

Slower, Costlier and Dirtier: A Critique of the Bush Energy Plan



May 2001

Acknowledgments:

The Natural Resources Defense Council (NRDC) would like to acknowledge the Alaska Conservation Foundation, the American Conservation Association, Inc., The Charles Evans Hughes Memorial Foundation, Inc., the Lewis Anthony Dexter Trust, The Energy Foundation, the Lemmon Foundation, the Public Welfare foundation, the Wellspring Foundation, and The Wyss Foundation for their generous support, as well as our 400,000 members, without whom our work would not be possible.

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The Natural Resources Defense Council is a national, non-profit organization of scientists, lawyers and environmental specialists dedicated to protecting public health and the environment. Founded in 1970, NRDC has more than 400,000 members nationwide, served from offices in New York, Washington, Los Angeles and San Francisco. More information is available through NRDC's Web site at www.nrdc.org.

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May 2001

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Executive Summary

Slower, Costlier and Dirtier: A Critique of the Bush Energy Plan

President Bush's energy plan offers a smorgasbord of incentives for the energy industry, emphasizing the need to increase domestic fossil fuel supplies and renewing a commitment to nuclear power. The administration's proposal – prepared by Vice President Cheney's energy task force – also includes modest proposals related to energy efficiency and renewable energy sources. However, it is clear that, as Mr. Cheney stressed in a recent speech, the Bush administration views conservation as perhaps a “sign of personal virtue,” but “not a sufficient basis for a sound, comprehensive energy policy.”

“Slower, Costlier and Dirtier: A Critique of the Bush Energy Plan” was drafted by a team of NRDC experts, drawn from each of NRDC's program areas. It is intended to be a guide to some of the most critical environmental, health and energy issues affected by the administration's proposal. It responds to statements made by senior administration officials during the development of the plan, and a preliminary review of the report itself. In days to come, NRDC will continue to review the text of the Bush plan, and will provide additional analysis as necessary.

Our review shows that the Bush energy policy is fundamentally flawed. The Bush plan would provide no short-term relief for Americans struggling to pay their gasoline and electric bills this summer. And, over the long-term, it would increase pollution, despoil the environment, threaten public health and accelerate global warming. Moreover, it would have no impact on energy prices, and no practical effect on U.S. dependence on foreign sources of oil. Who would benefit? The oil, coal and nuclear industries that shoveled millions of dollars into Bush campaign coffers.

Fortunately, there is a better way. Our nation can meet its energy needs without undermining environmental safeguards or ruining the last remaining pristine wilderness areas in the country. The cornerstone of a responsible approach is increased energy efficiency and fuel efficiency that relies on readily available, cost-effective technologies. Correspondingly, NRDC and other environmental groups call for reducing U.S. reliance on the dirtiest fossil fuels – coal and oil.

Although Vice President Cheney claims we have to build 1,300 electric power plants over the next 20 years, a November 2000 Department of Energy report found that energy efficiency and renewable power sources could meet 60 percent of the nation's needs for new power plants.

Increasing the energy efficiency of appliances would also save money and reduce air pollution. Unfortunately, President Bush chose to weaken the efficiency standards for new air conditioners issued by his predecessor, a step that by itself will force construction of more than 40 power plants by 2020, cost consumers as much as \$900 million in higher electric bills in that year, and generate an extra 180 million tons of carbon dioxide (CO₂) emissions over the next three decades.

Finally, the administration seems content to wait and study the need for increasing fuel economy of the nation's cars, light trucks and sport-utility vehicles. NRDC believes that it is time to move beyond studies. Improving average fuel economy to 40 miles per gallon would save 15 times more fuel than might be economically recovered from the Arctic National Wildlife Refuge – a proposal that has been a cornerstone of the administration's energy policy for months.

The bottom line is that the quickest, cleanest and cheapest way to meet our energy needs is a program that improves energy efficiency, increases fuel economy, and invests in renewable energy sources.

It is doubtful such views received a fair hearing at task force meetings. The conclusions of the Cheney task force are a product of an undemocratic process. When NRDC filed a Freedom of Information Act request for documents identifying members of the task force and the calendars of task force members, the Department of Energy denied the request.

Ironically, the administration of President George H.W. Bush published its National Energy Strategy 10 years ago, and did not shroud its development in secrecy. The first Bush administration held 18 public hearings throughout the nation, and reflected a “national commitment to greater efficiency in every element of energy production and use.”

