercedes-Benz Citaro with new XCELLIS fuel cell engines using Ballard's Mark 900 series fuel cell stacks. Delivery by 2002-2003 for testing in several European cities.
* Dalian Institute has developed and installed a new fuel cell on a minibus for trial operation in Hubei Province, China
* BP Amoco, Daimler join in a JV to bring hydrogen fuel cell buses to London. BP will develop the hydrogen fuel infrastructure and Daimler will provide 3 hydrogen powered buses in 2003.
* Ballard fuel cells are being used in DaimlerChrysler's NECARs, Ford's P2000 SUV and THINK cars. Honda's FCX V3. Nissan's Xterra, GM's Opel Zafira and in Georgetown fuel cell bus development
* Two fuel cell cars are being road tested in Japan, the NECAR5 from Daimler and the FC-EX from Mazda.
* Toyota to introduce a 5-passenger hybrid fuel cell SUV this summer.
* DCH Technology introduced a fuel cell powered water taxi at the National Hydrogen Associations meeting in Washington. DC. March 2001.
* Manhattan Scientific joins with Aprilla S.p.A to develop fuel cell bikes. ZAPWORLD.com expects to have fuel cell powered electric bicycle by next year.
* Astris Energi's alkaline fuel cell project completed production of fuel cell powered golf-carts in Czech Republic this March
* Fuel Cell Technologies delivered a fuel cell system to Canada's Dept of Defence for use in diving applications.
* Manhattan Scientific, Electrolux and Lunar will use a 1 kW fuel cell in a fuel cell powered vacuum cleaner to eliminate need for electric cords and A/C wall plugs.
* Coleman Powermates to offer Ballard's portable FC power generator this year.(16)
* Fuel Cell Energy installing a 1MW, $18.8m, power plant in Renton, Washington using municipal wastewater digester gas as the fuel. Start-up 3rd Q, 2002.
* H.Power residential fuel cells to be tested by Long Island Power. Will provide 4 5 kW of power and will demonstrate grid connectability.
* Siemens to install two 300kW hybrid systems using their tubular SOFC FC coupled with a microturbine generator. One system will be in Germany and one in Italy.
*IFC to deliver three PC25 fuel cell systems for installation in Brazil.
*Texas will use DCH's Enable fuel cell for a 3,000 watt FC to power air quality monitoring equipment by the Texas Natural Resources Corp.
*Ballard has shipped its fifth 250-kW stationary PEM FC power generator to Japan and will use waste gas from an anaerobic digestor as fuel.
*IdaTech and Mosaic will provide fuel cells for residential use, which may reshape home Hvac, and help solve blackouts, brownouts and a/c curtailment.

Alternate Energy Sources Besides Fuel Cells..

Electrical energy occurs naturally, but seldom in forms that can be used. Energy dissipated as lightning exceeds the world's demand for electricity, but for obvious reasons is not a practical source of energy. The waste heat generated by conventional electrical power plants, and the emissions associated with combustion of fossil fuels represent large environmental concerns. An additional concern is the possible depletion of fossil duels. Thus alternate energy sources are needed. In addition to fuel cells alternate sources include:

*Nuclear energy – which overcomes the emission problems, but which has problems of radioactive waste disposal and public opposition. (despite being the main source of energy in several countries , eg France-77%, Japan 30%, USA 20%. It is quite safe- at the end of 1998 there were 9012 civilian power reactors worldwide, and the only accident harming people was Chernobyl. Unfortunately, in deference to the counterculture generation, discussion of nuclear energy has been taboo to many politicians and scientists. Such discussion urgently needs re-activation. Resolution of nuclear waste coupled with a breeder reactor would ensure bountiful energy for the foreseeable future Obviously, however, nuclear powered cars and aircraft are not in the future.(17).

*Solar energy- either in the form of photovoltaic cells (18) which convert sunlight directly into electrical energy, or use of special coatings that absorb sunlight readily, and emit infrared radiation slowly making it possible to heat fluids to 540 degrees, which heat can be converted to electricity. Despite its continual promotion by the environmental zealots it provides a very small percentage of our energy needs. It should however be used wherever it makes economic sense

*Windmills. Advanced designs and more efficient generators make windmill "farms" where rows of windmills are joined together, make this a significant, but minor source of electrical energy in coastal and plains area. The vagaries of the wind and the extensive space requirements make this a difficult large scale, as well as a "bird unfriendly" solution

*Geothermal energy needs to be added to the list of alternative energies to be used where practical

*Super Flywheels produced from carbon fiber composites could be used to power up a car US Flywheel Systems is now testing a flywheel system for automobiles (19). It is also being used to store energy

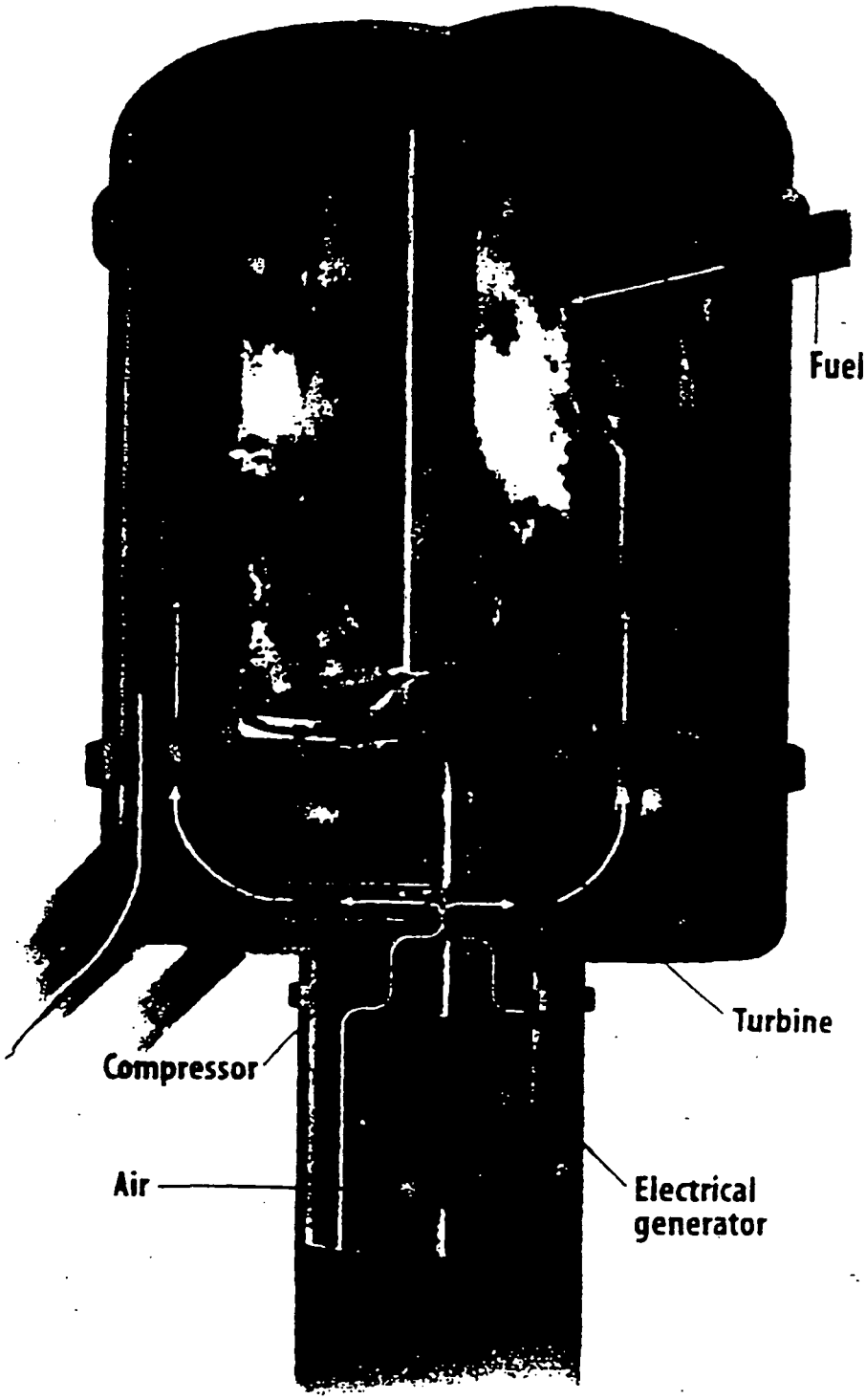
*Micro Turbines are being used to energize hybrid electric mass transit, truck and fleet operations worldwide. Capstone also promotes their use for resource recovery of biogas and for oil/gas recovery (20). Technology Review provides insight into their operation in their interesting article "Power to the People"(21) and Figure 4.

*Ultracapacitors are also used for energy storage and power delivery in a concept vehicle for the US Army that is to be powered by Oshkosk's hybrid electric vehicle using its 2700-farad ultracapacitor. In their press release (22) they describe many other uses, including its use with fuel cells

*Quasiturbine has been developed by experts in Canada which they claim can operate on any fuel and is claimed to overcome the limitations of both the piston engine and the Wankel engine (23)

Figure 4

Inside a Microturbine



Fuel enters the combustion chamber. The turbine can run on natural gas, gasoline, kerosene—virtually anything that burns.

The hot combustion gases spin a turbine, which is connected to the shaft of an electrical generator. The exhaust transfers heat to incoming air.

Air passes through a compressor and is warmed by the exhaust gases before entering the combustion chamber.

*Unique Mobility is developing, under DOE funding, a modular line of high performance permanent magnet motors for hybrid electric and fuel cell electric vehicles (24).

Status of Fuel Cell Development.

The preceding portion of this paper clearly establishes that, as a result of federal funding, environmental pressures and technical innovativeness, tremendous progress has been made since the mid 1980s in bringing fuel cell technology to the commercialization stage. Stationary power generators have been successfully tested, and black outs and brownouts are accelerating its use for portable power. California's ZEV requirements, plus the desire to limit emissions and the concern of a fossil-fuel based economy, have resulted in fuel cell powered buses being used in several cities from Beijing to San Francisco to Dusseldorf. Additionally, successful road trials have been carried out by General Motors (25), Nissan, Honda and others on fuel cell powered cars, as well as on hybrid fuel cell cars. One of the remaining questions, in addition to cost, is the fuelish question.

The Fuelish Question.

Although fuel cell can run on a number of fuels, the simplest, and possibly best fuel is hydrogen, since it is readily available, renewable, and results in a simple, pollution-free operation. In order for fuels other than hydrogen to be used, they must be reformed to provide a hydrogen-rich gas mixture. This additional step, involving the use of catalysts, adds both complexity to the process, and undesired emissions. The largest challenge with using hydrogen fuel is an infrastructure to produce and store it. Some of the efforts to accomplish this are:

*Carbon nanotubes and nanofibers can provide a clean, efficient way to store hydrogen. (26) A 25 liter tank of carbon nanotubes is claimed to be able to power a car for 5000km.

*Greenvolt Power reverse fuel cell, powered by wind or photovoltaic power is capable of splitting water into its components.

*GM has released a study that concludes that gasoline-derived fuels and fuel cell vehicles present the "cleanest and most efficient combination of fuel and propulsion systems for the near term" and "hydrogen-powered fuel cell vehicles offer the best long-term solution" (www.gm.com)

*Shell Hydrogen, Hydro-Quebec and Gesellschaft fur Elektometallurgie have established a joint venture for developing, manufacturing ad marketing hydrogen storage products.

*Texaco and Energy Conversion Devices (ECD) have formed Texaco Ovonic Fuel Cell Company to advance the Ovonic Regenerative Fuel Cell Venture utilizing metal hydrides for holding hydrogen. Texaco later has formed Texaco Technology Ventures to manage the project.

*ExxonMobil and GM have developed a gasoline processor for FC vehicles.

*Avista becomes a major owner of H2fuel to commercialize a new technology for manufacturing hydrogen for fuel cells.

*IdaTech has received a patent for its new hydrogen purification technology.

*Argonne National Laboratory is leading an extensive research project to produce hydrogen by use of a nuclear reactor.

*Four companies join California FC Partnership to help build hydrogen fueling stations.

*Ballard and Millenium Cell have entered into a joint agreement to use Millenium's proprietary hydrogen generation system with Ballard's portable power FC.

copy for Mr. Abraham —

2001-017848 JUL 27 P 3:43

b6

President George Bush
1600 Pennsylvania Avenue
Washington, D. C.
20500

July 15, 2001

Dear Mr. Bush,

As a concerned, informed citizen, I am aware of the facts that show there is no new energy crisis. Today only 5% of disposable household income is spent on energy, down from 8% in the 1980's. The plan that you have sets no improved energy efficiency or conservation and offers only modest financing for improved energy technology. Renewable energy programs, conservation and energy efficiency should be one of your top priorities.

Another concern of ours is the need for safe, efficient and clean cars.
We are all becoming aware of the fact that the average fuel economy for cars is at a 20 year low. The standard for setting auto fuel efficiency has not been changed for 12 years. The biggest single step in the US can take to curb global warming and ensure a safe-energy future for America is to adopt stronger automotive fuel-economy standards for cars and light trucks. The US emits more CO2 than all four of the following countries...US China, Russia, and Japan. Americans deserve vehicles that are both safe and clean. Improving fuel economy standards would: lessen our addiction to oil, slash carbon-dioxide pollution, reduce pressure to drill in sensitive areas like the Arctic National Wildlife Refuge, enhance national security, and cut Americas trade deficit, to name a few...

I ask that you make the changes necessary to ensure that we have a sound energy policy. Please do not expedite or remove obstacles and environmental protections to energy production. Review and consider all the environmental impact studies that have been used over the last several decades. Do not eliminate or scale back land use restrictions. Our old growth forests need our continual protection from development by mining and timber interests. Environmental reviews are absolutely necessary for power plant upgrades. Air pollution standards and regulations for all refineries and power plants need to be reviewed, upgraded and utilized. The nuclear industries liability should not be limited with respect to nuclear accidents. Power plants need requirements for reducing carbon dioxide emmisionsas well as the need for standards to make our appliances more efficient.

