Searching for a National Energy Policy

The United States and the world face a daunting array of energy-related challenges. We must work out how to provide, reliably and affordably, the supplies of fuel and electricity needed to sustain and build economic prosperity. We must limit the financial drain, vulnerability to supply-price shocks, and risk of armed conflict that result from overdependence on foreign oil. We must reduce the environmental damage done by technologies of energy supply, ranging from local and regional air pollution to the disruption of global climate. We must minimize the accident and proliferation dangers associated with nuclear energy.

The place of these issues on the public agenda depends on whether they appear to be going well or badly. And for most of the past 15 years, energy matters have seemed to most Americans to be going rather well. Real energy prices were falling. Gasoline lines and electricity blackouts were absent. Urban air quality was generally improving. The science of the impact of fossil fuel use on global climate was widely seen as contentious and inconclusive. There were no major nuclear-reactor accidents after Chernobyl (1986), and concerns about nuclear proliferation and the nuclear energy’s role in it were on the back burner.

Much of this has now changed. Heating oil shortages and price spikes in the winter of 1999–2000 were followed by huge increases in natural gas prices in 2000, with painful effects on homeowners, industrial users, and electricity generation. The electricity crisis in California focused the attention of the nation on whether the reliability and affordability of the electricity supply could become casualties of defects in electricity-sector deregulation in other states as well. Oil imports, in the meantime, crept up from their 1985 low of 29 percent of U.S. oil consumption to 57 percent in 2000. Meanwhile, the improving trend in urban air quality has slowed; the scientific consensus about the reality and seriousness of fossil fuel-related global climate change has solidified; and nuclear proliferation has been propelled back onto

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the front burner by the 1998 Indian and Pakistani tests and by U.S. concerns about Russian sales of nuclear energy technology to Iran.

As a result of these developments, energy policy is again a matter of public concern. What will the new Bush administration do about it? What should it do?

Drilling our way out of dependency?

Early indications are that the new administration plans to make drilling in the Arctic National Wildlife Refuge (ANWR) the centerpiece of its energy policy. That would be a mistake. The contribution of the ANWR to domestic oil supplies would, at best, be slow to start, modest at its peak, and strictly temporary, providing limited leverage against the oil-import part of our energy problems and almost no leverage at all against the other parts. Whether the ANWR belongs in the national energy portfolio at all—given the ratio of its possible benefits to its costs and risks—is problematic. It certainly should not be the centerpiece.

Overdependence on imported oil is a very real problem. U.S. oil imports are running over 10 million barrels per day, out of total domestic consumption of about 18 million barrels. A quarter of U.S. imports come from the Persian Gulf, and another quarter from other Organization of Petroleum Exporting Countries (OPEC) members. The bill for oil imports in 2000 was well over $100 billion, passing one percent of GNP for the first time since 1985. The economic impact of oil-import dependence is still not as great today as it was 20 years ago, because oil’s share of the nation’s energy mix has fallen since then, and because the amount of energy needed to make a dollar of gross domestic product (GDP) has also fallen. But the impact is considerable in sectors of the economy that remain heavily dependent on oil, and oil dependence as a fraction of national energy supply is high enough to make the defense of foreign oil supplies a major mission of U.S. armed forces and, indeed, a potential source of actual armed conflict. Moreover, under a business-as-usual scenario, U.S. oil imports are projected to continue to rise. Net U.S. imports of oil in 2020 under the “reference” case in the latest Energy Outlook report of the U.S. Energy Information Administration (EIA) will reach 16.6 million barrels per day, which is 64 percent of projected U.S. consumption. And because both OPEC and the Persian Gulf hold larger shares of world reserves than of current production, their shares of world production and exports are likely to increase over time. The prospect of increasing dependence on these unpredictable partners by the United States, its allies, and even some of its potential adversaries is not reassuring in economic or national security terms.

Dependence on imported oil can be reduced by increasing domestic oil production or by reducing oil use; the latter can be achieved either by increasing the efficiency with which oil is converted into goods and services or by substituting other energy sources for oil. All of these approaches have been used in varying degrees over the past two decades, and all of them have a role to play in the decades ahead. All of them can and should be strengthened with further policy initiatives. But analysis of recent history and future prospects indicates that much larger gains will come from reducing consumption through efficiency increases and substitution than from increasing domestic production.

U.S. domestic oil production declined between 1970 and 2000, despite the urgency that the oil embargoes and price shocks of the 1970s placed on increasing exploration. The all-time peak of U.S. domestic production of crude petroleum plus natural gas plant liquids (together characterized as “total petroleum”) was 11.3 million barrels per day in 1970. By 2000, it was only 8.0 million barrels per day. It is hard to estimate the amount by which prices, policies, and technological improvements slowed the decline in U.S. domestic oil production over this period from what it otherwise would have been; certainly, advances in seismic exploration, horizontal drilling, and secondary oil recovery helped add to U.S. production. Nonetheless, Alaska’s contribution (which peaked at about 2 million barrels per day) had fallen by 2000 to about 1 million barrels per day, and U.S. offshore production was contributing about the same 1.5 million barrels per day to domestic supply at the end of the 1990s as it had contributed 30 years earlier.

Stemming the expected continuing decline in domestic petroleum production in the decades ahead will not be easy, with or without the ANWR. According to the EIA reference scenario, which does not consider production from the ANWR, U.S. domestic petroleum production will be only 7.5 million
The contribution of the ANWR to domestic oil supplies would at best be slow to start, modest at its peak, and strictly temporary.

Efficiency first

The historical record reveals the potential of the energy "resource" that is available in efficiency improvements. From 1955 to 1970, the energy intensity of the U.S. economy stayed essentially constant, at about 19 quadrillion British thermal units (Btu) per trillion 1996 dollars of GDP. But from 1970 to 2000, driven in the first part of this period by the oil price shocks of the 1970s and later by continuing technological innovation and structural changes in the economy, energy intensity fell at an average rate of 2 percent per year. In the year 2000, it was 10.5 quadrillion Btu per trillion 1996 dollars. As a result, total U.S. energy use in that year was 79 quadrillion Btu lower than it would have been if energy intensity had remained at the 1970 value.