Forbes magazine said in May that “there is no energy crisis and there is little reason to expect there will be. Conservation is a big part of the reason why. While California’s blackouts are in the headlines, the Golden State’s problems are local and, indeed, do not even cover all of California.” The magazine went on to say that there is no supply problem, that between 1980 and 2000 energy consumption increased only 25 percent while gross domestic product jumped 90 percent, and over those two decades energy prices rose by 49 percent while nonenergy prices increased by 119 percent.

Crisis or not, we welcome the opportunity for a public debate over America’s energy future. But that debate has to be an open, democratic and honest one, free from the taint of backroom deals and political payoffs. From our initial review, the Cheney task force recommendations fall far from that measure. The Bush energy plan would fulfill the wildest dreams of the oil and coal industries at the expense of public health and the environment. Nevertheless, we remain hopeful that the coming months of public debate will open the doors to a new national energy policy – one that meets our energy needs and improves environmental quality and the health of our citizens.

In the pages that follow, NRDC presents a summary of the Bush energy proposal’s most critical components. NRDC’s key critiques and alternative approaches are summarized below:

Overall Impacts

The Bush plan will accelerate CO₂ emissions that cause global warming, damage public health, and scar the landscape, but it will not solve America’s energy problems. It won’t keep the lights on in California this summer, it won’t lower consumers’ energy bills, and it won’t protect the environment.

Coal

The Bush plan is a bad idea for America’s health and environment. It would allow poorly controlled and already dirty coal-fired plants to increase their pollution dramatically and unnecessarily, and it would expand our reliance on the dirtiest form of power generation. Leaning more heavily on coal for power generation means more deaths from particulate air pollution and more poisoned water and more scarred land. The Bush administration also ignores the fact that energy efficiency and renewable power could satisfy as much as 60 percent of projected increased demand for electricity over the next 20 years.

As described more fully in the electric power section, the Bush energy plan promotes a 10-year, \$2-billion subsidy for so-called “clean coal” technology, first proposed in the president’s budget. Even if the Energy Department’s research and demonstration targets are met, proposed “clean coal” plants still will emit more pollution than alternative technologies – natural gas plants and renewable power sources. While the plan says the objective is to make coal-fired electricity less polluting, the president’s budget documents reveal that the goal is the “*expansion* of coal use for power generation in the United States” (emphasis added). Expanding coal use will further increase CO₂ pollution from electricity generation.

Drilling in the Arctic Refuge

The case for drilling in the Arctic National Wildlife Refuge makes no sense. Drilling would do nothing to resolve the current California energy crisis, and would do virtually nothing to meet America's long-term energy needs. Plus, the administration overstates how much oil could be pumped from the Arctic Refuge. In fact, there is only a six-month supply of economically recoverable oil in the refuge's coastal plain. The Bush plan to drill in the Arctic Refuge would cause permanent and unnecessary environmental damage, would do nothing to address America's long-term need for greater energy efficiency, would not affect the price of gasoline at the pump, and would not significantly reduce U.S. dependence on foreign oil.

Drilling in the Outer Continental Shelf (OCS)

The Bush plan calls for a review of statutes, regulations and executive orders pertaining to Outer Continental Shelf activities, and broadly recommends that the interior secretary examine impediments to federal oil and gas leasing on public lands, which include offshore areas. This recommendation sets the stage for lifting the OCS moratoria that protects the East and West Coasts, Alaska's Bristol Bay, and most of the Eastern Gulf of Mexico off Florida from new leasing. It also could lead to actions that would weaken environmental safeguards and the ability of states to object to harmful OCS activities off their coasts.

There is no justification to lift the OCS moratoria. NRDC also opposes offshore oil and gas activities in other sensitive areas not protected by the moratoria, including the Sale 181 area off Florida and the OCS off Alaska. Drilling in these areas poses unacceptable environmental risks of oil spills, air and water pollution, seismic impacts and onshore damage. Drilling is not necessary, given that government estimates show 60 percent of the untapped economically recoverable oil and 80 percent of the untapped economically recoverable natural gas on the OCS are located in areas that are currently open to the oil industry.

Drilling on Public Lands

The Bush plan would be a recipe for widespread industrialization of rural areas across the Rocky Mountain states. It would also cause widespread damage to publicly owned resources – including spectacular wildlands, habitat for deer, antelope and other species, as well as air quality, visibility and water quality. We don't need to drill in sensitive areas. The vast majority of the public lands managed by the Bureau of Land Management in the Rocky Mountain states – about 95 percent – are open for leasing and development. In addition, the quantity of gas closed to development in the Rockies amounts to less than 2 percent of the nation's total gas resources. Millions of acres of federal lands are already under lease for coal, oil and gas.