In New Hampshire, as throughout the country, air pollution threatens our health and environment, causing sickness and poisoning the fish we eat. We know that NH fossil-fueled plants account for 25% of all mercury emitted in our state and are the source of acid rain, killing our fish and damaging our forests. These plants account for 33% of all

greenhouse gases released in the state. We need your help to make the necessary changes, to use your leadership to direct congress to ensure that we have a sound, safe and healthy energy policy for our country. Please respond and inform me of your plan.

Sincerely,

Nancy Brown

Nancy Brown

] b6

Copies sent to:
Spencer Abraham
Gale Norton
Christine Todd Whitman
Harry Reid
Paul Gillmore
Billy Tauzin
NH Bob Smith
NH Judd Gregg

Department of Energy
Washington, DC 20585

July 20, 2001

B5-

MEMORANDUM FOR THE SECRETARY

FROM: David L. Pumphrey
Deputy Assistant Secretary for
International Energy Cooperation
Office of Policy and International Affairs

SUBJECT: **ACTION**: Sign Letter to Mrs. Loyola de Palacio, Vice President of the European Commission and European Commissioner for Transport and Energy

ISSUE:

RECOMMENDATION:

Approved:_____

Disapproved:_____

Date:_____

66

Department of Energy
Washington, DC 20585

June 22, 2001

Rubin & Irina Cooley

Dear Mr. and Mrs. Cooley:

Thank you for your March 8, 2001, letter expressing your thoughts about the Nation's energy policy.

First, I would like to apologize for not responding earlier. The Department of Energy has received thousands of letters and e-mails since the beginning of the year and it has been impossible to provide timely responses to all of them.

To address the many energy issues facing the Nation, one of President Bush's first acts was to create a National Energy Policy Development Group, headed by Vice President Cheney. This Group was charged with developing recommendations to help the private sector and government at all levels promote reliable, affordable, and environmentally sound energy for America's future. On May 16, Vice President Cheney sent to the President a National Energy Policy report produced by the National Energy Policy Development Group. The report describes a comprehensive long-term strategy that uses leading edge technology to produce an integrated energy, environmental and economic policy. The National Energy Policy it proposes follows three basic principles:

- The Policy is a long-term, comprehensive strategy. Our energy crisis has been years in the making, and will take years to put fully behind us.
- The Policy will advance new, environmentally friendly technologies to increase energy supplies and encourage cleaner, more efficient energy use.
- The Policy seeks to raise the living standards of the American people, recognizing that to do so our country must fully integrate its energy, environmental, and economic policies.

To achieve a 21st century quality of life – enhanced by reliable energy and a clean environment – it recommends 105 actions to modernize conservation, modernize our infrastructure, increase our energy supplies, including renewables, accelerate the protection and improvement of our environment, and increase our energy security.

The President has already taken actions to implement many of the report's

recommendations. Over the coming months, further actions will be taken by the President, individual Federal agencies and the Congress. These actions, once fully implemented, will help minimize future energy prices, while assuring that energy supplies are reliable and the environment is protected.

A copy of the National Energy Policy report, with the specific recommendations to the President, is available on the White House webpage, www.whitehouse.gov, or on the webpage of the U.S. Department of Energy, www.energy.gov.

I hope this information is responsive to your letter.

Sincerely,

Margot Anderson

Margot Anderson
Acting Director
Office of Policy

June 22,2001

Secretary Spencer Abraham
Department of Energy
1000 Independence Ave.
Washington,DC
20585

Dear Secretary Abraham:

In my May 20,2001 letter to you I inquired " Now that you have issued your Energy Policy – Where is the Implementation Plan that puts the policy into concrete action?" The reply that I received from one of your aides (dated June 13,2001) was strictly perfunctory with no direct answer. This would cause one to wonder if there is a general lack of understanding within DOE about the importance of such a plan to accomplish the recommendations in the Policy Statement.

A well developed plan establishes priorities, goals, funding, and schedules, identifies responsibilities of other agencies, actions required by Congress, and actions that can be taken without action by Congress, and appoints Project Managers for each of the major categories of energy supply.

Have you considered the consequences should the drought in the Northwest and the short-fall of snow in the Sierras persist for several more years? That could be disastrous!

As previously stated-Time is Short to get out ahead of those opposing any increase in energy supply and to provide significant reserves of power to accommodate those potentially unfortunate acts of nature.

Sincerely,

Jesse O. Arterburn

Jesse O. Arterburn

[redacted] b6

b6

[ ] DOE

July 25, 2001

Mr. Andrew Lundquist
Office of the Vice President
Executive Director
National Energy Policy Development Group

Dear Mr. Lundquist:

Thank you for your recent letter together with the **Overview** Reliable, Affordable, and Environmental Sound Energy. I am pleased your office will consider the suggestion of using nuclear powered vessels as emergency sources of electricity.

Coal is the most abundant source of energy in the US with reserves greater than 290 billion tons. Contaminants SO and NO can be seriously reduced with filters of crushed manganese nodules which will help comply with Kyoto Accords. The US has huge reserves of nodules within our EEZ. The technology is at hand but needs to be adapted to power plants. Enclosed is a paper, **Manganese Nodules: Overcoming the Constraints,** which I wrote and presented in Canada in 1985 covers salient features of this technique. This is a catalytic cleaning system similar to catalytic mufflers on automobiles. US patent 3,330,096 by Kennescott covers this process.

Also, the US has nearly an inexhaustible supply of gas hydrates which burn cleaner than gasoline since they are composed of methane. Development of hydrate is the way to independence from foreign oil. Enclosed is a page from **Offshore Technology Conference 2000** listing pertinent papers on natural hydrates. Complete papers can be obtained from Shyree Latham, Offshore Technology Conference, 972-952-9422, E mail slatham@spe.org

I am well acquainted with these and related developments. For over 20 years, I have been a member of Offshore Technology Conference, Program Committee, Richardson, Texas, 75083. Also, I was Director of Marine Science for Deepsea Ventures, Inc., a major US ocean mining company, until retirement in 1986.

I would appreciate being considered for a position with the National Energy Policy Group. I sincerely believe I could add insight and understanding to some of the problems facing our nation. I would be most pleased to hear from you.

Respectfully,

William D. Siapno

William D. Siapno, PE

Enclosures

29919

Manganese Nodules: Overcoming the Constraints

William D. Siapno

Deepsea Ventures, Inc.
Gloucester Point, Virginia

Abstract This paper discusses the constraints presently inhibiting manganese nodule mining and some developments that could aid in overcoming certain difficulties. The greatest single constraint is economic. With few exceptions, mineral markets are badly depressed. Present projections for development of nodules are for the late 1990s or beyond. However, the United States awarded exploration licenses in mid-1984, and more recently boundaries of license areas have been released. These conditions promote cooperation among organizations engaged in deep-ocean mining. Survey data, and where appropriate some data products, have been exchanged between various consortia. The present hiatus in at-sea activities provides an excellent opportunity to investigate the best means to proceed. This period of quiescence offers a rare moment to distill the meaningful values of the previous era of hectic activity to permit more efficient development in the future.

Background

After initial discovery in the 1870s, manganese nodules languished with little attention with the exception of infrequent, cursory, scientific scrutiny. Little was known of the ocean depth, and most of

This paper was presented at the Underwater Mining Institute, Halifax, Nova Scotia, October 1985.

Marine Mining, Volume 5, Number 4
0149-0397/86/020457-00$03.00/0

man's mineral needs were derived from continental sources. By the mid-1900s, easily developed deposits had been discovered and many were worked out or were approaching exhaustion. Society had now begun to realize resources were finite, not limitless. It was this perspective that shifted attention to minerals from the sea.

Commercial interest began focusing on nodules in the early 1960s. Despite slow beginnings, advancement proceeded at a record pace. In the last 20 years many nodule deposits have been located, mapped, and evaluated. Commercial interests have centered on the region of the eastern North Pacific between the Clarion and Clipperton fracture zones (C-C Zone). In 1984, the U.S. Department of Commerce issued exploration licenses to four consortia—Ocean Minerals Company (OMCO), Ocean Management, Inc. (OMI), Ocean Mining Associates (OMA), and Kennecott Consortium (KCON) (Fig. 1). Nearly a year later KCON was granted a second license for another area by the United Kingdom.

Now in the mid-1980s a hiatus in activity is evident. Progress, at least for most of the western private sector, has slowed until advancement is very nearly imperceptible. Terms such as "holding pattern" or "data consolidation" are being applied to ocean programs in companies that until recently were aggressively pursuing nodule mining. What brought about the great decline? What is inhibiting further developments? And what can be done to overcome these constraints? The intent of this paper is to discuss these and related matters.

The question, What are the constraints? requires a close look at the reasons for the great decline. The demand for goods and services expanded more or less continuously, with some notable exceptions, in the decades following World War II. The demand for mineral commodities rose steadily. The United States continued the policy of trading agricultural surpluses for mineral commodities largely with the lesser development countries (LDCs) of the world. As the LDCs advanced they consumed larger volumes of their own and each other's mineral products. The competition for copper, nickel, and cobalt drove prices dramatically upward. Indeed, by the late 1960s many nonferrous metals were in short supply and waiting lists were not uncommon. This situation persisted in general until the first oil embargo in 1973. A major shift in global economic

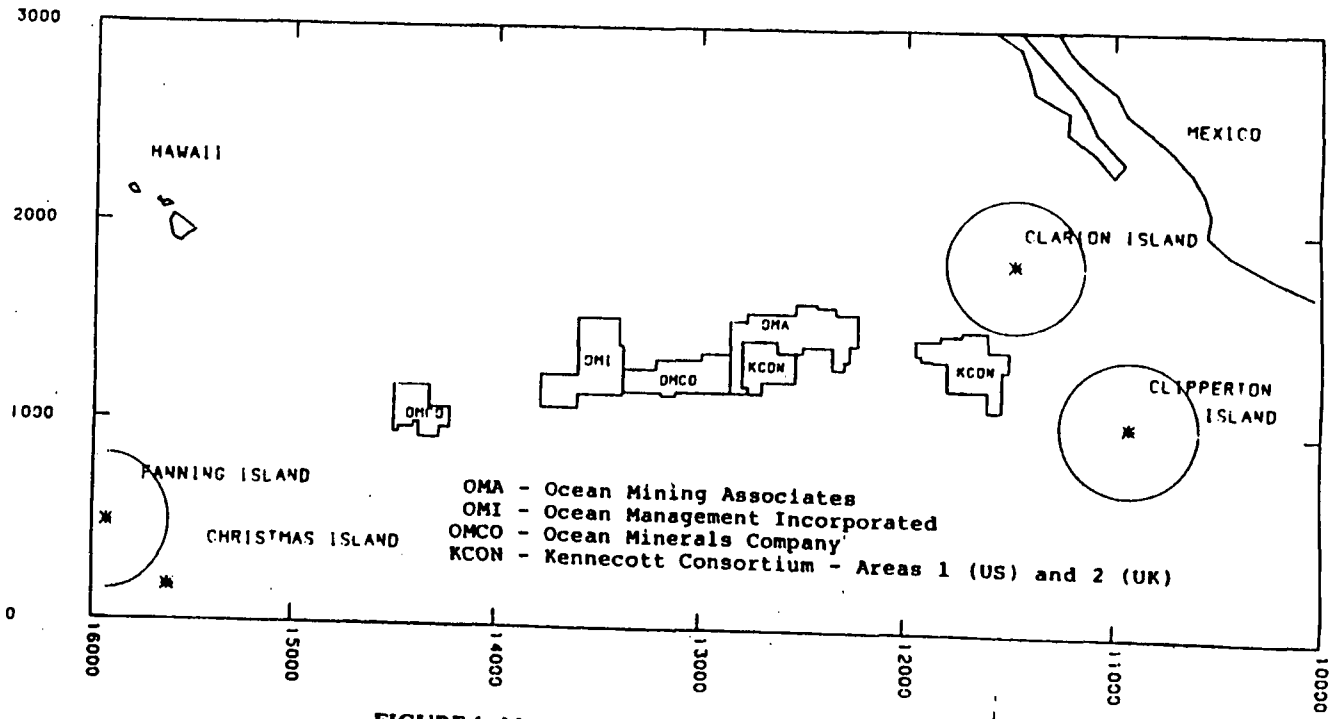


FIGURE 1. Manganese nodule exploration license areas (C-C Zone)

control became apparent and metal markets were soon sharply affected. Poorer nations not only ceased purchasing metals but immediately increased ore production whenever possible. This twofold effect of increase in availability accompanied by decrease in demand drove the market downward. While metal consumption was not altered as radically in developed nations, escalating energy prices and all items on which it impinged forced life-styles to shift to contend with these additional costs. The life-style of affluent nations plunged as their economic influence was further eroded by inflation. One of the many changes wrought with the slowdown in developments was depressed markets for metals and other mineral products. At the moment inflation appears to be less a problem than in the immediate past, but sustained economic growth is more elusive. This is a thumbnail sketch of the scenario in which deep-ocean mining, or possibly mining itself in its more inclusive sense, is now engulfed.

Mineral commodities across the world are having a hard time claiming or maintaining an equitable market share needed to stabilize the industry. To regain stability obviously requires an increase in demand for ores accompanied by a rise in prices of metals and thus the means to generate and sustain profits. The means to accomplish these ends are not readily achievable; however, there are some suppositions worthy of discussion.

Constraints

The constraints inhibiting nodule mining are a mixture of complex factors—economic, technological, sociological, and political. Obviously the boundaries between these various aspects are not precise, and changes in any one can sharply affect the others. Currently mineral markets are badly depressed throughout the Free World. In the case of nodules, it is estimated that commercial mining will not begin for another decade or later. Consumption of copper, cobalt, and nickel are projected to increase only slightly in the next 5 to 10 years. Manganese usage is projected to rise somewhat if steel production can enjoy a modest increase. Advances in steel-making technology have resulted in a decrease in the manganese required per ton of steel produced.