For most of the past 30 years, oil's share of U.S. energy supply slowly declined as well, falling from 43.5 percent in 1970 to 38.8 percent in 2000. If oil share and energy intensity had both remained at their 1970 values, the U.S. economy of the year 2000 would have required 36 million barrels per day of crude oil rather than the 18 million barrels per day it actually used.

As for the future, it remains clear that by far the greatest immediate as well as longer-term leverage for reducing dependence on imported oil lies in increasing the efficiency of energy use overall and of oil use in particular. (Improvements in overall energy efficiency free up non-oil sources of supply that can then, in principle, substitute for oil.) Notwithstanding the impressive efficiency gains over the past 30 years, every serious study of the matter indicates that the technical potential for further improvements remains large. Most studies also indicate that further efficiency increases are the most economical option available for reducing oil dependence.

The EIA reference forecast projects an average rate of decline of 1.6 percent per year for the energy intensity of the U.S. economy over the next 20 years.
This already reduces total U.S. energy use in 2020 by about 50 quadrillion Btu (equivalent to about 23 million barrels of oil per day) as compared to what energy use would be if the energy intensity of the economy remained at its 2000 value and economic growth averaged, as EIA assumes, 3 percent per year. If the rate of decline in U.S. energy intensity from 2000 to 2020 were as high as was achieved from 1995 to 2000 (2.8 percent per year) the further savings in U.S. energy use in 2020, beyond those in the EIA reference forecast, would be equivalent to another 11 million barrels per day of oil.

The potential for efficiency improvements is now more apparent than in the transportation sector. In 2000, more than 12 million barrels per day of petroleum products were being used for transportation fuel: 8 million barrels per day of that in gasoline and 2 million barrels per day in diesel fuel. U.S. automotive fuel economy has been essentially constant since 1991, at about 21 miles per gallon, thanks to the false reassurance of low gasoline prices, the absence in recent years of increases in the Corporate Average Fuel Economy (CAFE) standards, and the growing proportion of sport utility vehicles and pickup trucks purchased by consumers, for which the current CAFE standards are lower than for ordinary cars.

Perfectly comfortable and affordable hybrid cars already on the market get 60 to 70 miles per gallon. With the help of the government-industry Partnership for a New Generation of Vehicles, more advanced hybrid and possibly also fuel-cell-powered cars that would get 80 to 100 miles per gallon could be on the market before 2010. Straightforward arithmetic shows that doubling the average fuel economy in a U.S. fleet of gasoline-burning vehicles the size of today's would save 4 million barrels of oil per day. Comparable efforts to improve the fuel economy of trucks, as recommended in the 1997 study of U.S. energy R&D strategy that I chaired for the President's Committee of Advisors on Science and Technology (PCAST) in 1997, could save a further 1.5 million barrels per day by 2020. A government initiative to help bring this about was launched last year.

Specific opportunities for major efficiency increases are easily identifiable in industry and in residential and commercial buildings as well. In industry, these opportunities include: increased use of advanced combined-heat-and-power systems; improved electric motors and drive systems; and reductions in process-energy requirements in the chemical, petroleum-refining, forest products, steel, aluminum, metal-casting, and glass industries (which together account for about 20 percent of total U.S. energy use). The EIA projects overall industrial energy intensity to fall 25 percent between 2000 and 2020 in the reference case and nearly 30 percent in a high-technology case. The 1997 PCAST study and studies by the Department of Energy (DOE) national laboratories have argued that bigger gains are possible.

In residential and commercial buildings, advances in the energy performance of the building shells and of the energy-using devices inside—especially in air conditioning, refrigeration, heating, and lighting—offer big potential gains. For example, the EIA high-technology case knocks 1.5 quadrillion Btu off the 5-quadrillion Btu growth projected for the residential sector in the period from 2000 to 2020 in the reference case, and a "best available technology" case reduces the 2020 figure by another 4 quadrillion Btu to a level below current use. The Partnership for Advancing Technology in Housing, launched in 1998, aims to achieve a 50 percent improvement in efficiency in new homes by 2010.

Expanding non-oil energy supplies

Although the largest and most cost-effective leverage in the decades immediately ahead resides in increasing energy efficiency, there is also considerable potential in expanding energy supplies from sources other than oil. The sources with the largest short-term and medium-term potential to directly displace oil in the U.S. energy mix are natural gas and biofuels.

Natural gas could displace oil in a number of industrial applications, in home heating, and in motor vehicles. In the EIA reference case, petroleum use in the industrial sector increases between 2000 and 2020 by the equivalent of 1.2 million barrels of crude oil per day, and natural gas use increases by about the same amount. In principle, higher growth of natural gas use could displace some or all of that growth in the use of petroleum. Residential use of oil, accounting in total to the equivalent of about 600,000 barrels of crude oil per day in 2000, falls by about 100,000 barrels per day by 2020 in the EIA reference scenario, whereas natural gas use in the resi-

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The first step the Bush administration and Congress ought to take in reshaping U.S. energy policy is to boost federal spending for energy R&D.

by replacing oil-fired electricity generation with other fuels is quite limited. In 2000, oil generated only 2.7 percent of U.S. electricity, using 500,000 barrels per day. In the EIA reference scenario, oil use for electricity falls by 2020 to less than 100,000 barrels per day. Instead, we should focus on developing technologies to displace the use of natural gas to produce electricity so that this natural gas could then be used to displace oil in the industrial, residential, and transportation sectors.

From an environmental, and quite possibly economic, standpoint, the most attractive candidates to displace some of the growth of gas-fired generation envisioned in the EIA scenario are the non-hydro renewable sources. A very conservative estimate of their potential for doing so out to 2020 is provided by the EIA "high renewables" scenario, which in 2020 obtains 107 billion kilowatt-hours (kWh) from biomass: about 65 billion kWh each from wind and geothermal and 3 billion kWh from solar. The additional non-hydro renewable energy generation in this scenario, compared to the 2000 figure, totals 145 billion kWh, which is equivalent to about 700,000 barrels per day of oil.