Electricity Infrastructure

America does not need to override state and local decision-making to spur a massive expansion of its power transmission lines as the Bush administration has proposed. Such development threatens environmentally sensitive areas and is not necessary because extensive transmission lines are being built already. Greater power line capacity could also be achieved by technology upgrades. Regulatory rollbacks proposed by the Bush administration to speed up line construction are unnecessary and could prove to be environmentally harmful.

Electric Power

The Bush energy plan takes aim at a key clean air rule, called "new source review," which safeguards public health against vast increases in pollution when power companies expand their plants without modern pollution controls. The Bush energy plan invites the oil, utility, and coal industries, the Department of Energy, and other agencies to weaken Clean Air Act rules and interfere with pending enforcement lawsuits. The administration should not disrupt enforcement of the law. Power companies

should continue to be required to install state-of-the-art pollution controls when they expand their plants and increase pollution significantly.

The Bush energy plan is a recipe for more pollution and higher utility bills. It is founded on a supply-biased forecast of the country's need for 1,300 new power plants. However, an alternative policy, emphasizing energy efficiency and renewable power, could dramatically reduce the number of power plants needed, lower Americans' electric bills by \$30 billion per year, and significantly cut all forms of power plant pollution, including carbon dioxide. According to a November 2000 Department of Energy Report, "Scenarios for a Clean Energy Future," which the Bush administration has ignored, energy efficiency and renewable power can meet 60 percent of the nation's need for new electric power plants over the next 20 years. Moreover, an energy policy that takes advantage of efficiency and renewable energy sources could lower Americans' electric bills by \$30 billion per year, cut CO₂ pollution by one-third, and slash emissions of other pollutants in half.

Under the Bush plan, the power sector's contribution to global warming will grow ever larger each year. Because President Bush abandoned his campaign promise to curb power plant emissions of CO₂, his energy plan now offers only a vaguely defined "three-pollutant" plan that, without CO₂, meets neither environmental nor business needs. This three-pollutant plan will not stop power plant CO₂ emissions from rising – indeed, the Bush plan envisions a 35 percent increase in power plant CO₂ emissions by 2020.

Fuel Economy for Vehicles

Americans are facing the prospect of record-breaking gasoline prices this summer, yet the Bush plan does nothing to help consumers now – or more important, to ensure improvements in the fuel economy of the cars that Americans will buy in years to come. The tax credits for hybrid and fuel cell vehicles proposed in the Bush plan are helpful to spur expanded use of these technologies, but they are no substitute for across-the-board increases in fuel economy standards.

While the traditional surge in summertime driving means there's little that can be done to reduce gas prices this July 4th weekend, the Bush administration should move quickly to close the SUV loophole immediately – and then increase overall fuel economy to 40 mpg over the course of the decade. Doing so would save more than 50 billion barrels of oil over the next 50 years – more than 15 times as much oil as is expected to be economically recoverable in the Arctic Refuge. In contrast, the Bush plan merely follows the law in directing the Department of Transportation to consider a forthcoming report by the National Academy of Sciences.

Nuclear Power

As part of its new energy policy, the Bush administration wants to try to revive the moribund nuclear power industry, despite its unacceptable risks and high costs. Trying to solve U.S. energy problems by increased reliance on nuclear energy will be too costly for the environment, public health and consumers. The Bush plan fails to address the four major obstacles that have dogged nuclear power for decades: Nuclear power poses long-term proliferation risks; reactor safety issues remain unresolved; the United States has no long-term plan for storage of radioactive wastes; and the nuclear power industry is not competitive with a host of cleaner and cheaper technologies and requires continued federal intervention to survive.

Oil Refineries

As mentioned above, the Bush energy plan takes aim at a key clean air rule, called "new source review," which safeguards public health against vast increases in pollution from oil company plans to expand their plants without modern pollution controls. Essentially, the administration is inviting the oil, utility and coal industries, the Department of Energy, and other agencies to weaken Clean Air Act rules and interfere with pending enforcement cases. The administration should not disrupt enforcement of the law. Oil refiners

should continue to be required to install state-of-the-art pollution controls when they expand their plants and increase pollution significantly.