The technology applied in nodule exploration and mining has largely been based on innovative adaptations of existing technology. Microminiaturization of electronic components and devices permitted the development of a succession of remote-sensing instrumentation to probe the deep ocean (e.g., cameras, sonars, and televisions). The need now is not for adaptation of existing devices but for concepts tailored to exploration and mining tools specifically for nodules.

As communication between the various segments of society increases, so does the complex of demands for raw materials. Metals have provided means of sociological advancement. Evolution of a mineral supply-and-demand relationship presently has the consumer nations with little reserves and those with large surpluses with relatively low demand. Moreover, many users are not assured of a stable supply. Clearly, as societies advance in sophistication, consumption of mineral commodities will increase.

Instability of world politics inhibits many pursuits that otherwise would lead to growth in mineral markets. Unfortunately, history notes that consumption of resources is maximized when political/diplomatic processes break down and war ensues. Waste is rampant, resources are squandered. Mineral reserves are insufficient to both provide a reasonable future for mankind and fuel another all-out war. The incentives are great to encourage the nations of the world to indulge in cooperative programs, and to forsake the age-old competition for domination.

Potential Solutions

There are many pressing problems that can influence ocean mining. Losses due to acid rain in terms of forests, aquatic life, crops, and man-made structures run to multibillions of dollars per year (Canada, Ministry of Supply and Services, 1981). Health problems attributed to sulfur and nitrous oxides result in costs estimated in the billions. These pollutants are to a great extent the products of coal-fired furnaces from utilities and other large energy-consuming industries. The concept of nodules as a stack gas absorption medium was identified by Kennecott (Zimmerly, 1967) well over a decade ago.

Oxidation of combustibles is known to be catalyzed by compositions involving transition metals. Elimination of sulfur and nitrogen oxides is possible by catalytic oxidation. However, effective low-cost converters are not currently available. The real need is the ability to retrofit existing coal-burning systems with effective filtration. Nodules extend the possibility of resolving these problems. They possess high specific surface area and are rich in transition metal oxides. These are the prime characteristics of an oxidation catalyst.

Catalytic exhaust systems to reduce automobile emissions are legal requirements in some countries. European countries are now putting legislation in place to deal with both acid rain and engine exhaust emission. In 1980 the U.S. Geological Survey reported platinum to be present in nodules from the Blake Plateau (Charles River Associates, 1979). This is a plus for nodules as an economic answer to the exhaust emission problem. Dr. Paul Weisz of Mobil Research (Weisz, 1968) reported most favorably on this application in 1968: "In all cases the nodule materials, in their natural state, exhibited activities greater than those of commercial oxidation catalysts."

The use of nodules to absorb sulfur and nitrogen compounds is attractive not only as a way to meet the requirements to control pollution but also as a way to recover metals contained in the nodules. The complex metal oxides in nodules are readily reduced to sulfides as a contaminated gas stream is passed through the filter pack of ground nodules. The Kennecott patent previously mentioned indicates 98% or greater efficiency in removing sulfur dioxide. After the metal oxides are converted to sulfides, well-defined processing techniques can be applied to recover copper, manganese, nickel, cobalt, and possibly several other elements. Ore processing currently is a high-cost item in nodule economic evaluation.

In October 1985 the second Exclusive Economic Zone (EEZ) symposium was sponsored by the Departments of Commerce and Interior. The meeting brought together representatives of government, academia, and industry to plan the exploration and development of this 200-mile zone surrounding the United States and its possessions. This is the largest territorial addition ever acquired by the United States. In order to assess the mineral resources of the

EEZ, cooperative exploration programs are being planned. Definition of the economic potential of the Blake resources is a likely contender for early development.

What is the cost of the endeavors presented herein? Although the price is high to combat air pollution, acid rain, and related hazards, the cost to persist along the present path and take no corrective action is even higher. Life as we know it—forests, aquatic life, wildlife in general, and, yes, our own lives—is at stake. We simply cannot continue to ignore the accumulation of over 27 million tons of sulfur dioxide and 21 million tons of nitrogen oxides emitted in the United States each year (Office of Technology Assessment, 1985). Not only are economic losses and health at stake, international relations are also rapidly deteriorating between us and our neighbor, Canada.

The time to act is now. Even if we sharply reduce air pollution and acid rain, it will still be several years before nature can reverse the trend and the healing of the ecosystem becomes a fact. We are all captives on spaceship Earth, so we should seize the opportunity to enhance the quality of the environment in which we all live. Events have gone full circle, technologist and environmentalist must join forces for the betterment of all. The lowly nodule indeed can contribute to the well-being of society.

Conclusions

This moment of quiescence in mineral developments offers a great opportunity not afforded in periods of hectic development. Simply stated, it is well recognized that the world population is growing explosively and also that we are resource limited. Now is the time to restudy the entire resource problem and plan orderly growth of mineral commodities. Boom and bust is well recorded in the history of mining. Do we have the wisdom to plan effectively and evaluate when demand and prices of minerals will rise again? For it is at this juncture of events that backing to develop new resources will be available.

If the treasure trove of minerals in Africa and South America became inaccessible by virtue of high prices, political reasons, or a possible combination of factors, the need for the four major

metals—manganese, copper, nickel, and cobalt—would quickly rise. Nodules, being an agglomeration of oxides, contain many more elements than those commonly mentioned. Seventy-six elements have been detected in nodules (Haynes et al., 1982). Obviously, the abundance of many of the elements is below present economic interest. Therefore, if one or more of the lesser elements by volume should become a viable by-product, the value of nodules could be increased, first by the product itself and second by possible reduction in processing costs. Even more significant value could be recognized if a compound of elements in the nodule could be marketed.

While gas scrubbing is immediately in focus, other applications will no doubt be realized. As in processing any ore, the more of any compound that is removed, the more concentrated the remaining elements become. With 76 elements identified in nodules, some can be expected to become the subject of secondary recovery when processing systems become better defined.

There is every indication that the research to date extends a promising avenue to resolve several pressing problems. The patents issued to Kennecott on flue gas desulfurization and Mobil Corporation on catalyzing automobile exhaust emissions were disclosed in 1967 and 1968, respectively. In the intervening years, there have been no serious rebuttals to these studies. It is indeed a rare event in modern science, where critical review is encouraged, that some unfavorable commentary is not forthcoming. It should be duly noted that the two organizations are eminently qualified in the given areas of research.

It is hoped that opportunities to fully investigate applications of nodular material to air pollution and acid rain problems will be forthcoming. If such systems prove effective, high-sulfur coal, which we have in abundance, could be burned without the penalty of air pollution or acid rain. Moreover, a domestic source of manganese, nickel, and cobalt could be realized by processing the sulfurized nodule materials. The United States is more than 97% dependent on imports of these commodities. An opportunity to improve environmental quality as well as reduce dependence on imports should not be overlooked. The approach suggested here could prove beneficial on a global scale.

References

Canada, Ministry of Supply and Services. 1981. Still waters, the chilling reality of acid rain. House of Commons, 150 pp.

Charles River Associates. 1979. Economic feasibility of mining Blake Plateau manganese nodules. Contract No. 14-08-001-1703. U.S. Geological Survey.

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Zimmerly, S. R. 1967. Use of deep sea nodules for removing sulfur compounds from gases. U.S. Patent 3,330,096. 4 pp.

1400 - 1630 / 2:00 p.m. to 4:30 p.m.
Room 117

GENERAL SESSION: THE CHANGING FACE OF THE OFFSHORE INDUSTRY—A REGIONAL PERSPECTIVE

Moderator:

William H. Walker, Jr., President, Howard, Weil, LaBouisse, Friedrichs Inc.

Panelists:

Mike S. Bell, Vice President, Deepwater Profit Center, Unocal Corp.
James C. Flores, Vice Chairman and Director, Ocean Energy Inc.
John R. Huff, Chairman and CEO, Oceaneering Inc.
Peter D. Kinnear, Corporate Vice President and General Manager, FMC Energy Systems Group
Robert E. Rose, Chairman, President, and CEO, Global Marine Inc.

1400 - 1600 / 2:00 p.m. to 4:00 p.m.
Room 108

SEAFLOOR SURVEYS AND PHYSICAL PROPERTIES

Session Chairpersons: Bill Gafford, BP Amoco Co. Ltd. and Philippe Jeanjean, BP Amoco Co. Ltd.

2:00 12103 **Comparison of Small Salt-Cored Diapirs (Northern Gulf of Mexico Slope) With Green Knoll Beyond the Sigsbee Escarpment: Variability in Surface Expression and Seismic Character**
H.H. Roberts, Louisiana State U.

2:22 12104 **Geotechnical Stratigraphy of Sediments of the Northwest Gulf of Mexico Continental Slope**
W.R. Bryant, D. Bean, J.Y. Liu, and W.A. Dunlap, Texas A&M U., and A.J. Silva, U. of Rhode Island

2:44 12106 **Stability of Near-Surface Gassy Sediments, Amazon Continental Shelf**
M.P. Segall, U. of Utah; A.G. Figueiredo and C.G. Silva, Universidade Federal Fluminense; and R.A. Levey, U. of Utah

3:06 12107 **Detailed Site Survey Using VHR 3D Seismic**
B. Marsset, J. Meunier, and T. Marsset, Ifremer, and M. Noble, ENSMP

3:28 12108 **Acoustic Surveying of Ultra-Shallow-Water Bottom (<2.0 m) for Both Engineering and Environmental Applications**
H.H. Roberts, C. Wilson, and J. Supan, Louisiana State U.

1400 - 1630 / 2:00 p.m. to 4:30 p.m.
Room 105

NATURAL HYDRATES

Session Chairpersons: Arthur J. Schroeder, Consultant and Arnis Judzis, TerraTek

KEYNOTE:

2:00 12112 **U.S. Department of Energy Gas-Hydrate Research Impacting Offshore Development**
E.C. Allison, Manager of Gas Hydrates and Oil and Gas Diagnostics and Imaging Programs, Office of Natural Gas and Petroleum Technology, U.S. DOE

2:22 12114 **Variation in Methane Hydrate Structure and Composition**
R.B. Coffin and K.S. Grabowski, Naval Research Laboratory, and J.A. Linton, V. Thieu, Y. Halpern, P.A. Montano, and R.D. Doctor, Argonne Natl. Laboratory

2:44 12111 **Proposal for Ocean Drilling Program Research on Gas Hydrate in the Gulf of Mexico**
W.W. Sager and M.C. Kennicutt, Texas A&M U.

3:06 12115 **Global Warming and the World's Oceans: The Millennium Outlook**
G.T. Westbrook, TSBV Consultants

3:28 12116 **Reducing Greenhouse Gas By Ocean Nourishment**
I.S. Jones, U. of Sydney, and H. Young, Earth Ocean and Space

3:50 12110 **Dimensional Images From a High-Resolution Underwater Acoustic Imager**
I.S. Jones, U. of Sydney

Room 102

ELGIN FRANKLIN PROJECT: OFFSHORE FACILITIES PRODUCING OIL AT 15,000 PSI AND 180° C

Session Chairpersons: Pierre-Alain Deleitre, Total Fina Elf and Joel Fort, Elf Exploration U.K. plc

2:00 12117 **The Elgin/Franklin Project: Developing the Largest High Pressure/ High Temperature Fields in the World**
J. Fort, Elf Exploration U.K. plc

2:22 12121 **Velocity Anisotropy: Key to Reducing Reserves Uncertainty in Elgin-Franklin Deep High-Pressure/ High-Temperature Fields**
P. Sexton and G. Rabary, Elf Exploration U.K. plc, and P. Berthet and J. Guémené, Elf Aquitaine Production

2:44 12120 **Completion of Large-Bore High Pressure/ High Temperature Wells: Design and Experience**
A.T. Humphreys, Elf Exploration U.K. plc

3:06 12122 **Equipment and Material Selection to Cope With High Pressure/ High Temperature Surface Conditions**
D. Walton, Elf Exploration U.K. plc

3:28 12119 **Transporting High Temperature Fluids: The Elgin/Franklin Insulated Bundle**
J.R. Stirling, Elf Exploration U.K. plc, and J.C. Summers, Smit Lond & Marine Engineering Ltd.

3:50 12118 **High Pressure/ High Temperature Production: Completing the Process Efficiently**
T.L. Hull, Elf Exploration U.K. plc

Room 100

DEEPWATER DECOMMISSIONING: GARDEN BANKS 388

Session Chairpersons: Roy A. Scott, EEX Corp. and William Strang, CDI

2:00 12123 **Garden Banks 388 Deepwater Decommissioning: Regulatory Considerations, Issues, and Challenges**
M.W. Shaw, EEX Corp.

2:22 12124 **Garden Banks 388 Abandonment—Technical Acts Covering Rigging and Floating Operations**
R.B. MacLeod, PSL Intl. L.P., and J.M. Pierson, EEX Corp.

2:44 12125 **Lessons Learned: The Free-Standing Production Riser**
R. Franklin, EEX Corp.; R.J. Herman and T.J. Allen, Cameron; and M. Ambrose, Cal Dive Intl.

3:06 12126 **Subsea Intervention From a Nondrilling-Rig-Type Vessel**
R. Franklin, EEX Corp.; I. Collie, Cal Dive Intl.; and C. Kachenower, Cameron

3:28 12127 **Flexible/Umbilical Recovery: Garden Banks 388**
K. Witherow and A. Charlson, Oceaneering Intl. Inc., and R. Franklin, EEX Corp.

3:50 12128 **60 Days to Success (Critical Program Management)**
R.A. Scott, EEX Corp., and K. Duell, Cal Dive Intl.