The EIA estimate of renewable electric potential is conservative, because the EIA study did not consider the possibility of substantial increases in the prices of fossil fuels or the possibility of major policy changes that would sharply increase the incentives for expanding the use of nonfossil fuels. When the 1997 PCAST study made some estimates of what might be achievable from renewable electric options under prices or policies that encouraged these options very strongly, it found the potential for as much as 1,100 billion kWh by 2025 from wind systems with storage technologies and similar quantities by 2035 to 2050 from solar-electric systems with storage, from biopower, and from hot-dry-rock geothermal.

These are possibilities, not predictions, but the figures do indicate very large potential; 1000 billion kWh per year is the equivalent of about 5 million barrels of oil per day.
As for nuclear energy, there are no new nuclear power plants on order in the United States, and no new orders are likely as long as gas-fired electricity generation remains as cheap as EIA expects. The range of nuclear contributions in 2020 in the EIA scenarios thus depends only on how many current plants are still operating. The difference between the EIA’s “high nuclear” and “low nuclear” variations in these respects amounts to 240 billion kWh in 2020, which is equivalent to 1.2 million barrels of oil per day.

The 1997 PCAST study recommended a modest increase in federal nuclear energy R&D in order to clarify safety issues associated with license extension, and it recommended a somewhat larger and longer-term nuclear energy research initiative focused on clarifying the prospects for improvements in the cost, safety, waste management, and proliferation resistance characteristics that will determine whether deploying a new generation of nuclear reactors in the United States in the longer term becomes a real option. PCAST also recommended an increase in the funding for R&D on fusion energy, which, although it remains far from commercialization today, could conceivably make a large contribution to electricity generation in the second half of the 21st century.

Recent policy

The potential to reduce U.S. oil dependence using currently available as well as still-to-be-fully-developed energy efficiency and non-oil energy supply options is clearly very large. The question is how much of this technical potential will be realized in practice, and by when. The key to expanded use of the currently available options is incentives. The keys to achieving the potential of the emerging options are first, research, development, and demonstration; and second, incentives to promote the early commercialization and widespread deployment of the results.

Energy R&D is valuable for many reasons beyond reducing costly and dangerous overdependence on foreign oil. It can reduce consumer costs for energy supplies and services, increase the productivity of U.S. manufacturing, and improve U.S. competitiveness in the multi–hundred-billion-dollar world market for energy technologies. It also can lead to improvements in air and water quality, help position this country and the world to cost-effectively reduce greenhouse gas emissions, improve the safety and proliferation resistance of nuclear energy operations everywhere and enhance the prospects for environmentally sustainable and politically stabilizing economic development around the world.

Many of these benefits fall under the heading of “public goods,” meaning that the private sector is not likely to invest as much to attain them as the public’s interest warrants. That is one of the main reasons why the government needs to support energy R&D, even though the private sector will continue to do a considerable amount on its own. The 1997 PCAST study concluded that the federal government’s applied energy technology R&D programs (then totaling $1.3 billion per year for fossil, fission, fusion, renewable, and end-use efficiency technologies combined) were “not commensurate in scope and scale with the energy challenges and opportunities that the 21st century will present, [taking into account] the contributions to energy R&D that can reasonably be expected to be made by the private sector under market conditions similar to today’s.”

Accordingly, the PCAST study recommended increasing DOE’s budget for these programs to $1.8 billion in fiscal year (FY) 1999 and $2.4 billion in FY 2003 (figures are in as-spent dollars). The R&D portfolio proposed by PCAST addressed the full range of economic, environmental, and national security challenges related to energy in the short and long term. Also recommended were a number of improvements in DOE’s management of its R&D efforts.

In its FY 1999 budget request, the Clinton administration included a total increment of about two-thirds of what PCAST recommended for that year, and Congress appropriated about 60 percent of the request. The net result was an increment about 40 percent as large as PCAST recommended for FY 1999. Appropriations continued to increase in FY 2000 and FY 2001, but the gap between the PCAST recommendations and the amounts appropriated widened: In FY 2001, the total applied energy technology R&D appropriation was $1.7 billion—$0.5 billion below the PCAST recommendation for that year. The details of the Bush administration’s request for FY 2002 are not available as this is written, but indications are that there will be cuts in most of the energy R&D categories. (It is worth noting that the $0.5 billion gap for FY 2001 could be paid for with half a cent per gallon from the federal gasoline tax and that
fully funding the PCAST recommendations for FY 2002 would barely return real spending for these purposes to where it was in FY 1991 and FY 1992, under the senior President Bush.

A followup PCAST study in 1999, which I also chaired, focused on the rationales for and ingredients of the federal role in strengthening international cooperation on energy innovation. The resulting 1999 report, Powerful Partnerships, noted that many characteristics of the global energy situation that affect U.S. interests will not be adequately addressed if responses are confined to the United States, or even to the industrialized nations as a group.

The oil import problem is one compelling example, insofar as the pressures on the world oil market and on oil from the politically fragile Persian Gulf depend on the sum of all countries' imports. The solution therefore depends on the pace at which options that displace oil imports are deployed in other countries, not just in the United States. Another problem whose solution depends on deployment of advanced technologies everywhere is the contribution of anthropogenic greenhouse gases to global climate change. In addition, the use of public/private partnerships to promote energy technology innovation abroad, as proposed by the 1999 PCAST panel, would help U.S. companies increase their share of the trillions of dollars in energy technology purchases that developing countries will be making over the next few decades.

The panel recommended an increment of $250 million per year, beginning in the FY 2001 budget, for federal support for international cooperation on energy research, development, demonstration, and deployment. These recommendations have not fared as well so far as the 1997 recommendations on U.S. domestic energy R&D. The Clinton administration did form the interagency task force that the panel had recommended for coordinating the government's efforts in this domain, and the FY 2001 budget request contained an International Clean Energy Initiative of $100 million. But only $8.5 million of this was actually appropriated by Congress.

A new national energy policy
The first step the Bush administration and Congress ought to take in reshaping U.S. energy policy is to boost federal spending for energy R&D and for international cooperation on energy technology innovation to the levels recommended in the 1997 and 1999 PCAST reports. The investments involved are modest; the PCAST studies and many others have shown that the returns on such investments in the past have been high; and the leverage that advanced energy technologies offer now against looming energy-linked challenges in the economic, environmental, and national security dimensions of the public's well-being is immense.