Reformulated Gasoline

The Bush energy plan seeks to reduce the number of so-called “boutique” fuels that are sold in many regions of the country to help battle air pollution. NRDC supports a shift to a regional or national specification for reformulated gasoline – so long as this common-sense approach does not compromise critical health protections provided by cleaner gasoline. NRDC does not support allowing dirtier fuels simply to increase oil company profits.

Renewable Energy

The Bush plan offers limited support for renewable energy technologies, despite their enormous potential – and even though renewable energy technologies such as wind and solar are the fastest growing energy sources in the United States and the world today. One reason for their emerging success is that they can be brought online very quickly to help California and other states meet their power needs. For example, a 300 megawatt (MW) wind farm project on the Oregon-Washington border was announced earlier this year, as was a 260 MW project at the Department of Energy’s nuclear test site in Nevada. Both should be supplying badly needed power to the Western grid before the end of the year.

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Attacking America's Environment

The Bush Energy Plan:

- The nation would dig more coal. The Bush plan proposes a 10-year, \$2-billion subsidy for so-called "clean coal" technologies that would still be much dirtier than competing power sources: energy efficiency, renewables and gas-fired plants.
- The nation would drill more oil. The Bush plan calls for opening many of America's few remaining pristine areas to oil and gas development, including the Arctic National Wildlife Refuge, parts of the Rocky Mountain Front, and areas off the coast of Florida.
- The nation would burn more gasoline. The Bush plan takes no concrete steps to improve the overall fuel economy of the nation's cars, light trucks and sport-utility vehicles.
- The administration would rollback environmental protections. President Bush already has reneged on his campaign promise to limit carbon dioxide pollution from power plants and is attempting to weaken efficiency standards for air conditioners. His plan would set in motion relaxation of enforcement of the Clean Air Act, would turn over to industry effective control over oil production on federal lands, and would give the federal government authority to require landowners to accept unwanted power lines, among other measures.

The Bush energy plan would accelerate global warming, damage public health, and scar the landscape, but it would not solve America's energy problems. It would not keep the lights on in California this summer, it would not lower consumers' energy bills, it would not lower car owners' gasoline bills, and it would not protect the environment.

The Bush energy plan is, at its core, a throwback to the days when energy barons pursued oil, coal and other natural resources without a care for their impact on our land, air or water. But for 30 years, we have known that energy policy cannot be made in isolation from environmental concerns. Making energy policy involves fundamental choices about the quality of the air we breathe, water we drink, and the stability of the Earth's climate. It involves fundamental choices about the future of our remaining wilderness and pristine forests, and whether they will be here for our children and their children. While the Bush energy plan pays lip service to protecting the environment and promoting energy efficiency and renewable resources, it leans hard in the direction of expanding traditional energy supplies, with its heaviest reliance on the fuels whose extraction and use poses the greatest dangers to public health and the environment.

There is no greater environmental threat than global warming. The largest sources of global warming pollution are coal-fired power plants and oil-fired automobiles that pump billions of tons of carbon dioxide into the atmosphere each year. The Bush plan calls for greater use of coal, and for oil production in currently protected areas such as the Arctic National Wildlife Refuge.

The Bush energy plan presents dire risks. Already there are signs that global warming is affecting weather patterns and ecosystems in many parts of the world. Temperature records show the last decade was the hottest in more than a century. Glaciers have disappeared from atop Mount Kilimanjaro in Kenya; plants and animals are moving north or to higher altitudes in California, Costa Rica and Europe; and heavy downpours have increased in the United States, the United Kingdom and Japan.

Further, scientists have shown that if global warming pollution is not reduced we can expect widespread disruption of natural ecosystems, including as much as two-thirds of the world's forests. Public health is threatened: Rising temperatures are expected to increase heat stroke deaths, and the spread of tropical diseases such as West Nile virus and malaria. In some places, whole communities will be devastated by

the effects of rising sea levels, by increased flooding in some seasons and droughts in others, or by recurrent wildfires.

That's why the Bush plan, which relies heavily on burning fossil fuels – especially coal – threatens to reverse years of progress toward cleaning our air. Electricity-generating power plants are currently the largest source of the four pollutants responsible for the most serious local, regional, national and global air pollution problems we face: sulfur dioxide, nitrogen oxides, mercury and carbon dioxide, the dominant greenhouse gas. These plants release more than two-thirds of total U.S. emissions of sulfur dioxide, and more than a third of each of the other three pollutants.