2001-015297 6/29 1:01

b6

Secretary, The

From: [redacted] COM%internet[redacted] COM]
Sent: Wednesday, June 27, 2001 10:18 AM
To: Secretary, The
Subject: Policy

B6
FROM: [redacted] com
NAME: Wellington Lyons
SUBJECT: Policy
ZIP: [redacted] B6
CITY: [redacted]
PARM.1: TO:the.secretary@hq.doe.gov
STATE: ME
TOPIC: my concerns with the energy report
SUBMIT: Send Comments
CONTACT: email
COUNTRY: USA
MESSAGE: Good Morning. I am writing to express my utmost indignation and opposition to the Bush Energy Plan. This report shows no concern for the basic human rights of those in oil producing regions, and as the majority of the American Public knows, these rights are very seldom upheld. America does not need more oil that was obtained through any means necesary. What we do need are more fuel efficient cars, better hybrid technology, and economic incentives for the purchasing of more environmentally friendly vehicles. I hope that my comments are included in the public discussion of this report, for they are not out of line with the majority of American voters. Thank you or your time. Sincerely, Wellington Lyons [redacted] B6
MAILADDR: [redacted] B6

Department of Energy
Washington, DC 20585

July 27, 2001

Mr. John C. Diller
[redacted] b(6)

Dear Mr. Diller:

Thank you for expressing your interest in obtaining information on the Nation's energy policy.

To address the many energy issues facing the Nation, one of President Bush's first acts was to create a National Energy Policy Development Group, headed by Vice President Cheney. This Group was charged with developing recommendations to help the private sector and government at all levels promote reliable, affordable, and environmentally sound energy for America's future. On May 16, 2001, Vice President Cheney sent to the President the recommendations of this group, together with a National Energy Policy report.

The report of the National Energy Policy Development Group describes a comprehensive long-term strategy that uses leading edge technology to produce an integrated energy, environmental and economic policy. The National Energy Policy it proposes follows three basic principles:

- The Policy is a long-term, comprehensive strategy. Our energy crisis has been years in the making, and will take years to put fully behind us.
- The Policy will advance new, environmentally friendly technologies to increase energy supplies and encourage cleaner, more efficient energy use.
- The Policy seeks to raise the living standards of the American people, recognizing that to do so our country must fully integrate its energy, environmental, and economic policies.

To achieve a 21st century quality of life – enhanced by reliable energy and a clean environment – it recommends 105 actions to modernize conservation, modernize our infrastructure, increase our energy supplies, including renewables, accelerate the protection and improvement of our environment, and increase our energy security.

The President has already taken actions to implement many of the report's recommendations. Over the coming months, further actions will be taken by the President, individual Federal agencies and the Congress. These actions, once

fully implemented, will help minimize future energy prices, while assuring that energy supplies are reliable and the environment is protected.

A full copy of the National Energy Policy report, with the specific recommendations to the President, is available on the White House webpage, www.whitehouse.gov, or on the webpage of the Department of Energy, www.energy.gov/HQPress/releases01/maypr/energy_policy.htm

This report provides a wealth of information on the energy problems facing the nations and on the actions of the Federal government. Much more information is available through the Department of Energy's web page, www.energy.gov.

I hope this information is helpful. Thank you for writing.

Sincerely,

Margot Anderson

Margot Anderson
Deputy Assistant Secretary
Office of Policy
and International Affairs

Department of Energy
Washington, DC 20585

July 30, 2001

Ms. Dorothy L. Dooley
[redacted] b(6)

Dear Ms. Dooley:

Thank you for your letter of February 12, 2001, to President Bush that expressed your concerns about rising energy costs and requested help in lowering these costs. In particular you asked for the name of the office, Department or person that you might contact to get help for senior citizens who might be harmed if electricity rates increased as much as had been predicted earlier this year.

First, I would like to apologize for the lengthy delay in responding to your letter. The White House and the Department of Energy have received thousands of letters expressing concerns about rising energy costs and it has been impossible to provide timely responses to most of these letters.

In your letter you indicated that you had contacted Mr. Robert Carolin, the manager of the local irrigation project, operated by the Bureau of Indian Affairs, that provides electricity to your area. He and his superiors in the U.S. Department of the Interior are the appropriate persons to contact about such concerns.

Because the Irrigation Project buys electricity from other producers, I understand that it was forced to pass on some of the rising costs of these purchases to its customers. Early this year customers were informed that these rate increases might be as high as 300 percent, which understandably caused considerable concern in your community.

Mr. Carolin has indicated to this office that the actual increases in residential rates were approximately 28 percent, which brought these rates to the same level that is typical for most other residential users in Arizona. During the winter and spring, when purchased electricity costs were unusually high, the Irrigation Project was able to avoid even larger rate increases by using reserve funds provided by the U.S. Department of Interior. Now that its electricity purchase costs have returned to normal levels, I understand that the Irrigation Project hopes to be able to maintain or even lower electricity rates, while not relying on additional supplemental funding from the Interior Department.

To address the many energy issues facing the Nation, one of President Bush's first acts was to create a National Energy Policy Development Group, headed by Vice President Cheney. On May 16, Vice President Cheney sent to the President

the recommendations of this group, together with a National Energy Policy report. To achieve a 21st century quality of life – enhanced by reliable energy and a clean environment – the report recommends 105 actions to modernize conservation, modernize our infrastructure, increase our energy supplies, including renewables, accelerate the protection and improvement of our environment, and increase our energy security. Once these actions have been fully implemented by the Congress and Federal agencies, they will help minimize future energy prices, while assuring that energy supplies are reliable and the environment is protected.

In order to help consumers cope with the higher energy prices they face now, the President supports existing Federal and state efforts to help energy users conserve energy and has proposed increased funding for Federal programs that help low income households. Information on ways to reduce energy costs by improving energy efficiency is available from the U.S. Department of Energy and many state governments. You can contact the Department's toll-free clearinghouse for information or referrals at (800) DOE-3732 (800-363-3732) or you can visit the Department of Energy's website: www.energy.gov

Low-income households may be eligible for direct assistance in weatherizing their homes or in paying energy bills. Eligibility for the Department of Energy's Weatherization Assistance Program or the Department of Health and Human Service's Low-Income Home Energy Assistance Program (LIHEAP) can be obtained through the toll-free clearinghouse number or website identified above. You may also get information on LIHEAP by going to the internet website at www.acf.dhhs.gov/programs/liheap.

I hope this information is helpful.

Sincerely,

Margot Anderson
Deputy Assistant Secretary
Office of Policy
and International Affairs

OFFICE OF THE VICE PRESIDENT
WASHINGTON

August 2, 2001

MEMORANDUM FOR Mr. LAKE BARRETT
Acting Director, Office of Civilian Radioactive
Waste Management

This memorandum requests an extension of the nonreimbursable detail of Charles M. Smith to the National Energy Policy Development Group, Office of the Vice President, through October 31, 2001. His detail is currently effective through August 31, 2001.

Mr. Smith remains assigned as a Senior Professional Staff member to the National Energy Policy Development Group.

He continues to be responsible for assisting in the implementation of the recommendations contained in the President's National Energy Policy Report.

I appreciate your timely attention to this request.

Andrew Lundquist
Executive Director
National Energy Policy Development Group

2001-018432 8/6 P 12:19

Secretary, The b6

From: [ ] B6
Sent: Friday, August 03, 2001 9:54 PM
To: Secretary, The
Subject: National Energy Policy - Criteria

018432 · 2001 AUG -6 P 12:19

THE ENERGY CHALLENGE - XIII

3 August 2001

To: Representative Secretary

Re: Policy - Decision Criteria

Dear Representative Secretary:

Before defining our policy, we need to test at least the major alternatives against some useful criteria. Key criteria could be Security, Sustainability, Environment, Economics, Ethics, and Morals. There are other possibilities, including politics and campaign financing, but these six are surely the most important. Note: The NEPDG does not even mention high-level criteria. Rather, it represents the shaping of policy in a vacuum.

Security
Consider that the USA has only 86 Gb (33%) left, of its originally estimated 260 Gb of ultimately recoverable oil. (Some experts believe it may be more like 50 out of 225). We can rush into a major and costly domestic supply side campaign, and deplete that remaining resource more quickly, or we can address the demand side and keep that resource well into the future as a reserve against unforeseeable contingencies. A US Army tank gets 0.5 mpg. What if we have to fight a war some time in the next three decades, and find tanker routes imperiled? Maybe we should maintain a serious domestic strategic reserve.

Also relative to ANWR, what can be less secure than our present Alaska pipeline, which the US military has described as indefensible, and which is already old enough and worn enough to pose significant maintenance issues?

Nuclear not only poses security risks from the point of view of potential bomb fuel and radioactive waste, but also from supply interruption. We import 90% of our fuel.

On the other hand, both energy efficiency and renewable energy resources are diffused throughout the nation, have no attackable choke points, are 100% domestic, and will not run out.

Sustainability
Any supply side source, other than renewables, is useable only once and ultimately runs out. Energy savings, once implemented, are exploitable forever after. Wind and solar are available as long as the wind shall blow and the sun shall shine. How can it makes sense to use energy and capital to build rigs and drill holes (many of them dry) when the same money could build wind turbines that never result in dry holes and provide energy year after year?

There is also the question of climate change. Even if there is still uncertainty, why take the risk of catastrophic consequences when we have

29938

excellent alternative choices?

All fossil fuels add CO2 and other emissions to our atmosphere. Coal is worst, and coal to replace scarce oil is three times worse than the oil it would replace. Energy efficiency can eliminate the need to replace oil without any emissions. Renewables can replace coal without any emissions.

If we continue to waste our fossil fuel resources, burning them to fuel inefficient ends, we deprive future generations of potentially much more valuable chemicals and fertilizers that could sustain many aspects of their lives, including food production. If we deplete the fuels before we build the wind turbines and photovoltaic arrays, we may not have the energy with which to build them.

We must not choose an unsustainable path, when a sustainable one is both more readily available and more economically attractive.

Environment

Apart from the debatable environmental questions of global warming and climate change, there are other serious environmental issues associated with fossil fuels. The primary ones are air quality and associated health issues. Others range from the local environmental devastation of strip mining (coal and tar sands) through pollution of aquifers to storage of nuclear waste and spent fuel. Many of the problems are extremely long lasting once created.

The only environmental issue seriously raised relative to wind is bird-kill, and with new large, slowly revolving turbines, that proves to be a non-issue. Photovoltaics, located on rooftops and in parking lots, can actually provide the environmental benefit of shade, reducing the very energy demand they are there to serve. Energy efficiency, by reducing both waste and energy needs, alleviates environmental problems.

Economics

There are too many aspects to this issue, nearly all favorable to efficiency and renewables, and unfavorable to fossil and nuclear, to deal with in a short paragraph. Just to note a few:

* Efficiency opportunities typically cost from 0.6¢ to 2¢ per KWh. Natural gas and coal impose costs greater than 3¢/KWh and nuclear, fully costed, is above 6¢/KWh.
* Wind is already as cheap as natural gas and coal, and costs are still dropping for wind, but will only rise for natural gas and coal.
* Importing fuel presents a major balance of payments burden, and developing new domestic oil supplies has a much higher associated cost than importing.
* Drilling the ANWR does not make economic sense, even at today's oil cost. No oil company is ready to jump in without subsidies and market guarantees. Every excess dollar spent on costly ANWR oil is a dollar not available for efficiency and renewables, resulting in more imports that could have been avoided, and worsening the balance of payments issue.
* Excess dollars spent on nuclear are even more deleterious, as we also import the fuel.

Ethics

The USA fought a Revolutionary War over taxation without representation. If we continue to imperil the energetic fate of future generations, without developing viable alternatives, we in effect impose a major tax, and future generations are clearly not represented in the decisions. We have an ethical imperative to safeguard their rights. Wantonly depleting the last of a valuable resource is totally contrary to that imperative.

The nuclear industry may claim to safeguard the energy future, but they

impose the problems of current pollution (from mining, milling, and concentrating) on our suppliers, as well as the problems of radioactive waste on future generations for thousands of years.

Efficiency and renewables avoid all such issues.

Morality
As the acknowledged world leader both economically and militarily, (and most of us would like to think socially and politically), we have a moral duty to aid the development of our less fortunate brethren worldwide-not to increase their difficulties. Consuming fuels that they will need in the future as feedstock for chemicals, pharmaceuticals, and agriculture is contrary to this duty.

Developing the technologies of efficiency and renewables, creating the market volume to lower costs, and easing their access to such technologies so they do not have to repeat our wasteful history fulfills our duty.

The above examples present only a very limited and qualitative introduction to the evaluation of strategic criteria. Brief reflection on anyone's part can more fully flesh out the arguments. However, even from this truncated exposition it is clear that the hydrocarbon/nuclear supply side approach fails all reasonable criteria, while the energy efficiency/renewables approach passes the test of every criterion. An extensive and quantified evaluation would make the case compellingly and irrefutably.

If the case is so clearly made, based on a reasonable evaluation against primary criteria, why has it escaped the NEPDG? There are at least three reasons:
* It is human nature to put narrow, concrete self-interest ahead of compelling but less tangible national and spiritual values.
The members of the NEPDG represent only a very narrow spectrum of interests, and are both providers and victims of disinformation.
* There are major economic interests involved.

It is interesting to note that of 63 energy advisors selected by the present administration, nearly all of them represent the constituencies that stand to benefit the most from the emphases apparent in the NEPDG report, i.e. 27 are from the oil and gas industry, 17 from nuclear, 16 from mainly coal-fired electric utilities, and 7 from the coal industry. There are no renewable industry representatives, and no experts on the practical opportunities for energy efficiency.

A good national energy policy will require inputs from a much broader group of experts, including national security analysts, ethicists, environmentalists, neutral economists, and, most importantly, renewables and efficiency experts.

Respectfully yours,

Murray Duffin

MD/mmb

(b)(6)

August 3, 2001

Secretary Abraham
Department of Energy
Washington, D.C.

Dear Secretary Abraham:

From what I have read in the newspapers, it apears that President Bush's energy policy will be an energy production policy. What ever happened to conservation?

The latest offerings from The U. S. automakers in Detroit are gas-guzzling SUV's. How about a 10% or $5000 tax on these environmental hogs?

I am also disappointed that AMtrak is cutting service rather than improving it. How come France is in the technological forefront in rapid transit? Their high speed train from Paris to Nice just cut travel time by an hour. There are plenty of rail coridors between population centers in this country that could support a high-speed train. Why don't we support rapid rail transit instead of wasting money in our overcrowded airports?