That should be the easy part. More difficult, but nonetheless essential, is to put in place an array of price and nonprice incentives and other policies that will encourage the deployment of energy efficiency and advanced energy supply technologies in proportion to their public benefits. Elements of such an array should include tighter CAFE standards, expanded use of renewable energy portfolio standards and production tax credits, and energy efficiency standards and labeling programs for energy-using equipment in residential and commercial buildings.

Perhaps most important, the price signals affecting our energy choices will not be "right" until they better reflect the high costs and risks to our society from the climate-imperiling emissions of carbon dioxide by fossil fuel combustion and from overdependence on imported oil. The sensible action, which could easily be made consistent with the desire of the Bush administration to cut taxes overall, would be to increase taxes on things that society has an interest in constraining (in this case, oil use and emissions of carbon dioxide to the atmosphere) while decreasing taxes on things we want to encourage (such as income and capital gains).

The natural antipathy of consumers to higher en-
ergy taxes could be alleviated not only with offsetting reductions in other taxes but also with education about the economics of the matter. Failing to reflect the dangers of overdependence on oil imports and climate-disrupting emissions in the price of energy from fossil fuels is a prescription for underinvesting in technological alternatives that would reduce these dangers. And underinvesting now is a prescription for higher costs later in the form of bigger damages from climate change and higher oil import bills. It should also be remembered that the revenues from energy taxes, unlike those from OPEC price hikes, stay in the United States, where the money can be used not only to reduce other taxes but also to reduce the disproportionate effects of energy price increases on the poor and to support research, development, demonstration, and accelerated deployment of advanced energy options.

What should be the role, finally, of the ANWR in a new national energy policy? As already indicated, the contribution from the ANWR would be modest at best—very limited even in its temporary leverage against oil imports and relatively short in duration—but bought at a high environmental (and political) cost. Whatever the ANWR might bring in the way of a modest and temporary reduction in oil import requirements, it would buy against the parallel problem of climate change risks and little if anything against electricity supply problems such as those plaguing California.

Still, if there were few or no alternatives to the ANWR for reducing dependence on oil imports, one might imagine the public’s swallowing the sacrifice of energy development in this unique wilderness. But there are abundant alternatives. Expanded use of natural gas is more promising in the short term, and expanded reliance on biomass and other renewables is more promising in the middle and long terms. And the potential of improvements in energy efficiency dwarfs that of the ANWR in the short, middle, and long terms alike. Renewable energy sources and efficiency, moreover, address climate risks and electricity supply as well as oil dependence, and they are sources that keep on giving, in contrast to the temporary contributions of a new oil field.

If the Bush administration and Congress adopt the more comprehensive, more technology-centered, and more forward-looking approach outlined here for addressing the energy challenges facing this country and the world, the ANWR will not be needed. We will be able to have the energy we need, and our wilderness too. If, against all odds, the contributions of alternatives to the ANWR prove, 10 or 20 years down the road, to be insufficient, then whatever oil lies beneath that particular piece of Arctic tundra will still be there to be found. In the meantime, it may be hoped that President Bush and his advisors will not allow a divisive struggle over developing the ANWR to distract us from fashioning the larger strategy that our energy challenges and opportunities require.

Recommended reading


May 14, 2001

The Honorable Dick Cheney
Vice President of the United States
Eisenhower Executive Office Building
Washington, D.C. 20501

Dear Mr. Vice President:

As the CEO and founder of one of America's independent oil and gas producing companies, I have been extremely encouraged by your remarks on energy and enthusiastically anticipate the President's energy policy to be released this Thursday. After so many administrations and such volatile times in the energy business, it is indeed refreshing to anticipate the Bush Administration's intent to tackle a politically supercharged, yet necessary, task of bringing some purpose and reason to fulfilling America's energy needs. We who know this industry understand that the time has come to resolve this issue for the sake of future generations.

My company generates its exploration capital from small investors and we sometimes partner with like-size companies to finance drilling ventures. Independents, such as my company, are the future for on-shore domestic exploration on private lands. There is a great potential for us independents who are willing and able to deal with land owners and the usual regulatory and environment issues involved in such exploration activities.

In South Louisiana the potential for discovery is revealed in a recent article in GastIPS by Kim Hemsley of Schlumberger. Hemsley's article focuses on the significance of South Louisiana Oligocene-Miocene oil and gas prospects as being the most prolific in North America with great future potential particularly with the new discovery technologies available. South Louisiana in the past 80 year period has produced over 90 TCF of natural gas with proportional quantities of oil or condensate. According to "Petroleum Information/Dwights LLC 1999 petroROM", this production has come from over 860 fields of which 47 have produced at 500 BCF (billion cubic feet), 16 at over 1 trillion cubic feet (TCF), and 5 at 2 TCF.

While this production is impressive, what is more interesting is the fact that of the 70,000 wells that have been drilled in South Louisiana within the Twentieth Century most have been relatively shallow plays according to Hemsley. Only 5,900 wells (8.4%) have penetrated below 15,000 feet. More importantly, only 1,900 wells (2.7%) have penetrated 17,000 feet while a minuscule 205 wells (0.03%) have exceeded 20,000 feet. Hemsley states that wells of total depths below 15,000 feet are concentrated in a small...
fraction of basin area, leaving millions of acres of deep potential untested.

America’s energy needs can only be met by an industry-wide effort of exploration: majors and independents. The major oil companies are well capitalized and can exploit large-scale efforts such as the President’s intention of opening new Federal Lands for exploration. In such efforts, we independents do not have the ability to participate yet we can make a difference in solving America’s energy needs by pursuing exploration activities on a scale and in areas where the major oil companies have long abandoned serious activity.

What the independents need is exploration capital. Such investment capital would be readily available through tax incentives. If individuals in higher income brackets could receive a tax credit for investments in oil and gas exploration activity, independents would have more than enough investment capital to explore the potential deep plays in South Louisiana and other Gulf Coast states. Exploration activity would begin at a high level across the entire spectrum of the oil and gas industry.

Democrats have made much in the Press about the dollar value of the President’s tax cuts for high income individuals. Here is a way for the President to provide a more acceptable tax cut by directing individual investment toward an industry whose efforts will solve a national need that is becoming more evident each day.