Collectively, the 200 million vehicles on our nation's roads are also huge polluters. Highway vehicles emit roughly 30 percent of the nation's smog-forming gases, and approximately 20 percent of the nation's greenhouse gas emissions. This makes them the second largest source of climate-changing gases – and the fastest growing source overall.

The emissions from these plants and vehicles cause smog and haze, which shroud our cities and cloud the views in our wilderness areas. Air pollution also causes increased numbers of asthma attacks, heart and lung disease, cancer and premature death. In fact, researchers estimate that 30,000 premature deaths a year are attributable to particulate air pollution. The Bush plan would increase our cumulative amount of CO₂ output by 40 billion tons by the year 2020.

In contrast to the Bush plan, an energy policy that takes advantage of efficiency and renewable energy sources could lower Americans' electric bills by \$30 billion per year, cut CO₂ pollution by one-third, and slash emissions of other pollutants by half.

Coal mining and oil extraction already have scarred hundreds of thousands of acres of our landscape. Now the proposed oil exploration in the Arctic National Wildlife Refuge threatens to spoil an irreplaceable national treasure that will never be the same once developed. Pristine wilderness areas in the Rockies, which the administration has targeted for exploration, also are threatened, even though untapped reserves already are available in less sensitive areas.

Our water, too, is at risk from over-reliance on fossil fuels. According to the U.S. Bureau of Mines, mining has contaminated more than 12,000 miles of U.S. streams and rivers with heavy metals, acid mine drainage and polluted sediments. Among other ills, pollution from power plants causes acid rain that damages lakes and streams. It causes nitrogen emissions that contribute to over-fertilizing estuaries, such as the Chesapeake Bay, Long Island Sound and the Gulf of Mexico, leading to dead zones where aquatic life perishes. And it causes mercury contamination of lakes and streams, which has prompted 40 states to issue ongoing advisories about the fish that store this toxin.

With this multitude of perils in mind, a responsible energy policy for the 21st century must rely most heavily on efficiency – not increasing supply – and be designed to reduce pollution, not increase it. Our future and that of our children depend upon it.

Energy Efficiency: Lip Service, But Not Much More

The Bush Energy Plan:

- Proposes tax credits for hybrid and fuel cell vehicles.
- Proposes accelerated depreciation and other incentives for “combined heat and power” projects.
- Expands Energy Star product labeling and consumer education programs.

A Responsible Alternative:

The Bush energy plan pays lip service to energy efficiency, but not much more. Instead, it is heavily tilted towards increasing coal, oil and nuclear energy supplies. The administration’s blindness to the potential of energy efficiency will cost America dearly.

Energy efficiency is the cheapest, cleanest and fastest way to meet America’s energy needs. Increasing the energy efficiency of our homes, vehicles, offices and factories would reduce Americans’ energy bills by tens of billions of dollars every year. It would reduce demand for electricity, gasoline and other fuels, meaning that we wouldn’t need to build as many costly new power plants or drill for oil and gas in our most precious wilderness areas. At the same time, it would cut millions of tons of air pollution, especially carbon dioxide, the main cause of global warming.

And it would do all this without forcing Americans to make sacrifices. Energy-efficient vehicles, appliances and industrial equipment deliver equal or better comfort and performance at lower lifetime costs than their inefficient ancestors.



Reeling from criticism of Vice President Cheney’s dismissive comments about conservation, the administration rushed to put a handful of small-scale energy efficiency proposals forward in President Bush’s radio address on May 12. But the Bush plan still lacks serious measures to realize the energy bill savings and pollution reductions that are possible through energy efficiency.

- **It does nothing to increase fuel economy standards for cars, SUVs and other vehicles.** A 40-mile-per-gallon average standard could save 15 times the oil that is economically recoverable from the Arctic National Wildlife Refuge. The Bush plan does not address the need to increase fuel economy.
- **It does nothing to increase efficiency of appliances, heating and cooling systems, and other energy-guzzling machines.** Tax credits for the most efficient equipment and building designs would bring both immediate and long-term results, cutting demand for electricity and natural gas faster than new plants, transmission lines and pipelines could be built.
- **It does nothing to restore the huge cuts in energy efficiency programs that the president proposed in April.** The Bush plan includes a vague directive to the secretary of energy to consider increasing energy efficiency standards for appliances and other equipment, but President Bush already has weakened the new air conditioner standard set by his predecessor, a step that will force construction of at least 40 more power plants by 2020, cost consumers as much as \$900 million in higher electric bills in that year, and generate 180 million more tons of carbon dioxide emissions over the next three decades. His budget would cut by more than half the Energy Department’s funding for setting new energy efficiency standards. And while proposing more spending to weatherize low-income homes, the Bush budget would slash programs to develop the next generation of energy efficiency technologies by \$180 million, a crippling 30 percent cut.