Sincerely,

Roger W. Robert

Roger W. Robert

2001-018617 8/8/01 11:20

Secretary, The

(b)(6)

From:
Sent: Tuesday, August 07, 2001 12:56 PM
To: Dick Cheney
Cc: Secretary, The
Subject: National Energy Policy

2001 AUG -6 A 11:20

Dear Mr. Vice President,
Attached is one more letter to the House and Senate. As you can see, the best policy prioriyies for the country differ substantially from those just passed by the House. I live in hope that, in the end, wiser heads will prevail.

Respectfully yours,
Murray Duffin

Secretary, The

From: (b)(6)
Sent: Tuesday, August 07, 2001 12:47 PM
To: Secretary, The
Subject: National Energy Policy - Priorities

THE ENERGY CHALLENGE - XIV

6 August 2001

To: Representative Secretary

Re: Policy priorities

Dear Representative Secretary

A summary of the key points made in prior letters will point to the main priorities. In bullet form the most important issues are (not in order of importance):

Premises
* Oil will be in decline worldwide by 2010, and out of the energy picture before 2050.
* America's oil will decline faster than world average due to loss of market share.
* Natural gas supply will fall short of 2020 demand projections, and will be in decline before 2030, with the risk of abrupt decline at some point.
* Because of the above, the energy policy time horizon must be 30 to 50 years.
* Natural gas cannot be imported from distant points economically or in enough volume to offset national shortages.
* Nuclear is not desirable, not cheap and not necessary. Negatives outweigh positives.
* Coal is abundant and cheap, but dirty and producing CO2. Clean technology needs R&D.
* Reducing energy intensity, (conservation and efficiency), is the quick, low cost way to reduce foreign dependence.
* Reducing energy intensity creates jobs, saves money and helps payments balance, benefiting the economy.

Promises
* Wind is abundant, clean and already cheap, but calls for infrastructure development.
* Solar is more abundant and will become cheap with development and economies of scale, but requires storage and major development of manufacturing capacity.
* Geothermal may be abundant but needs R&D to tap and develop effectively.
* Wave and tidal are abundant, but not yet practical. Much R&D needed.
* There is vast room to practice energy economies. See Europe/Japan energy intensities.
* 68 quads of present oil, natural gas and nuclear can be replaced by 27 quads of renewably generated primary electricity over time, due to relative economic productivities.
* Hydrogen is the key to mobility and storage and transport of renewably generated energy.

Problems
* Hydrogen generating costs still have to come down, and storage needs development.

* Natural gas pipelines need upgrading for hydrogen transport.
* Evolution from hydrocarbon to hydrogen economy, including wind/solar ramp-up, needs decades, so must to start now.
* Barriers - Ignorance of threats, needs and possibilities.
- Special interests that promote their good at the expense of public good.
- Economic models/analyses that give wrong answers from wrong premises.
- Perverse incentives and disincentives in the present politico/economic system.
* Transition from fossil/nuclear/wasteful to renewable/hydrogen/efficient will be resisted by the "froms" at every step.

Needs

* Public knowledge of the threats and opportunities and means of effecting energy efficiencies and savings, i.e. a publicity and education program.
* Regulatory reform to promote "negawatts " instead of megawatts.
* A new system of incentives, - standards, "feebates", tax the "bads" reward the "goods"

Priorities

From the above, based on the timing, seriousness and nature of the threats and opportunities, we can identify a few key priorities and appropriate actions, in order of importance.

* Oil is the first problem, and is used more than 80% for transportation. There is no supply side solution. Therefore the first priority is transportation efficiency. The first 5 actions:
-close the light truck CAFÉ loophole for all but the 5% that are legitimate light trucks
-raise CAFÉ standards to 40 mpg by 2010 and 80 mpg by 2030
-provide surcharges for inefficiency at the gas pump as well as licensing
-support development of clean, efficient trucks and busses
-encourage and promote development of urban rapid transit.
* Next is the shortage of natural gas, with new demand primarily for electricity generation. The available natural gas must be used as efficiently as possible:
-favor licensing of combined heat and power (CHP) plants, target 70%+ efficiencies.
-refuse licences for plants less than 50% efficient
-replace old inefficient coal plants with new BAT coal plants to reduce gas demand.
-reregulate utilities to favor promotion of efficiency over expansion.
-provide tax incentives for energy efficiency materials, equipment and projects.
* Third, reduce dependence on imported energy through both efficiency and renewables:
-provide promotion, education and incentives in support of efficiency
-establish office and residential building standards enforced by a "feebate" system
-set efficiency standards for utilities to reduce primary fossil/nuclear energy per kWh delivered, and gradually raise the bar
-incentivize wind farm growth to 30,000 MW per year by 2010, and support the necessary distribution system developments
-incentivize development of at least 20 large solar PV plants by 2010
-negotiate voluntary efficiency improvement agreements with industry sectors
-raise taxes on inefficiencies - motors, appliances, HVAC, lighting etc.
* Protect, not accelerate depletion of, our remaining domestic oil and natural gas resources, both as a hedge against future emergencies, and as chemical and agricultural feedstock. Aligned with this priority is the need to avoid destabilization of the Middle-east. As non Middle-east supplies decline first, we can reconcile these 3 apparently conflicting priorities, without harming our allies, by letting non-OPEC supplies decline in line with declining availability, while not reducing supplies from the Middle-east below what they can readily sell to other markets. A delicate

balancing act will be required, that an unhindered free market may not be able to achieve.

* Review and improve the conduct of regulation at the federal level:
-no more cabinet level second-guessing of correct penalties for flagrant and chronic violations by large electric utility corporations
-no more regulatory derelictions like classifying the Daimler-Chrysler PT Cruiser as a light truck.
* Take a leading role in CO2 reductions. After all the above the only problem is coal:
-support rapid development of clean coal technology
-create a carbon emissions trading scheme analogous to the Clean Air Act SO2 scheme
-set progressively tighter CO2/kWh goals for utilities.

References

There are several good sources that provide detailed proposals to implement various aspects of the above-suggested actions:

* "Perverse Subsidies", Myers and Kent, ISBN 1-55963-835-4 for some aspects of perverse incentives and disincentives.
* "Turning Off the Heat", Thomas R. Casten, ISBN 1-57392-269-2 for electric utility reregulation.
* "Factor Four", Weizsacker, Lovins and Lovins, ISBN 1-85383-407-6 for suggestions like rewarding "negawatts", taxing the "bads", "feebates", etc.
* www.aceee.org/energy/nep0501.htm for proposals in support of energy efficiency
* www.ttcorp.com/nha/impplan.htm and www ttcorp.com/nha/h2bill96.htm for elements of a hydrogen policy

Conclusion

It is not necessary to address all aspects of the above priorities and actions before rolling out a good first-cut National Energy Policy, but they should be recognized, and must be addressed eventually. The most important and potentially productive ones should be addressed first. The policy can then be developed over time as events unroll and experience is gained.

Perhaps the most critical needs are to ensure that policy is not dictated or excessively influenced by the coal, oil, gas, nuclear and automotive industries, and to be sure we have "seen most of the elephant", not just the above interested parties' view.

The Sustainable Energy Coalition, who were consulted and whose inputs were largely ignored by the NEPDG, have characterized the NEPDG report as a disaster for America. The energy bill just passed by the house largely reflects the NEPDG report, and is to a considerable degree antithetical to our true energy policy needs. Regrettably this first pass at dealing with the most important non-partisan challenge this country is likely to face in this decade was railroaded through in a completely partisan fashion.

This issue is above partisan politics and narrow commercial interests. It calls for deliberation and wisdom, not political one-upmanship. You, our elected leaders, are going to have to do an awful lot better as we progress down this road, or you will end up doing a great disservice to America.

Sincerely yours,

Murray Duffin

8/21 JB ORE

b6

AUGUST 7, 2001

PRESIDENT GEORGE W. BUSH
THE WHITE HOUSE
WASHINGTON DC 20500

DEAR MR PRESIDENT:

THANK YOU, I RECEIVED YOUR LETTER 8/1/01 ON NATIONAL ENERGY POLICY WITH THE ATTACHED FOUR PAGE OVERVIEW.

WOULD APPRECIATE A COPY OF THE ENERGY POLICY IF ANY ARE AVAILABLE.

SECRETARY SPENCER ABRAHAM, WITH THE SUPPORT OF THE FERC UNDER THE DIRECTION OF THE MEMBERS OF THE PETROLEUM CLUB OF HOUSTON, AT A MEETING OF THE NATIONAL GOVERNORS ASSOCIATION ATTEMPTED TO GIVE THE FEDERAL GOVERNMENT EMINENT DOMAIN AUTHORITY TO CHOOSE SITES FOR NEEDED ELECTRICAL TRANSMISSION LINES ON THE NATIONAL ELECTRIC GRID. THE ATTEMPT WAS REJECTED BY THE GOVERNORS.

THIS WOULD HAVE GIVEN FERC CHAIRMAN PATRICK WOOD AND KENNETH LAY ABSOLUTE CONTROL OF NATIONWIDE ELECTRIC RATES.

29946

THE AMERICAN CITIZEN CANNOT PERMIT MERCHANT ENERGY COMPANIES SUCH AS DYNERGY, EL PASO, ENRON, EQUITABLE RESOURCES KEYSPAN, KINDER MORGAN, MDU RESOURCES GROUP, NATURAL FUEL GAS, NEW JERSEY RESOURCES, NICOR, NUI, PIEDMONT NATURAL GAS, SEMPRA ENERGY AND SOUTH JERSEY INDUSTRIES OPERATING OUT OF THE CHICAGO BOARD OF TRADE CONTROL AND MANIPULATE SUPPLY AND THE PRICE WE PAY FOR GASOLINE, ELECTRIC, NATURAL GAS, COAL AND HEATING OIL.

THANK YOU FOR READING MY LETTER.

SINCERELY YOURS,
RAYMOND McCANN
[redacted] b(6)

Dub 8.21.01 DOE

b6

August 8, 2001

George W. Bush, President
The White House
Washington, DC 20500

Mr. President:

Thanks for the national energy policy :Overview". Although the content appears to be very comprehensive with a broad stroke approach and some detail in graphic form it falls short of accountability to be held to budgeted dollars and time.

Six of the seven notable recommendations lack definitive timetables and the one that does, on clean coal technology and co-fired biomass credits fails to separate the 'clean coal' dollars from the 'biomass credit' dollars. Results as measured to a productive program's timetable is the only way to extract full value from the $2 billion.

Nearly fifty years ago over-fire-air-jets dramatically improved both coal fired efficiency and the reduction of emissions. With 'fluid fuels'; pulverized coal and high pressure steam injected, even great efficiencies have been achieved. And, conversion is relatively simple.

While we have made remarkable progress in nuclear powered sub and surface craft technology we refuse to follow the reuse of nuclear fuels as practiced by France and Japan. As a stop-gap measure to bring flexibility into the electrical energy facet of our crisis coastal regions could be served by nuclear powered systems built into barges to be placed where the need is to cover an emergency or a growth demand situation. And, any new nuclear power plants would be required to adopt the proven 'reuse' technology.

Now then, get that 'saddle bum' removed which has drawn blood. Vice President Cheney should release the names of the people called upon to formulate the energy policy. He is a decent man. That is likely one of the reasons you selected him. He should be allowed / required to perform all of the people's business in 'the sunshine' . Just do it. That is all the more compelling now that you are about to appoint a Texas oil man to the F.E.R.C. Them Stetsons cast long dark shadows.

Sincerely,

W. E. Gene Claudin

[redacted] b(6) [redacted] b(6)

PS: Please push on that investigation of steel imports. If domestic steel production continues to be reduced, in time, this nation will face an economic crisis far greater than the energy crisis. And, like the energy crisis, we will have contributed to it because we have allowed it to happen. O.P.E.C ?? How about S.P.E.C.??

Doyle T. Grogan

66 [

August 9, 2001

Mr. Spencer Abraham
Department of Energy
1000 Independence Avenue
Washington, DC 20585

Dear Sir:

The President's Energy Policy as presented to Congress and the nation contained many recommendations. Long before any mention of oil and gas in this report Vice President Cheney said, "For the electricity we need, we must be ambitious. Transmission grids stand in need of repair, upgrading and expansion. If we put these connections in place, we will go a long way toward avoiding future blackouts."

Of all people, a congressman from California, Rep. Henry Waxman with other Democrats has pressured the General Accounting Office, to issue a demand letter giving the Vice President 20 days to disclose the people interviewed for this energy policy. It is assumed that the Democrats are trying to make political points if they can tie the administration to oil companies.

Vice President Cheney has every right to consult with the best exploration, engineering and operational technology in the world. It is used in the Gulf of Mexico, the North Sea and other sensitive areas of the world. It should have been allowed to develop the 36 federal leases offshore Santa Barbara County, California, where development has been delayed for over 20 years. These leases are estimated to contain over one billion barrels of oil and 900 BCF of gas. If production had been allowed and gas fired generators had been in place, California would not have had any energy problem.

During the past winter California faced blackouts and high energy costs which was a hardship for millions of people. The other 49 states don't want California's energy problems. They want an energy policy as outlined by President Bush, "to ensure a steady supply of affordable energy for homes, businesses and industries"

The "oil weapon" was used against us in 1973 when we were importing only 900,000 barrels per day from the Persian Gulf. It was devastating for our consumers and our economy. Today our imports from the Gulf are 2.5 million barrels per day which means we have been living on the edge of a national disaster.

It is time for Congress to get serious about energy legislation and put the national interest first. Energy politics in Washington has been very costly for the American people.

Doyle T. Grogan

Department of Energy
Washington, DC 20585

August 8, 2001

Ms. Margaret Millard
[(b)(6)]

Dear Ms. Millard:

Thank you for your recent letter to the Secretary of Energy expressing your thoughts about the Nation's energy policy and your concern about rising energy costs.