Much of this South Louisiana deep potential is natural gas which is fuel the President’s Plan will cite as the energy source for 90% of the new electric power facilities according to an article in today’s WALL STREET JOURNAL which is based upon a recent interview you granted Jim VandeHei.

The oil and gas industry is behind you and the President. We were behind you before the election and now more even more solidly behind you as we see your efforts to address energy issues and tax issues that were heretofore ignored. Tax incentives for energy exploration is a win-win for all Americans. A strong domestic energy base creates jobs, provides for our defense and national security, and will provide market stability and affordable energy for all Americans.

Godspeed you and the President in your efforts to redirect our nation toward a future of security and stability of what we know and enjoy as our American way of life.

Sincerely,

Charles M. Fife, Jr.
President

Cc: Senators Breaux and Landrieu, Representatives John and Tauszn, and Secretary Abraham

28014

Obtained and made public by the Natural Resources Defense Council, May 2002
The Honorable Richard B. Cheney  
Vice President  
Eisenhower Executive Office Building  
Washington, D.C. 20501

NATIONAL ENERGY POLICY – COGENERATION AND PURPA

Dear Mr. Vice President:

Thank you for the opportunity to provide input into the National Energy Policy Development Group. We believe co-generation of electricity should be considered a strategic component of the Administration’s position on energy and environmental policy. The undersigned strongly support the use of co-generation of electricity and steam as a way of improving energy efficiency, reducing air emissions, increasing the reliability of the electric transmission grid and improving the global competitiveness of U.S. Industry.

In this regard, it is important that Congress not amend the Public Utility Regulatory Policies Act (PURPA) to alter statutory provisions that provide for the purchase and sale of power from qualified facilities (QFs). PURPA provides several invaluable protections that allow co-generation plants to function efficiently in a market dominated by monopoly electric utilities. They include connection to the grid, backup power at non-discriminatory prices and the sale of excess power at the utility’s avoided cost.

When enacted in 1978, Sec. 210 of PURPA, among other things, sought to encourage the development of non-utility power generation, specifically renewable power sources. Where it was particularly effective was in establishing an environment in which high-efficiency power generation technologies, such as co-generation, could exist within a monopoly utility structure. The benefits of this greater use of co-generation were made evident by a report issued by the Congressional Research Service last year that included these findings:

- The energy saved from co-generation in 1997 was equivalent to the electricity use of 11.2 million households, or 5 percent of U.S. oil imports.
- NOx emissions savings from co-generation in 1997 were equivalent to removing more than 39 million cars from the road – more than 30 percent of light duty vehicles.
- Without co-generation made viable through PURPA, U.S. electric utility emissions of SO2 would have been 18 percent higher in 1997 than they were, NOx emissions, 14 percent higher.

Any legislative or regulatory changes that alter the statutory provisions that provide for the purchase and sale of power from qualified facilities (QFs) would jeopardize the economic viability of industrial co-generators and other QFs at a time when our nation is desperately short of electric power. Such a reversal of federal law would only add to the uncertainty that has
hampered new power plant development in states that are transitioning to retail competition as well as all but stop industrial co-generation power projects in states with traditional monopoly electric utility regimes.

The undersigned companies and industries depend heavily on co-generation for reliable, competitive and environmentally beneficial electricity and steam. We believe that the time is not right and ask that the Administration oppose any attempts to jeopardize the contributions of industrial co-generation through changes to PURPA.

Sincerely,

Dale P. Louden, Jr.
IFIEC North America Secretary
Director, Legislative Affairs, American Portland Cement Alliance

On behalf of:

Abbott Laboratories
American Chemistry Council
American Forest and Paper Association
American Portland Cement Alliance
Bayer
California Portland Cement Company
Celanese Chemicals
CII Carbon, LLC
Coors Brewing Company
Council of Industrial Boiler Owners
The Dow Chemical Company
Dow Coming Corporation
Eastman Chemical Company
Electricity Consumers Research Council
The Fertilizer Institute
The Goodyear Tire and Rubber Company
Lyondel Chemical Company
McDermott International
PPG Industries
Rhodia, Incorporated
Vulcan Chemicals

cc: Secretary of Energy Abraham

28016
add to schedule

-----Original Message-----
From: Nicole E. Grodner@who.eop.gov\internet
[mailto:Nicole_E._Grodner@who.eop.gov]
Sent: Friday, April 20, 2001 10:53 AM
To: Dandy, Majida; ifenton@doc.gov\internet; 
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michele.poche@ost.dot.gov\internet; linda.figura@do.treas.gov\internet
Subject: Re: NEPD

The next National Energy Policy Development Meeting for Principals' plus 
one is May 2, 2001 at 2:45 p.m. for 1.5 hours. Please confirm that your 
Principal is available for participation.

I will forward the agenda or other relevant materials as they become 
available. Please contact me if you have any questions.

Thank you,

Nicki Grodner
Cabinet Affairs
456-2566
American Gas Association

April 24, 2001

The Honorable George W. Bush
The White House
Washington, DC 20500

Dear Mr. President:

On behalf of the 185 natural gas utility members of the American Gas Association, and their 60 million natural gas customers, I would like to take one more opportunity to say how strongly our industry supports the development of a national energy policy. I also would like to summarize briefly the issues that are of utmost importance to us.

Energy is the lifeblood of our economy, and it is possible to have access to the energy we need to maintain our economy and quality of life, while at the same time protecting our environment. But a comprehensive national energy policy must be put in place if we are to ensure that all of our public interests are balanced.

For America’s homes and businesses to continue to rely on affordable energy we must ensure that energy supply keeps pace with demand. Also, over the next 20 years we will need to use all of our energy resources to meet America’s energy needs, and we will continue to require a safe, reliable and expanding infrastructure to deliver it. A national energy policy should also encourage the use of all available fuels in their most efficient manner, such as the direct use of natural gas in homes and business, and nuclear or coal in central station power plants.

I have attached for your review, once again, our principles and legislative recommendations for a national energy policy, which were developed and approved by the AGA Board of Directors. AGA believes that a comprehensive, balanced energy policy that uses all energy sources to their best advantage, and recognizes the vital role of natural gas, will guarantee the clean, secure, affordable supply of energy that is needed for America’s economic growth and prosperity.