What has Energy Efficiency Already Achieved?

The vice president dismissed conservation as just “a personal virtue,” but it is worth remembering what energy efficiency already has achieved. Thanks to private sector investments and government policies, our economy has become far more energy efficient since the genuine energy crises of the 1970s. Without these improvements – due mainly to higher mileage cars, energy-saving refrigerators, light bulbs and other equipment, and energy savings in industry – U.S. energy use in 2000 would have been 40 percent higher, Americans would have spent \$260 billion more on energy bills last year, and pollution levels would have been even higher.

What Could Energy Efficiency Do for Us Now?

In the electric generating sector, energy efficiency measures could avoid the need for approximately 610 of the 1,300 new 300-megawatt power plants that the Bush energy plan claims we must build over the next 20 years, according to the Energy Department’s November 2000 study, “Scenarios for a Clean Energy Future.” Renewable power could supply the equivalent of about 180 more plants. Most of the remainder would be high-efficiency natural gas units built to replace older and dirtier plants. Americans would save more than \$30 billion per year on their electric bills, and emissions of all power plant pollutants would be dramatically reduced. Instead of *increasing* by 35 percent as forecast by the Bush plan, emissions of carbon dioxide, the most important cause of global warming, would be *cut* by a third.¹

Increasing fuel economy standards for new cars, SUVs and other vehicles is the most effective way to lower gasoline bills and bring oil supply and demand into balance. Raising fuel economy standards for new cars, SUVs and other light trucks to an average of 40 miles per gallon over the next decade would save 50 billion barrels of oil over the next 50 years, more than 15 times more oil than the U.S. Geological Survey says is economically recoverable from the Arctic National Wildlife Refuge over the same period.² It would save 3 million barrels of oil per day when fully phased in, nearly eight times the peak production rate forecast for the Arctic Refuge. And using less gasoline would save consumers tens of billions of dollars a year, while cutting vehicle emissions of heat-trapping carbon dioxide.

Merely requiring that replacement tires be as fuel-efficient (as low in “rolling resistance”) as the original tires on new vehicles would save 5.8 billion barrels of oil over 50 years – more than one-and-a-half times the oil that would be economically recoverable from the Arctic Refuge.

In contrast, drilling in the Arctic Refuge and other pristine wilderness areas would have no effect on world oil prices, let alone the current surge in prices at the pump. Weakening environmental safeguards at refineries would increase oil company profits, but would do nothing to stem the annual ritual of rising gas prices in the summer.

Additional Efficiency in a Responsible Energy Plan

A responsible energy policy would start with these additional energy efficiency measures, beyond those in the Bush plan:

Efficiency policies for oil and gasoline

- Raise fuel economy standards for new cars, SUVs and other light trucks to an average of 40 miles per gallon over the next decade.

¹ The DOE report is available online at www.ornl.gov/ORNL/Energy_Eff/CEF.htm

² NRDC, “A Responsible Energy Policy for the 21st Century,” February 2001, Appendix A. The report is available at www.nrdc.org.

- Require replacement tires to be as fuel-efficient (as low in “rolling resistance”) as the original tires on new vehicles.
- Refocus transportation funding, tax credits and other policies to encourage “smart-growth” development that reduces sprawl and the amount people need to drive.

Efficiency policies for electricity and natural gas

- Curb all four major air pollutants from power plants, including carbon dioxide, with incentives for energy efficiency investments. The Bush plan includes only a three-pollutant proposal – one that doesn’t meet environmental needs, promote efficiency or even give industry the certainty it craves.
- Establish a national “public benefits” fund, paid for by a small charge on electricity transmission, to rebuild energy efficiency programs run by utilities in the days before deregulation.
- Strengthen energy efficiency standards for appliances and buildings – especially residential and commercial heating equipment, commercial air conditioners, and electrical transformers.
- Provide tax incentives for the most efficient new buildings and energy-using equipment.
- Double – not cut – research and development funding for promising new efficiency technologies for vehicles, buildings and factories.