To address the many energy issues facing the Nation, one of President Bush's first acts was to create a National Energy Policy Development Group, headed by Vice President Cheney. On May 16, the Vice President sent to the President the recommendations of this group, together with a National Energy Policy report. To achieve a 21st century quality of life — enhanced by reliable energy and a clean environment — the report recommends 105 actions to modernize conservation, modernize our infrastructure, increase our energy supplies, including renewables and nuclear energy, accelerate the protection and improvement of our environment, and increase our energy security. Once these actions have been fully implemented by the Congress and Federal agencies, they will help stabilize future energy prices, while assuring that energy supplies are reliable and the environment is protected.

While the President's actions will help lower gasoline, natural gas, electricity and other energy prices in the future, these policies will take many months and perhaps years to have their full effect. In the meantime, the President supports existing Federal and state efforts to help consumers and other energy users conserve energy, and has proposed increased funding for Federal programs that help low income households.

Information on ways to reduce energy costs by improving energy efficiency is available from the U.S. Department of Energy and many state governments. You can contact the Department's toll-free clearinghouse for information or referrals at (800) DOE-3732 (800-363-3732) or you can visit the Department of Energy's website: www.energy.gov

Low-income households may be eligible for direct assistance in weatherizing their homes or in paying energy bills. Eligibility for the Department of Energy's Weatherization Assistance Program or the Department of Health and Human Service's Low-Income Home Energy Assistance Program (LIHEAP) can be

obtained through the toll-free clearinghouse number or website identified above. You may also get information on LIHEAP by going to the internet website at www.acf.dhhs.gov/programs/liheap.

I hope this information is helpful.

Sincerely,

Vicky A. Bailey
Assistant Secretary
Office of Policy
and International Affairs

01-019263 8/17 A 11:12

August 11 2001

TO: The Honorable Spencer Abraham
Secretary of Energy
U.S. Department of Energy
1000 Independence Ave S.W.
Washington DC 20585

From: Rusty Hopewell
(b)(6)

Dear Secretary Abraham,

The potential oil that lies beneath the Artic National Wildlife Refuge is NOT the solution to our country's energy needs. Even by the best estimates, there is not enough oil in that region to risk the environmental impact oil extraction would have upon this mostly undisturbed ecosystem. The Artic National Wildlife Refuge must remain intact and without the impact oil operations. I oppose all oil activity in this part of America's heritage.

I do support this country and its leaders basing their energy policy on clean, renewable and reliable energy sources like solar, wind, and tidal. In addition, conservation measures are a source of energy themselves in that it has been shown that conservation alone can prevent our impending energy crisis. No matter what we do, oil is going to run out; we need to be prepared beforehand. Therefore, I support an energy policy based on clean, renewable energy and conservation.

Thank you for your support

R. J. Hopewell

Rusty Hopewell

66

29952

2001-018167

Department of Energy
Washington, DC 20585

AUG 16 2001

Ms. Florence Burghorn
(6)(6)

Dear Ms. Burghorn:

The President has asked that we reply to your June 24, 2001, letter regarding the Administration's support for renewable energy sources, particularly ethanol.

Since my earlier letter to you, the Administration has committed to a balanced energy policy, including increased supply of fossil fuels and renewable energy sources as well as greater efficiencies in energy use and conservation. Biomass, for example, is one of the Administration's priorities and as such, we proposed essentially level funding for the program in the Department's initial fiscal year 2002 budget request.

Furthermore, in accordance with the recommendations in the President's National Energy Plan, we have begun a strategic review of our renewable energy and energy efficiency research and development programs. This review will be completed by September and based on the results, will determine the appropriate levels of funding. In addition, the Bush Administration has stated that the amounts of increased funding currently under consideration by Congress for fiscal year 2002 for these important programs are "consistent with and largely supportive" of the National Energy Plan.

Your support for the development and use of alternative transportation fuels is greatly appreciated.

Sincerely,

John E. Ferrell

John E. Ferrell, Director
Office of Fuels Development
Transportation Technologies
Energy Efficiency and Renewable Energy

29953

Department of Energy
Washington, DC 20585

AUG 21 2001

b(5)

MEMORANDUM FOR THE SECRETARY

FROM: Lake H. Barrett, Acting Director
Office of Civilian Radioactive
Waste Management

SUBJECT: **ACTION:** Approval of a third extension of a non-reimbursable detail for Charles M. Smith from the Office of Civilian Radioactive Waste Management to the National Energy Policy Development Group, Office of the Vice President

ISSUE:

b5

SENSITIVITIES:

POLICY IMPACT:

29954

2001-019167

65

RECOMMENDATION:

APPROVE: Spencer Abraham

DISAPPROVE: _____

DATE: August 21, 2001

2001-017158

Department of Energy
Washington, DC 20585

AUG 30 2001

Mr. Todd Abbotts

b6

Dear Mr. Abbotts:

Thank you for your March 5, 2001, letter to President George W. Bush regarding your concern about his recently issued National Energy Policy. Your letter has been forwarded to the Office of Energy Efficiency and Renewable Energy's Office of Transportation Technologies (EERE/OTT) for review and response.

In support of the President's National Energy Policy, the Department of Energy (DOE) is responsible for the research and development (R&D) of efficient and clean energy technologies that meet our Nation's energy needs, improve our environment, and strengthen our national competitiveness.

For example, within OTT, the Office of Advanced Automotive Technologies (OAAT) is responsible for R&D of automotive technologies that will enable a dramatic reduction in the Nation's dependence on petroleum, while simultaneously helping to improve the quality of the air we breathe. Our efforts are having a beneficial payoff for both the air quality and utilization of energy resources.

We, along with our industry partners, are aggressively pursuing the development of technologies that can lead to lower exhaust emissions and dramatically increase the fuel economy of passenger vehicles. The enclosed brochure, *FY2000 Program Highlights of the Office of Advanced Automotive Technologies*, describes many of the automotive R&D programs OAAT has been supporting in pursuit of reducing our dependence on petroleum, while improving vehicle emissions. The brochure illustrates some of our activities and successes thus far. For more updated information on energy efficiency programs undertaken by DOE, please visit our Energy Efficiency and Renewable Energy Network (EREN) at the following website: http://www.eren.doe.gov/.

We are proud of the contributions that DOE has made in the development of these technologies, and we realize that much remains to be done. We believe that ongoing R&D supported by DOE and its partners will bring about significant improvements in the transportation sector. Advanced automotive technology areas include fuel cells, power electronics, electric vehicle batteries, lightweight materials, alternative fuels, as well as vehicle systems simulation modeling that makes it possible to successfully integrate these technologies.

Thank you again for writing. We sincerely appreciate your interest in our Nation's efforts to develop improved fuel economy through advanced energy efficient technologies.

Sincerely,

R. A. Sutula

Dr. Raymond A. Sutula
Energy Management Team
Office of Advanced Automotive Technologies
Transportation Technologies
Energy Efficiency and Renewable Energy

Enclosure

b6

August 31, 2001

The Honorable Spencer Abraham
Secretary of Energy
U.S. Department of Energy
1000 Independence Ave. SW
Washington, DC 20584

Dear Secretary Abraham:

I have been distressed by the new U.S. energy policy. It is environmentally disastrous and economically short-sighted, and it offers no solutions to energy problems. We need a balanced plan, calling for sustainable yields, supporting but regulating industry, and calling for the preservation of undeveloped public land.

I strongly feel that exempting 58.5 million acres of Forest land from road-building is a healthy act, environmentally and socially. I strongly oppose cutting the size of the new National Monuments and opening that released land to the extractive industries which will bring noise and pollution to the Monuments.

Drilling in public lands and coastal waters would only slightly and temporarily increase domestic production. We need to conserve energy and develop new technologies. Putting minimum meleage limits on SUVs would have been a tremendous saving of oil, a large proportion of the estimated ANWR production.

It looks as though the only gainers here are the oil, gas, coal and nuclear industries. They would reap huge profits through your policy. Proposed energy bills give subsidies which, along with tax breaks and other benefits, are estimated to be over $30 billion!

We need to think of renewable energy sources, new technology, of making energy policy more a matter of reason, knowledge, and research and less a matter of politics.

Sincerely,

Edith H. Jonas

Edith H. Jonas

Lisa Buckles

, August 31, 2001

Mr. Spencer Abraham
Secretary, U.S. Department of Energy
1000 Independence Ave. SW 7A257
Washington DC, 20585

Dear Mr. Secretary,

An article in a recent issue of Science magazine highlighted an aspect of the energy bill that has received little attention, yet identified the profoundly negative effect this plan would have on our collective health. This study concluded, that the burning of coal, oil and other fossil fuels leads to pollution resulting in elevated rates of infant mortality, asthma, cardiovascular problems and respiratory ailments causing millions of avoidable deaths not to mention increased health costs and time lost from work. These projections are based on concrete, real life experiences, such as in Atlanta where alternative transportation policies in effect during the 1996 Olympics reduced air pollutants such as ozone by about 30%, resulting in a reduction of acute asthma attacks by 40% and pediatric emergency admissions by about 19%.

As a retired nurse I can testify to the human suffering that accompanies these illnesses, yet this is never figured into the equation when we determine national policy. Nor, I suspect, is the dollar cost to society in terms of lost work, shortened life spans and increased medical expenses considered when energy executives meet with you and Vice President Cheney to devise energy plans.

This is a serious omission that must be rectified before the energy plan is put into effect. For the sake of our health and that of our children and grandchildren, the plan must reduce the emphasis on more fossil fuel production which results in more pollution and must focus on reducing consumption. There are many opportunities for us as individuals and as a nation to reduce our consumption of fossil fuels and thus reduce pollution. The energy plan must include a strong plan and appropriate incentives to make this happen.

Sincerely,

Lisa Buckles

Lisa Buckles

2001-020654 9/6 A 11:18

[redacted]

September 1, 2001

President George W. Bush
The White House
1600 Pennsylvania Avenue
Washington, D.C. 20500

Dear President Bush:

Your August 15, 2001 letter to my husband and me states that you "established the National Energy Policy Development Group to examine ways to make more energy available now and in the future"; this is in response to your proffered view that "America is facing the serious challenge of substantial energy shortages and rising prices". You say nothing about alternative energy research and sources, nothing about our concern for the environment, and nothing about energy conservation. You were even against the bill raising fuel efficiency for automobiles.

In a letter to the New York Times, May 11, 2001, the renowned Paul J. Kellogg, professor emeritus of physics, University of Minnesota, states that a report by government scientists from the national laboratories "says that up to a 47 % reduction in electricity consumption is possible in the United States". The recent crisis in California, and a decrease in the amount of energy used when the price became so high, indicates that, yes, we can reduce our consumption.

He further states that our "per-capita electricity consumption in the U.S. is nearly double that in Britain and France, where the standard of living is about the same as ours".

Another letter, from Andy Friedland, chairman, Environmental Studies Program, Dartmouth College, states that "conserving energy means voluntarily reducing the quantity of energy used as well as increasing the efficiency of energy use through technical means".

The fuel economy of today's cars and light trucks is at its lowest in 20 years, according to the Union of Concerned Scientists. In the mid 1970s, the government responded to the energy crisis by creating the Corporate Average Fuel Economy (CAFE) standards which caused the fuel economy of passenger vehicles to double over the next 10 years. However, federal inaction on fuel economy policy, the latest inaction being the defeat on August 2 to improve fuel efficiency, the proliferation of minivans, SUVs, and pickup trucks, and the increased driving is causing us to be more dependent on oil, foreign or otherwise, and is creating havoc with our environment.

Using existing conventional technologies, hybrid electric technologies, fuel cell technology and, perhaps, some technology that we have as yet not developed, we could greatly increase the fuel efficiency of our transportation and significantly decrease the use and consumption of oil. This will also enable us to significantly reduce the pressure on our environment, including not drilling for oil in environmentally sensitive areas. Furthermore, investing in improved fuel economy would create jobs.

Our current patterns of energy production and consumption and our transportation policies are unsustainable. Your energy policy of only finding ways to "make more energy available now and in the future" is a short-sighted policy, a head-in-the-sand philosophy that is the height of irresponsibility. We are mortgaging the future of our children and grandchildren, not to mention generations hence.

Our country seems to work only by destroying before it realizes that we are on the brink of utter disaster and we try and correct our errors. There is no long-range policy, just tomorrow or next week. Our recorded history stretches back some 6,7,8 thousand years. What will happen in the next 50 years, 200 years? That is what we should be planning for, before we go too far and cannot undo the damage.

By the way, are you aware that it would require four Earths for everybody on the planet to live the lifestyle of North Americans?

Yours truly,

Rhoda Lonow

copy to:
Spencer Abraham, Secretary of Energy
Richard Gephardt, House minority leader
David Bonior, House minority whip
Representative Benjamin A. Gilman

September 2, 2001

Secretary Spencer Abraham
1000 Independence Ave SW
Forrestal Bldg 7A-257
Washington, DC 20585

Dear Mr. Abraham,

One of the issues that will be debated in September is whether or not we should have a national energy policy that regulates prices and determines where we can or cannot explore for oil. While you are considering these issues, I ask that you consider my letter.

Energy is the lifeblood of capitalism. The only proper "national energy policy" is to eliminate all taxes on energy, including the "tax" of regulation, which comes primarily in the form of government-imposed restrictions on oil exploration and development. Developing a genuinely free market in petroleum is the only means of achieving a rational allocation of resources in that industry.

Energy is the lifeblood of capitalism, which is why some groups have waged political war on the energy industry for decades. Leaders of the environmentalist movement, for example, have openly admitted their agenda has always been to destroy capitalism by first neutering the energy industries, especially petroleum, with massive regulation and taxation. Corporate executives, or government officials, who advocate price controls on energy are playing right into the hands of the environmental socialists.

"Stable" prices that are government-regulated (and, therefore, taxpayer subsidized) would most likely beget a repeat of the harmful 1970s price controls: massive shortages, artificially increased dependence on foreign imports, and myriad government allocation schemes.