AGA is committed to providing you and Congress the support necessary to enact this type of legislation, which will assure reliable energy security for American families and businesses and thereby ensure prosperity for future generations.

Respectfully,

David N. Parker

Enclosures
cc: Secretary Paul O'Neill
    Secretary Gale Norton
    Secretary Don Evans
    Secretary Ann Veneman
    Secretary Norman Mineta
    Secretary Spencer Abraham
    Director Mitchell E. Daniels, Jr.
    Administrator Christine Todd Whitman
    Executive Director Andrew Lundquist
FEDERAL ENERGY POLICY PRINCIPLES

Preamble
Ample, reliable energy supply at affordable prices is key to providing economic and national security for Americans. The American Gas Association (AGA) recognizes that, while the United States has tremendous energy resources, America's current energy supply and infrastructure will not sustain our growing economy and we need to act now to meet our country's energy needs for the 21st Century.

In order to continue to meet the energy needs of our unprecedented growing economy and provide affordable energy for consumers, America will need to utilize all domestic fuels and energy sources efficiently. This is also the right approach for American citizens who will benefit from more reliable and affordable energy from domestic energy sources, cleaner air, and a stronger economy.

AGA is committed to working to enact a bipartisan, consensus, market-based national energy strategy that will ensure the future security, comfort, and economic well being of our nation's citizens by meeting their energy needs, without sacrificing the quality of our environment. AGA will work with consumers, policy makers, and its partners in the energy industry to accomplish this goal.

Principles
To realize the goal of abundant energy supply for the 21st Century, America needs to enact a market-based, federal energy strategy that would accomplish the following:

1. Meet Consumer Energy Needs
   ♦ Ensure safe, reliable and affordable energy supply for all American families and businesses today and in the future
   ♦ Provide a balanced energy portfolio that promotes the wise use and efficient use of all fuels
   ♦ Encourage necessary long-term energy supply and infrastructure investments
   ♦ Meet the needs of our growing economy and create and preserve American jobs
   ♦ Seek market-based solutions that reduce regulatory uncertainty

2. Ensure the Quality of Our Environment
   ♦ Increase the use of new cleaner and more efficient energy technologies
   ♦ Enhance the development of renewable and cleaner energy sources
   ♦ Increase energy efficiency and energy conservation through sustainable development and fair and balanced incentives and standards
   ♦ Ensure short-term energy and environmental policies support long-term goals

3. Increase our National Security
   ♦ Increase domestic energy supply
   ♦ Achieve greater energy independence through lower foreign oil imports

Obtained and made public by the Natural Resources Defense Council, May 2002
RECOMMENDED NATURAL GAS UTILITY PROVISIONS FOR INCLUSION IN NATIONAL ENERGY POLICY LEGISLATION

Goals:

To decrease America's dependence on foreign oil to fifty percent of oil consumption by the year 2010 by conserving energy resources, improving energy efficiencies, increasing domestic energy supplies, and enhancing the use of renewable energy resources.

To accommodate and facilitate development of an expanded direct use natural gas market for residential, commercial, and industrial consumers, which would benefit the nation through increased economic and energy efficiency, enhanced energy security resulting from reduced dependence on imported oil, and improved environmental quality as a result of lower emissions of CO2 and pollutants.

Key Legislative Components of the Bill

TITLE I—PROVISIONS TO ENHANCE THE USE OF DOMESTIC ENERGY RESOURCES.


Direct the National Academy of Sciences to perform a cost-benefit analysis with respect to utilizing the domestic natural gas resource base to reduce oil-import dependence and to assess the role of new technological developments in the exploration and production process. In making its cost-benefit analysis, NAS must include new exploration and production technologies as a part of the algorithm tested to determine the net benefits of providing access to additional domestic gas resources.

TITLE II—PROVISIONS TO FACILITATE RENEWAL AND EXPANSION OF DOMESTIC ENERGY INFRASTRUCTURE.


(a) Create, within the Executive Office of the President, an Office of National Energy Policy, which will be directed to coordinate and expedite actions of executive-branch agencies and independent agencies to implement national energy policy as expeditiously as possible. The Office shall be directed to coordinate and expedite the actions of these agencies to reduce dependence on foreign oil to fifty percent of consumption, to conserve energy resources, to improve energy efficiencies, to increase domestic energy supplies, to increase energy infrastructure to meet America's energy needs, and to enhance the use of renewable resources. The Office will be empowered to work with relevant state agencies to achieve these goals and shall specifically address state concerns with respect to federal impediments to achieving these goals as well as encouraging solutions to state impediments to achieving these goals.
(b) The Office will be empowered to coordinate and expedite decision-making on permitting processes for development of the pipeline and gas distribution infrastructure necessary to sustain projected natural gas demand in the year 2010. The Office shall be empowered to issue, by rule or order, binding deadlines for completion of required agency actions and to provide that failure to act within the deadlines specified shall be deemed to be approval of the pending application.

(c) The Office will be empowered to enter into consultations with officials of Canada and Mexico with regard to energy issues of mutual concern.


Direct the Office of National Energy Policy, within 6 months, to prepare and deliver to the President and Congress a report assessing existing impediments to development of the domestic energy infrastructure necessary to sustain projected energy demand in the year 2010. The report shall include, among other things, an identification of those impediments that may be overcome by federal administrative action and those impediments that require legislative action.

Section 203. Interagency Working Group on Natural Gas.

Establish, within the Office of National Energy Policy, an Interagency Working Group on Natural Gas to produce a biannual report setting forth a policy and strategy relating to expanding natural gas usage. The Working Group will consult with cognizant state agencies to receive their views with respect to such a strategy.

Section 204. Interagency Task Force on Exploration and Production on Federal Lands.

Establish, within the Office of National Energy Policy, an Interagency and Intergovernmental Task Force on Energy and Federal Lands to streamline regulation of exploration and production on federal lands (including federal waters and the Outer Continental Shelf), while protecting the environment.