Coal: Using Even More of the Dirtiest Fuel

The Bush Energy Plan:

- Relies heavily on the dirtiest form of power generation in our energy portfolio when pollution from these plants shortens the lives of an estimated 30,000 people a year and devastates our environment.
- Proposes to roll back environmental regulations on old and dirty power plants under the guise of meeting the nation's increasing energy demand.
- Includes a 10-year, \$2-billion subsidy for so-called "clean coal" technologies, even though any coal-fired plant is many times more polluting than gas-fired or renewable plants.
- Includes hundreds of millions of dollars in handouts to energy companies that are currently generating astonishing profits.

A Responsible Alternative:

The coal component of the Bush energy plan is a bad idea for America's health and environment. It would allow poorly controlled and already dirty coal-fired plants to increase their pollution dramatically and unnecessarily, and it would expand our reliance on the dirtiest form of power generation. Leaning more heavily on coal for power generation would mean more deaths from particulate air pollution, more poisoned water and more scarred land. Instead, we believe that energy efficiency and renewable power could satisfy as much as 60 percent of projected increased demand for electricity over the next 20 years.

• • •

Coal is Bad for Our Environment

No other single source of pollution causes as many adverse health and environmental problems as coal-fired power plants. Some 1,082 coal-fired electric generating units provide the majority of electricity generated in the United States. Coal-fired power plants are the single largest source of some of our worst air pollutants, emitting 90 percent of all pollution emitted by the electric industry sector. Those emissions include nitrogen oxides, mercury, sulfur dioxide and carbon dioxide, the dominant greenhouse gas.

- In an average year, a typical coal-fired plant generates: 3,700,000 tons of carbon dioxide, or as much as cutting down 161 million trees; 10,000 tons of forest, lake and lung-damaging sulfur dioxide; 10,200 tons of ozone-forming and lung-inflaming nitrogen oxide – equivalent to the amount spitting out of the tailpipes of a half million late-model cars; 170 pounds of mercury, when just 1/70th of a teaspoon deposited in a 25-acre lake can make its fish unsafe to eat; and 225 pounds of arsenic, which will cause cancer in one out of 100 people who drink water containing 50 parts per billion.
- Coal mining in the United States leaves scars across Appalachia, the Midwest and the West. Deep shaft and surface mining leave millions of tons of waste, creating significant groundwater contamination. According to the U.S. Bureau of Mines, coal mining has contaminated more than 12,000 miles of U.S. streams and rivers with heavy metals, acid mine drainage and polluted sediments. Coal mining also has scarred hundreds of thousands of acres of American wilderness.
- Pollution from coal-fired plants causes acid rain that damages forest, lakes and streams and the over-fertilizing of estuaries, such as the Chesapeake Bay and Long Island Sound, leading to dead zones where aquatic life perishes.

Coal is Bad for Our Health

The witches' brew of emissions from coal-fired power plants presents a serious and immediate danger to our health. Some examples:

- Particulate pollution from U.S. power plants shortens the lives of some 30,000 people each year. Sulfur dioxide is the main component of fine particulate matter pollution, which can be inhaled deep into the lungs and are linked with premature death and respiratory disease.
- Nitrogen oxides are the main ingredients in smog, which has a devastating impact on the nation's 14.9 million asthma sufferers, a third of whom are children. More than 6 million asthma attacks sent nearly 160,000 people to the emergency room in the Eastern United States in 1997. In 1999, the health standard for smog was exceeded 7,694 times in 43 states and the District of Columbia.

“Clean Coal” is Not Clean

The term “clean coal” is like saying “safe cigarettes.” There is no such thing as clean coal.

The Bush energy plan proposes to fund research for developing advanced coal combustion technologies, so-called “clean coal” technologies. NRDC opposes incentives for the use of coal-based technologies because they are likely to subsidize more polluting coal plants at the expense of cleaner resources: efficiency, renewable energy sources and gas-fired plants. Subsidizing coal technology would not ensure additional electricity or less pollution. Existing coal subsidies should be abolished, and proposals for new subsidies should be rejected.

- In fact, federally funded research shows that the Energy Department's Clean Coal Technology Program has a decidedly mixed record of performance and displays little promise of yielding coal combustion technology cleaner than existing natural gas-fired combustion technology, let alone existing renewable electric generating technologies.
- The coal gasification combustion project at Polk Station in Fort Lonesome, Florida, billed by the Energy Department in 1996 as the “the world's most advanced coal combustion power plant,” emits seven times more smog-forming pollution than a similarly sized natural gas-fired power plant.