Ronald Reagan's very first act as president, minutes after he was sworn in, was to issue an executive order that immediately deregulated the price of oil that had been controlled since 1972. Shortages were eliminated, the biggest production boom in oil industry history occurred, and the entire economy benefited.

Appearing on "Meet the Press" on Sunday, July 30, 2000, Republican vice presidential nominee Dick Cheney endorsed the Clinton/Gore administration's policy of energy socialism, only criticizing it as being insufficiently coercive and forceful.

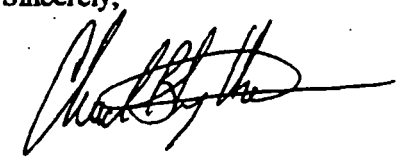
"We need a national energy policy," said Cheney, apparently oblivious to the disastrous results of America's previous experiment with energy socialism during the 1970s, when he had the opportunity to observe it first hand as President Gerald Ford's chief of staff.

Like Clinton and Gore, Cheney denounced the free-market allocation of petroleum because it supposedly creates price instability. When prices are "too low," Cheney told host Tim Russert, "no one will invest" in oil wells. When prices are "too high," then consumers are harmed.

Russert asked the obvious question: "What is the correct price of oil, then?" Cheney gave no answer other than to mumble on about "price stability."

The only proper "national energy policy" is to eliminate all taxes on energy, including the "tax" of regulation, which comes primarily in the form of government-imposed restrictions on oil exploration and development. Developing a genuinely free market in petroleum is the only means of achieving a rational allocation of resources in that industry.

Sincerely,



Chuck Blythe

b6

2001-020380 9/4 P 4:22

Secretary, The

From: [redacted] b6
Sent: Sunday, September 02, 2001 11:56 AM
To: Secretary, The
Subject: Energy Policy

[redacted] b6 020380 2001 SEP -4 P 4:22

September 2, 2001

Secretary Spencer Abraham
1000 Independence Ave SW
Forrestal Bldg 7A-257
Washington, DC 20585

Secretary Abraham:

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Sincerely,

Chuck Blythe

We need an energy policy that truly protects Mother Earth

Recently, I received a copy of the National Energy Policy Development overview. This report, as does Mr. Cheney, consistently extols the virtues of our standard of living and the opportunities for maintaining or increasing it. The sad thing is that this "wonder" is slowly killing us: pesticides on raw food, preservatives in processed food, excess of exhaust fumes causing global warming, toxic chemicals in water—to name just very few.

Already the soil is becoming exhausted from the insane, excessive use of chemical fertilizers. The eventual conflicts and wars (resulting from the by-products of our overwhelming, runaway new technology plus the over-indulgence of the powerful and well-heeled) about who gets water and food will take care of the problem regarding the world's unrestrained overpopulation. To me, this is not a satisfactory solution; education about birth control and proper care of Mother Earth is. But, obviously, the U.S. administration does not care to seriously consider this.

One of the components of the new presentation says: "The policy seeks to raise the living standards of the American people, recognizing that to do so our country must fully integrate its energy, environmental, and economic policies."

GUEST VIEWPOINT
By Joan Fling

The idea is very good on the surface. Mother Earth provides everything all humans and nonhumans use for survival. But, if she is raped and decimated, all the plans and political reassuring talk are academic.

One illustration in the report indicates the policy designates coal to provide 52 percent of our energy needs. As long ago as the 18th century, London was struggling with the terrible smog from all the coal being burned. If our "new technology" depends on coal as a source of energy, what will the cost be in human lives from victims of lung cancer?

The knowledge of how to use solar power had been available since the 1950s, but the struggle for acceptance was a long one. The argument that the expense of conversion is a weak one: Cost of developing nuclear power (along with the leaking storage cans causing weird growths on some fish and endangering humans) has not deterred the spread of nuclear power plants. Until the sun dies, it is a free source; the only out-of-pocket expense is the construction and maintenance of the facilities, but, apparently, humans find it easier to plunder the earth.

Many people still condemn the audacity of those seeking to make known the possible results of what modern society considers necessary. Others put their heads in the sand. Ever since the 1970s, when I first became aware of the environmental problems and warnings issued, I have watched many of those same prophecies come true. This does not reassure me about the future of the babies being born today. There are many alternative ways to protect Mother Earth and increase the quality of life which will not seriously hinder our present sacrosanct standard of living.

If you ever have great-grandchildren, I hope you are not cursed by them for refusing to protect the future of their generation. Why don't you stop being part of the problem and start being part of the solution?

Joan L. Fling

Joan L. Fling

2001-021275 9/17/01 3:30

021275

NATIONAL ACADEMY OF ENGINEERING

2101 Constitution Avenue, NW
Washington, DC 20418
http://www.nationalacademies.org

Office of the President
202 334 3201 / Fax: 202 334 3680
E-mail: wwulf@nae.edu

13 September 2001

Hon. Spencer Abraham
Secretary of Energy
Department of Energy, 7A-257
Washington, DC 20585-1000

Dear Hon. Abraham:

The price and availability of electricity in the western United States, tensions over access to domestic energy resources, and high gasoline prices have once again propelled energy into the national consciousness. The National Academy of Engineering (NAE) is hosting an event to initiate an extended dialogue on the complex social, political, and economic issues involved with energy systems in the United States.

I invite you to be our guest at "Power Plays: Shaping America's Energy Future," a one-day public symposium to explore various facets of U.S. energy policy. The NAE has invited technology experts and political leaders to discuss current and emerging issues in the electric power sector. This event will take place October 9, 2001, in the auditorium of the National Academies building, at 2101 Constitution Avenue NW, Washington, DC. There is no charge for attending, but registration is required, as seating is limited. Lunch will be provided on a first-come, first-served basis.

In addition to the agenda, I have enclosed a registration reply form. Since we expect a large turnout, I encourage you to register as soon as possible, and no later than September 28. For additional information about the meeting, visit our website at www.nae.edu.

Should you have questions that are not answered in the enclosed material, please contact Nathan Kahl, who is handling registration for this event, at 202-334-1541 or nkahl@nae.edu.

Sincerely,

Wm. A. Wulf
President

Tuesday, October 9
Technical Symposium Program

National Academy of Engineering

Power Plays: Shaping America's Energy Future

Price and availability of electricity in the western United States, tensions over access to domestic energy resources, and high gasoline prices have once again propelled energy policy into the national consciousness. To illuminate one facet of energy policy, the National Academy of Engineering (NAE) will hold an all-day symposium October 9, 2001, in Washington DC. The NAE has invited technology experts and political leaders who have shaped or are shaping national energy policy to discuss current and emerging issues in the electric power sector.

8:30 am Introduction & Welcome
Wm. A. Wulf, President, National Academy of Engineering

8:45 am Charting a Course: The Nation's Energy Future
Andrew Lundquist, Office of the Vice President
Executive Director, National Energy Policy Development

9:15 am The Unfolding U.S. Energy Future in a Global Context
James R. Schlesinger, Senior Advisor, Lehman Brothers

10:00 am Break

10:30 am How Will We Meet the Future: Transitions to New Energy Frontiers
Richard H. Truly (NAE 2000), Director, National Renewable Energy Laboratory

11:15 am Powering the U.S. Future
Senator Jeff Bingaman D NM, Chairman, Senate Energy and Natural Resources Committee (invited)
Senator Frank Murkowski, R AK, Ranking Member, Senate Energy and Natural Resources Committee (invited)

12:15 pm Lunch

1:45 pm The Future of the U.S. Energy Industry
E. Linn Draper, Jr. (NAE 1992), Chairman, President and CEO, American Electric Power Company

2:30 pm U.S. Electricity Restructuring: Lessons for the Future
James L. Sweeney, Professor of Management Science and Engineering, Stanford University

3:15 pm Break

3:45 pm The Energy-Environment Nexus: Meeting U.S. Energy Needs & Environmental Quality Requirements
Rita A. Bajura, Director, National Energy Technology Laboratory

4:30 pm The Political and Institutional Context: Can We Adapt?
Philip R. Sharpe, Lecturer in Public Policy, Harvard University

5:15 pm Closing Remarks
Wm. A. Wulf, President, National Academy of Engineering

5:30 pm Reception

National Academies Building Auditorium, 2100 C Street, NW, Washington DC, 20418

Power Plays:
Shaping America's Energy Future

National Academy of Engineering Technical Symposium

October 9, 2001

Location
National Academies Building Auditorium
2100 C Street, NW Washington, DC 20418

_____ **YES**, I will attend the symposium on Tuesday, October 9, 2001.

_____ I will also attend the lunch

_____ No, I will not attend the lunch

_____ **NO**, I will be unable to attend the symposium.

Name:_____

Title:_____

Affiliation:_____

Address:_____

_____

Phone: _____ Fax: _____

E-mail: _____

Register via email: nkahl@nae.edu
Fax: 202-334-2290
Mail:
National Academy of Engineering
Attn: Nathan Kahl
Program Office NAS 301
2101 Constitution Avenue, NW
Washington, DC 20418

021276

2001-021276 9/17/01 3:30

NATIONAL ACADEMY OF ENGINEERING

2101 Constitution Avenue, NW
Washington, DC 20418
http://www.nationalacademies.org

Office of the President
202 334 3201 / Fax: 202 334 1680
E-mail: wwulf@nae.edu

13 September 2001

Hon. Robert Gordon Card
Under Secretary
Department of Energy, 7A-219
Washington, DC 20585-1000

Dear Hon. Card:

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29974

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Shaping America's Energy Future

National Academy of Engineering Technical Symposium

October 9, 2001

Location
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Name:_____

Title:_____

Affiliation:_____

Address:_____

_____

Phone: _____ Fax: _____

E-mail: _____

Register via email: nkahl@nae.edu
Fax: 202-334-2290
Mail:
National Academy of Engineering
Attn: Nathan Kahl
Program Office NAS 301
2101 Constitution Avenue, NW
Washington, DC 20418

2001-021447 Sep 19 A 10:15

FAX

Senator Richard J. Durbin
Chairman
Senate Governmental Affairs Committee
Subcommittee on Oversight of
Government Management, Restructuring,
and the District of Columbia
Hart: 439
Phone: (202) 224-5538
FAX: (202) 228-0454

TO: Joyce Brady

FAX #: (202) 586-0143

FROM: Sarchi Bhandary

DATE: 9/18/2001

RE: Constituent Letter

Message: Enclosed you will find a message from a constituent regarding Energy policy. Please answer his question and send a copy to Sarchi Bhandary in Durbin's office. Thank you for your attention to this matter.

No. of Pages (Including Cover Sheet): 3

29976

2001-021447

Department of Energy
Washington, DC 20585

OCT 12 2001

The Honorable Richard Durbin
United States Senate
Washington, DC 20510-0505

Dear Senator Durbin:

Thank you for your fax of September 18, 2001, on behalf of your constituent, Paul Shafer. I have been asked to respond to his questions about national energy policy and power parks.

On May 17, 2001, the President released the National Energy Policy, which had been prepared by the National Energy Policy Development Group. The plan envisions a comprehensive, long-term strategy that uses leading edge technology to produce an integrated energy, environmental, and economic policy. The plan in its entirety is on the Internet at http://www.energy.gov/HQPress/releases01/maypr/energy_policy.htm. More general information on energy and the Department of Energy (DOE) can be obtained by accessing the DOE website at http://www.energy.gov.

Electrical energy parks, or "power parks," are of great interest to DOE. Using a combination of renewable and fossil resources, we believe electricity could be generated closer to its point of use. The generating technologies used in this distributed energy effort could well be grouped in a park, which would make maximum use of each technology's strength to assure a stable and continuous supply of electricity.

DOE is currently conducting a feasibility study of a hydrogen "power park" concept. The envisioned facility will provide electric power and heat to a building complex or industrial facility by means of hydrogen delivered from a centralized reformer. Phase one of the project will be a feasibility study that will include testing and evaluation of a small- scale project. Phase two will consist of a full demonstration and monitoring activity, with power and heat supplied to the building or residential complex or to an industrial facility.

29977

Thank you for your interest in the nation's energy plan and for your ideas on "electrical energy parks." If you have any further questions you may contact me or have a member of your staff contact Mr. Jim Threlkeld, Office of Congressional and Intergovernmental Affairs, at (202) 586-4807.

Sincerely,

Robert K. Dixon, Ph.D.
Deputy Assistant Secretary
Office of Power Technologies

2001-022255 10/2 A 10:33

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 19 2001

EXECUTIVE SECRETARIAT

James N. Solit, Director
Office of the Executive Secretariat
U.S. Department of Energy
Room 7E-054
1000 Independence Avenue, SW
Washington, DC 20585-0101

Dear Mr. Solit:

Enclosed is a letter regarding the Administration plans to adopt short-sighted energy proposals. It was sent to the White House and then referred to U.S. Environmental Protection Agency for a response. However, after review, we determined that the subject matter doesn't fall under the jurisdiction of this Agency. Therefore, I am forwarding this correspondence to your agency for response.

If you have any questions, I can be reached at (202) 564-7313.

Sincerely,

Wanda Y. Ford
Communication Specialist

Enclosure

cc: Trudy Roddick
Director, Mail Analysis
The White House
Room 58, EEOB
Washington, DC 20502

Printed on Recycled Paper

29979

RN.
1-24-01
-PX

Hydropower
Dam

01 JUL 7 ... 59

President George W. Bush:
The White House
1600 PA Ave. NW
Washington, DC 20500

Dear Mr. President:

I am dismayed by reports that your Administration plans to adopt short-sighted energy proposals that would harm rivers by rolling back environmental standards, allow more pollution, and risk destroying vital fish and wildlife habitat – all for an insignificant increase in energy.

I respectfully urge you to bring hydropower dams into compliance with modern environmental standards, enforce and strengthen pollution regulations, and help America achieve greater and lasting energy independence by promoting efficiency incentives to consumers and businesses, and encouraging wind, solar, and other truly renewable, non-polluting sources. Save our rivers through a sound national energy policy.

Sincerely,

Jacob D. Lee

Jacob D. Lee.