The task force shall, within 6 months, prepare and deliver a report to the President and Congress assessing existing impediments to development of the domestic natural gas resource base on federal lands. The report shall include, among other things, an identification of those impediments that may be overcome by federal administrative action and those impediments that require legislative action.

Section 205. Interagency Agreement on Energy Infrastructure.

Direct the Federal Energy Regulatory Commission and all other federal agencies involved in the environmental review of interstate pipeline applications to enter into an interagency agreement to expedite processing of applications, including deadlines for each agency to complete its required actions. Failure of an agency to complete its review by the deadline shall be deemed to be assent to the project.
Section 206. Reduction of Infrastructure Lead Times.

Reduce infrastructure lead-times and federal impediments of state siting through regulatory reform of federal agencies.

Section 207. Increased Funding for Infrastructure Safety and Reliability.

Increase funding on RD&D to enhance pipeline and distribution infrastructure safety and reliability to optimize utilization of pipeline and distribution infrastructure, and to increase the operational efficiency of pipeline and distribution infrastructure.[S. 3002.]

TITLE III—PROVISIONS TO ESTABLISH COMPREHENSIVE, BALANCED AND EQUITABLE EFFICIENCY AND ENVIRONMENTAL REGULATIONS.

Section 301. Congressional Findings.

Congress finds that it is the policy of the United States to reduce the reliance upon foreign-source energy (i.e., energy produced outside North America), to encourage reliance upon energy produced in North America, and to improve the energy efficiency of the United States as a whole. Furthermore, Congress finds that it is the policy of the United States, in implementing energy efficiency measures, to consider principally, but not exclusively, the total energy consumed in an application.

Section 302. Energy Efficiency Programs.

Direct DOE and other agencies to reexamine current efficiency and environmental regulations in light of the stated national energy policy. Charge DOE with placing priority in energy efficiency rulemaking, analysis of energy efficiency policies, and all codes and standards activities on energy efficiency as measured over the full fuel cycle (i.e., Total Energy Efficiency), including air emissions of criteria air pollutants and carbon dioxide and on cost effectiveness of alternatives for achieving efficiency targets.

Section 303. Cost Effectiveness and Economic Justification.

Direct DOE and other agencies to review current regulations and assess future regulations to ensure that the costs and benefits of each energy option are accurately assessed. Provide specific guidance for DOE’s consideration of cost effectiveness and economic justification of energy efficiency regulations and standards, including cost-benefit analysis, stakeholders to be addressed, and fuel competitiveness issues. Much of this section would codify and clarify DOE procedures currently covered by regulations (e.g., the 1996 “Process Improvement Rule”), but which provide considerable ambiguity on the specifics of compliance.
Section 304. Voluntary Standards.

Revise and define the role of DOE staff, national laboratories, and contractors in regard to model codes and voluntary standards to reduce undue federal government influence. Revise the roles of voluntary standards (including ASHRAE standards) in energy policy and the role of DOE in establishing minimum efficiency standards for equipment and buildings to gain more equitable treatment of natural gas end use options.

TITLE IV—PROVISIONS TO PROTECT CONSUMERS AND LOW-INCOME FAMILIES AND ENCOURAGE ENERGY EFFICIENCY.

Section 401. Extend and Increase Funding for LIHEAP Program.

(a) Extend the LIHEAP program from 2001 to 2006, increase the base authorization from $2 billion to $3 billion annually, and increase emergency funds authorization from $600 million to $1 billion annually.

(b) For years subsequent to 2001, ensure that LIHEAP funding tracks changes in low-income consumer fuel costs by increasing the authorization specified in Section 401(a), in formulaic fashion, tracking increases in Energy Information Administration short-term forecasts of residential heating costs.


Authorize $500 million per year for 5 years for capital improvements, including distributed energy resources and natural gas systems, to modernize government facilities through the installation of sustainable energy systems, especially to replace energy systems that are older, less energy efficient and less environmentally sensitive, including high efficiency and renewable energy systems. Sustainable energy systems funded with this authorization must be cost effective as well as environmentally beneficial.

Section 403. Energy Efficiency of School Buildings.

Reauthorize DOE program to increase energy efficiency in school buildings and provide funds to switch buildings to the most economical and efficient energy source.

Section 404. Conversion of Federal Facilities from Oil-Fueled to Gas-Fired.

Authorize federal funds to convert federal buildings and other facilities from fuel oil to natural gas.
TITLE V—TAX PROVISIONS TO ENHANCE THE USE OF CLEAN AND DOMESTIC ENERGY RESOURCES AND TO IMPROVE ENERGY EFFICIENCY.

Section 501. Tax Incentives For Environmental Preservation And Other Costs Associated With Siting and Construction of Energy Infrastructure.

(a) Allow current-year deduction of costs for environmental scoping and preparation of environmental impact statements and studies for new gas distribution, storage, and transmission infrastructure.

(b) Allow three-year accelerated depreciation for environmental mitigation and related actions for new gas distribution, storage, and transmission infrastructure.

(c) Allow seven-year accelerated depreciation for other costs of new gas distribution, storage, and transmission infrastructure.

Section 502. Tax Incentives For Clean, High-Efficiency, Distributed Energy Resources.

(a) Provide tax credits for distributed energy resources, including but not limited to natural gas fuel cells, microturbines, turbines, reciprocating engines, and natural gas cooling and desiccant systems. For natural gas fuel cells, microturbines, turbines, and reciprocating engines, tax credits would be available only for units that are highly efficient and comparatively environmentally beneficial.

(b) Revise depreciation schedules for distributed energy resources and combined heat and power to provide for seven-year depreciation. "Distributed energy resources" for purposes of this section is not limited to particular technologies; instead, electric generation of any type shall qualify so long as approximately fifty percent of the power generated is consumed at the site of the generation, or within reasonable proximity of the site of generation, and the facility has a capacity of 5MW or less.

Section 503. CIAC Repeal.

Remove tax associated with homes and businesses connecting to a utility to receive natural gas.

Section 504. Deduction For Costs of Storing Natural Gas.

Allow deduction of certain expenses associated with the storage of natural gas, including liquefaction facilities and propane-air injection facilities.

Section 505. Tax Incentives for Natural Gas Transportation.

Provide tax credits for NGVs and alternative transportation fuels, including infrastructure required to serve these alternatives.

Section 506. Tax Normalization.

Normalize the treatment of the revised tax provisions in the bill.

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TITLE VI—PROVISIONS TO EXPAND THE USE OF NEW NATURAL GAS TECHNOLOGIES.

Section 601. Energy Research, Development, and Demonstration Funding.

(a) Increase federal funding for research, development, and demonstration for sustained and improved natural gas system reliability and integrity, infrastructure expansion, and reasonable natural gas prices and rapid commercialization of new on-site natural-gas equipment advances that would provide lower emissions, greater North American energy reliability, and sustain America’s leadership in energy technologies.

(b) Utilize ten percent of the federal share of royalties received for production from new federal lands opened to exploration and production to support research, development, and demonstration. This funding will, in aggregate, be subject to a stated dollar cap. Approximately half of these royalties will be designated to support exploration and production RD&D, and half of these royalties shall be designated to support distribution and transmission RD&D.

(c) Authorize for each of the fiscal years 2001-2006 federal funding for natural gas research, development, and demonstration of $600 million annually.


Direct federal government agencies to review existing rules and standards periodically to ensure that promising technologies, such as distributed energy resources that offer diversity of supply and other benefits are not discourage from market entry.

TITLE VII—PROVISIONS TO SUPPORT AND ENCOURAGE ENHANCED DOMESTIC NATURAL GAS EXPLORATION AND PRODUCTION

AGA supports legislative initiatives to increase the production of natural gas from current sources and to bring forth enhanced production from new and potential sources of domestic natural gas supply.
April 25, 2001

Dear Mr. Vice President:

The Business Roundtable strongly commends this Administration for forming a special White House energy task force that will address critical energy issues. We encourage the development of a coherent and comprehensive strategy that effectively responds to the daunting economic, technological and environmental challenges ahead.

Below, the BRT outlines the long-term goals that should shape this strategy, and we offer some short-term recommendations. We are guided by three principles. First, a diverse energy supply promotes energy security and supports economic stability. Second, the Federal Government and private sector should engage in science and technology R&D to address long-term energy and environmental concerns. Third, processes should be developed and followed to align energy and environmental policies.

National Energy Security and Economic Stability is a goal that is now at risk. The wrong policy actions, such as unnecessary federal land use restrictions, popular consumer price caps, and casual opening of national emergency energy reserves, only exacerbate the energy supply and demand problem and undermine market mechanisms. For the most part, this can, and should, be corrected through promoting diverse energy supplies; vigilantly maintaining competitive markets; avoiding price controls; and minimizing or eliminating regulatory, tax and trade disincentives to improving energy efficiency and spurring technology innovation.

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Energy Technology Research and Development is a goal that should be actively pursued by the Federal Government. The U.S. has substantial human resources dedicated to technological innovation, public and private. Public resources should be applied to productive and diverse energy technology R&D, including broad climate change R&D of emission reductions, carbon sequestration and adaptation technologies. These resources should be deployed in collaboration with business to assure that new and existing energy supply and energy conservation technologies are accepted by global markets. However, the government should avoid “picking winners and losers;” therefore, transparent processes should be established which develop and prioritize an energy technology R&D agenda and which continually assess and improve returns on government R&D investments.

Energy and Environmental Policy Alignment is imperative in the current energy crisis. The Federal Government should better align energy and environmental policies and the associated regulatory processes with a view to optimizing the synergies between these areas in policy decision-making. Risk-based analytical methods should be used across Federal agencies to compare, assess and communicate energy technology benefits and human health and environmental risks. Furthermore, ongoing risk analysis can point to the challenges and opportunities for long-term technological innovation, and perhaps, help avoid accelerating and/or escalating, crisis-like swings and clashes.

Finally, the BRT makes the following short-term strategy recommendations.

- Review regulations and regulatory processes both to identify and remove unjustifiable barriers to bringing energy technologies and services to market and to develop incentives that will not only enhance the functioning of the marketplace for energy, but also, achieve greater environmental results. In particular, rationalize and streamline Clean Air Act new source review requirements to produce a simpler, more workable permitting program – one that will not impede the ability of businesses to apply technology to increase process and operational efficiency and improve environmental performance.

- Develop energy and environmental policies that are fully informed by our historical experience with, and understanding of the consequences of, using market interventions such as price caps, natural resource management bars and mandates.

- Establish a balanced and transparent science and technology advisory process of government, industry and academia to identify and prioritize energy and environmental risks and recommend an R&D agenda.

- Bring these actions into a realistic global perspective. National energy independence does not, and will not, exist for the foreseeable future. Such a goal would distort markets and misallocate global resources. Meeting our national energy security needs necessitates supply diversification within a global energy market. Efforts to impose unilateral trade sanctions should be avoided. Foreign direct investment by the U.S. in prospective oil producing countries will be essential to meet future U.S. energy requirements.
The Business Roundtable has long been studying these issues. We have several publications (www.brt.org) that address many of our goals. These include: "Unleashing Innovation: The Right Approach to Global Climate Change," "Environmental Blueprint 2001," "Towards Smarter Regulation," and several others on subjects such as climate change and information management. Please know that we are committed to thoughtfully and constructively engaging these issues and stand ready to participate with you in shaping and executing a strategy that addresses the serious energy problems that confront us.

Sincerely,

Earnest W. Deavenport
Chairman & CEO
Eastman Chemical Company
Chairman, Environment, Technology &
The Economy Task Force
The Business Roundtable

William Cavanaugh
Chairman, President & CEO
Progress Energy, Inc.
Chairman, Energy Committee
The Business Roundtable

cc: The Honorable Spencer Abraham
The Honorable Joe M. Allbaugh
The Honorable Josh Bolten
The Honorable Mitchell Daniels
The Honorable Donald L. Evans
The Honorable Lawrence Lindsey
The Honorable Norman Y. Mineta
The Honorable Gale Norton
The Honorable Paul Henry O’Neill
The Honorable Colin L. Powell
The Honorable Donald H. Rumsfeld
The Honorable Ann M. Veneman
The Honorable Christine Todd Whitman
Mr. Ruben S. Barrales
Mr. Andrew D. Lundquist

Enclosures (3)