29980

b(6)

Secretary, The

From:	robertburns:
Sent:	Sunday, September 09, 2001 6:05 PM
To:	Secretary, The
Subject:	Select

b(6)

FROM: robertburns:
NAME: Robert M. Burns
SUBJECT: Select
ZIP: :
CITY:
PARM.1: TO:the.secretary@hq.doe.gov
STATE: WI
TOPIC: Well Wish
SUBMIT: Send Comments
CONTACT: phone
COUNTRY: USA
MESSAGE: Dear Mr. Secretary, Just taking some time out of this Sunday to write the leaders of our new Executive Branch. You have been left a mess to say the least. Since I deliver liquide air products to refineries and nuclear power plants, liquide nitorgen, etc, I see first hand how safe these antiquated facilities still are. We need many new ones built. With the recent fire at the Citgo Refinery, which I witnessed first hand, gas prices have climbed in my area. I saw an old refinery operating at 99%, and yet the layers of safety at this site prevented a major disaster. Needless to say, we had to pump tons of nitrogen in to the system to prevent any further mishaps. I also watched to main chimney begin to fall over and lay up against other piping. It took an hour for it to slowly lean....thank God. You have the biggest job imaginable in straightening out 8 years of an anti-energy policy for this nation. I wish you all the best, and I hope and pray that you get across to the American people, that 8 years of an anti-energy policy will not be corrected overnight. My efforts will be concentrated in the effort to give you 8 years in your position to fix it. Sincerely Yours, Robert M. Burns
MAILADDR:

b(6)

b(6)

b(6)

SEAL OF EXCELLENCE

CARL J SEAL, JR
SYSTEMS, STANDARDS
& PROCEDURES CONSULTING

b(6)

13 September 1990

President of the United States
The White House
1600 Pennsylvania Avenue
Washington, DC 20500

SUBJECT: Energy Program

Dear Mr. President:

Thirteen years ago and again eleven years ago, I submitted to then President Jimmy Carter and then Deputy Energy Secretary John O'Leary, a proposed Energy Conservation Plan which I thought was most appropriate and timely.

History seems to repeat itself and "we don't always learn our lessons well". The plan as originally submitted is attached for consideration today.

It certainly must be obvious, to you and to all series thinking National Leaders, that a solution to our country's energy and conservation problems will depend upon the American People, with all of us working together and motivated toward a common goal.

Maybe now is the time, under your leadership to begin, establish definitive Energy Policy, and to solicit the support and help of all of us.

I will be most happy to offer my thoughts, original plan updated, and provide additional detail.

Sincerely,

Carl J. Seal, Jr.

Attachment

29982

This article written about 1997.

SLH Corporation on Nasdaq, Exchange Price $5.00 Jan value on 10-14-97

Bob Czeschin's

Oil & Energy Investment Report

"He who controls the oil, controls the world." — Bob Czeschin

Special Report

The Tiny Company that could Double the World's Supply of Oil

A revolutionary new process converts abundant natural gas into "white" crude: crystal clear, and totally free of sulfur, nitrogen, and other impurities that cause pollution. As a fuel, it exceeds the toughest environmental standards *ever* devised.

The unknown company that made this breakthrough could make more millionaires than Spindletop – the famous West Texas gusher that made vast fortunes for hundreds of Texas wildcatters early in the century. *You* can be among them: all you have to do is ... buy the stock!

Even though oil prices have again fallen below US$20 a barrel, anyone who lived through the gas lines of the 1970s cannot help but think of oil as a scarce resource. But that's hardly the case with natural gas. A recent study by Houston, Texas-based Enron puts the world's total supplies of natural gas at 14 quadrillion cubic feet.

Using the new natural gas-to-oil conversion technology, that's enough to produce an astounding 1.4 trillion barrels of oil.

Let me put that number into context. If you counted every last barrel of crude oil on earth, you would wind up with a number close to 1 trillion. So what we're talking about here is a technology that could more than double the world's total existing oil reserves.

Move over Saudi Arabia! After the white crude revolution, your pipsqueak reserves will scarcely amount to a drop in the proverbial barrel!

You sometimes hear oilmen talk of "bagging an elephant" -- wildcatters' slang for a big strike. What we're talking about here is a whole herd of elephants.

It's a discovery large enough to dwarf not only Alaska and the North Sea, but Venezuela, Nigeria, Mexico, the Mideast, and the former Soviet Union -- all rolled into one.

Interestingly enough, the basic chemistry for turning gas into a room-temperature liquid fuel has been around for more than 70 years. It all began in Germany in the early years of the 20th century.

With abundant reserves of low-energy brown coal, but no oil to speak of, Germany has historically never had enough fuel to satisfy her military ambitions. When she surrendered at the end of World War I, the German Army was down to less than 30 days worth of fuel -- with no hope of re-supply. That's why Hitler made the creation of a German synthetic fuels industry a key part of his planning for the conquest of Europe.

In 1923, two German scientists, Franz Fischer and Hans Tropsch, developed a catalytic process for converting a mixture of hydrogen and carbon monoxide gases (called syngas) into liquid, hydrocarbon fuel. Abundant supplies of syngas can be readily obtained from coal (or, alternatively, natural gas). It is the Fischer-Tropsch process on which modern gas-to-liquid conversion technology is based.

By 1940, Germany had 14 such synthetic fuel plants in operation, accounting for 46% of the country's total oil supply, and 95% of its aviation gasoline. Without them, the fabled Luftwaffe could never have gotten off the ground!

After Germany, the country with the next most extensive experience with gas-to-liquid (GTL) conversion technology is South Africa -- which has operated several synthetic fuel plants since the 1950s. When South Africa was the target of sanctions during apartheid, synthetic fuels were seen as a way of lessening its dependence on imported oil.

There was also a brief flurry of interest in synthetic fuels in North America in the aftermath of the oil shocks of the 1970s. Shell Oil has run an experimental plant in Bintulu, in Malaysia's Sarawak state since 1994. Mobil operated a small plant in New Zealand for a while, but gave up on it.

There have been other small projects as well. But the problem has always been cost. Unless oil prices were US$35 to US$40 a barrel, GTL conversion simply wasn't competitive. That is, until now.

How a technological breakthrough makes white crude profitable at US$15 to US$20 a barrel

The present breakthrough has resulted from innovations to the 70-year old Fischer-Tropsch process, plus new catalytic technology that radically cuts costs. With it, natural gas can now be converted to white crude at prices competitive with oil at US$15 to US$20 per barrel.

This will have a huge impact on world energy supplies because it will bring to market vast reserves of natural gas that have previously been unexploitable. A recent report by the energy consulting firm Wood Mackenzie estimates that as much as half the world's proven reserves are located in areas so remote that getting the gas to market by traditional methods would cost more than it is worth.

High-pressure pipelines, an expensive but traditional means of transporting natural gas, are high-risk projects that environmentalists love to hate. So are traditional liquefied natural gas (LNG) plants. (LNG plants lower the temperature of the gas until it turns into a liquid -- just like the liquid nitrogen you may remember from your high-school science class. This liquid can then be transported in massive, refrigerated ships.)

Not only do pipelines and refrigerated LNG plants cost tens of billions of dollars, but when the producing field eventually plays out, you can't just pack everything up and move it to the next one. The only alternative is to abandon your entire investment. Or worse, be forced to expensively dismantle it.

The new GTL technology effectively solves all of these problems. It requires no high-pressure pipelines or cryogenic refrigeration. Plus, it's portable -- so you can move it from one field to the next.

How a traditional nuisance in oil exploration could generate billions in profits

Strange as it may seem, natural gas discoveries made in the course of oil exploration can be such a nuisance that they are often hushed up. The reason is that gas often traps oil that otherwise could be profitably extracted.

In the old days, when this happened, drillers would burn the gas off just to get rid of it. In some parts of the world, oilfields were illuminated day and night by hundred-foot-high flares of burning natural gas. But nowadays, people fret about greenhouse gases, and governments are less likely to turn a blind eye toward such practices than they once were. If the gas can't be burned off, it may have to be pumped back into the ground (re-injected).

But suppose you could convert this natural gas to white crude at competitive prices. White crude is liquid at room temperature and therefore requires no expensive cryogenic refrigeration. It can be transported in tanks like any other conventional liquid, or pumped through existing oil pipelines.

Suddenly, all those natural gas reserves that used to cost too much to develop would have a new lease on life. Oil companies around the world are literally sitting on billions of dollars worth of sleeping assets in the form of previously unexploitable natural gas deposits -- which could be profitably harvested by the new GTL technology. Not surprisingly, many of them have beaten a path to the doors of the companies with the leading technology in this area.

Two companies with rival techniques are battling it out to become the world leader in GTL technology. One of them is a household name. Exxon has developed its own new GTL process, dubbed AGC-21. It is building a big plant in the Mideast, where it will process natural gas from Qatar's mammoth offshore gas field. When complete, it will be able to produce 50,000 barrels of white crude a day.

The other company has what I think is the most promising technology. But it is an upstart that nobody has heard of: Oklahoma, USA-based Syntroleum (which has only 16 employees). Syntroleum is also potentially far more profitable for investors, as well. Here's why.

1) Oxygen. The Exxon process requires a supply of pure oxygen -- which normally is produced by chilling air. This is an expensive procedure that requires its own plant and consumes vast quantities of energy all by itself.

The Syntroleum process dispenses with the need for pure oxygen and uses plain old air instead. This means lower energy consumption and a GTL plant that costs as much as 25% less to build.

2) Contaminants. Impurities such as nitrogen, carbon dioxide, or hydrogen sulfide sometimes contaminate natural gas supplies and cause trouble for GTL conversion. The Exxon process requires natural gas to be relatively free of such contaminants. The Syntroleum process does not require that the gas be free of contaminants before the gas can be used.

3) Scalability. One big difference between the Exxon and Syntroleum processes is the scale of operation required to reach maximum efficiency. The Exxon process is strictly large-scale: 50,000 barrels a day and up.

But a plant that size consumes a billion cubic feet of gas a day. Over a 30-year expected life-span, it will require 5.4 trillion cubic feet. The problem is that only about 2% of the world's gas fields are large enough to support such a plant. By contrast, the Syntroleum process is specifically designed to scale down to 2,500 to 5,000 barrels per day while still remaining profitable.

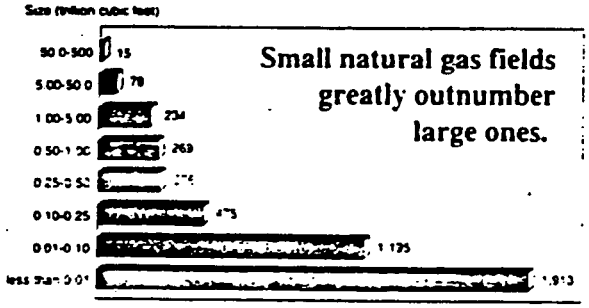
That means it is applicable to more than 40% of the world's gas fields -- which hold approximately 95% of the world's gas.

4) Portability. A small-scale Syntroleum facility is physically small enough to sit on a barge or the deck of a ship. (In fact, the company has already lined up the engineering firm of Brown & Root to develop a barge-mounted facility.)

That means you could move it to wherever the gas is -- which is a lot cheaper than building pipelines across hostile terrain. And when one gas field is exhausted, you simply move it to the next.

The major chemical byproduct of both GTL conversion processes is pure H_2O. For example, a plant that produces 5,000 barrels per day of white crude will also produce as much as 315,000 gallons of water that is clean enough to drink.

Small, portable GTL plants have a large advantage, because ...



Because there are far more small gas fields than large ones, small portable GTL plants like the ones Syntroleum is developing have a much larger potential market than the huge, immovable plants Exxon is developing.

The conversion process also generates lots of heat -- which the Syntroleum design uses to generate electricity.

A 10,000 barrels per day GTL plant is capable of producing 50 megawatts of electricity -- enough to run the plant plus plenty left over for sale to a local power grid. (That alone could be worth several thousand dollars an hour.)

The fact that a portable Syntroleum plant generates its own electricity and drinking water, makes it perfectly suited for remote locations.

How GTL technology could turn the energy industry upside down

Consider, for example, Alaska's remote North Slope -- which has 30 trillion cubic feet of gas, but no economic way to get it to market.

The conventional approach would be to build a high-pressure pipeline across 800 miles of environmentally sensitive terrain, at a cost approaching US$10 billion.

But with GTL technology, you could use the existing Alaska pipeline -- which was built in the 1970s.

In recent years, the volume of oil flowing through the pipeline has already begun to decline as the peak years of Alaskan production are past. So spare capacity is not a problem.

A recent study by the US Department of Energy concluded that using GTL conversion on Alaska's North Slope could put as much as an additional 3 billion barrels of synthetic liquids though the pipeline. Because the pipeline's operating costs are spread over more barrels, the more volume it carries, the less expensive it becomes for everyone.

Here's another thing. All major pipelines require a certain minimum volume to remain in operation. In the case of the Alaska pipeline, the minimum flow is 200,000 to 400,000 barrels a day -- or you have to shut it down. The additional volume of white crude would ensure that the flow remained comfortably above minimum levels for another 20 years.

Extending the operational life of the pipeline by another two decades is an important benefit in itself. It means that more Alaskan oil will ultimately be produced: especially oil that would otherwise have stayed underground because alternative transportation costs were too high or because it wasn't discovered before the pipeline shut down.

Of course, the potential beneficiaries of the new GTL technology go far beyond Alaska. Russia, with its vast gas reserves, could save billions of dollars that would otherwise have been spent on upgrading conventional oil refineries to produce clean, high-quality fuels. Other developing countries might be able to entirely avoid investment in expensive conventional energy infrastructure projects.

Because of Syntroleum's ability to profitably tap small gas fields (as well as large ones), it can be used for 95% of world gas reserves.

World Gas Reserves

Cashing in on the GTL breakthrough

As I mentioned earlier, the two companies that I think have the leading GTL technology are Exxon and Syntroleum. Because it's a big, integrated oil company, buying shares in Exxon is the conservative way to invest in the future of this breakthrough technology.