“Clean Coal” Doesn't Deserve Massive Subsidies

There is no justification for providing additional federal subsidies to the coal industry. “Clean coal” technology has shown few promising results and the coal industry is already highly profitable.

- Since 1985, the coal industry has received almost \$3 billion in federal funds, yet the General Accounting Office (GAO) has released at least seven reports documenting waste and mismanagement in the “clean coal” program. The most recent, released in March 2000, found that eight ongoing projects “had serious delays or financial problems.” Two were in bankruptcy and may never be completed, and the other six were behind their original schedules by two to seven years. DOE funding for those six plants is at least \$519 million.
- GAO watchdogs found \$588 million in unspent federal grants in a sampling of 13 government-supported “clean coal” projects. Some were moving too slowly to use their money; others had failed before spending their money.

The best way to get clean power is to set national limits on the total pollution allowed from power plants and then let the coal industry compete on a level playing field against far cleaner alternatives, including natural gas and wind power.

We Don't Need Heavy Reliance on Power from Coal-Fired Plants

In a November 2000 Energy Department report, “Scenarios for a Clean Energy Future” – which has been ignored by the Bush administration – researchers found that:

- Energy efficiency and renewable power can meet 60 percent of the nation's need for new electric power plants over the next 20 years.
- Reliance on efficiency could avoid the need to build approximately 610 of the 1300 new power plants called for in the Bush energy plan, and that renewable power capacity (wind, geothermal, biomass and others) could expand by the equivalent of 180 plants.

Electric Power: More Pollution and Higher Bills

The Bush Energy Plan:

- Assumes the need to build at least 1,300 new power plants, mostly fueled by coal and natural gas, over the next 20 years.
- Excludes carbon dioxide, the main cause of global warming, from a vaguely defined “three-pollutant” power plant emissions policy, allowing CO₂ emissions to continue rising unchecked.
- Sets federal agencies in motion to weaken clean air rules (“new source review”) that now protect Americans from increases in pollution when oil refineries and power plants are renewed and expanded.
- Interferes with pending Clean Air Act enforcement cases by ordering a Justice Department “review.”
- Proposes a 10-year, \$2-billion subsidy for so-called “clean coal” technologies that would still be much dirtier than competing power sources: energy efficiency, renewable energy sources and gas-fired plants.

A Responsible Alternative:

The Bush energy plan is a recipe for more pollution and higher utility bills. It is founded on an ill-informed, supply-biased forecast of the country’s need for 1,300 new power plants. But a biased forecast is not destiny.

An alternative policy, emphasizing energy efficiency and renewable power, could dramatically reduce the number of power plants needed, lower Americans’ electric bills by \$30 billion per year, and dramatically cut all forms of power plant pollution, including carbon dioxide. According to a November 2000 Department of Energy Report, “Scenarios for a Clean Energy Future”:

- Energy efficiency and renewable power can meet 60 percent of the nation’s need for new electric power plants over the next 20 years.
- An energy policy that takes advantage of efficiency and renewable energy sources could lower Americans’ electric bills by \$30 billion per year, cut CO₂ pollution by a third, and slash emissions of other pollutants in half.

Even so, the administration’s blindness to energy efficiency has led it to weaken the efficiency standards for new air conditioners issued by his predecessor, a step that by itself will force construction of more than 40 more power plants by 2020, cost consumers up to \$900 million in higher electric bills in that year, and generate 180 million more tons of carbon dioxide emissions over the next three decades.

A responsible alternative policy would address all four pollutants from electric power plants, including carbon dioxide. But under President Bush’s supply-dominated vision for electricity, however, the power sector’s contribution to global warming will be left to grow by 35 percent over the next 20 years. In March the president abandoned his campaign promise to curb power plant emissions of CO₂. His energy plan now offers only a vaguely defined “three-pollutant” plan that, without CO₂, meets neither environmental nor business needs. The three-pollutant plan will not stop power plant CO₂ emissions from rising. At the same time, the plan denies the industry any certainty regarding future CO₂ requirements.

A responsible policy would not attempt to roll back clean air protections or tamper with their enforcement. But the Bush energy plan takes aim at a key clean air rule, called “new source review,” which safeguards public health against vast increases in pollution from power company plans to expand their plants without modern pollution controls. Power companies (and the oil industry) have long targeted this clean air rule for repeal.

Finally, a responsible plan would not deepen our reliance on coal, the most polluting fuel. But the Bush energy plan promotes a 10-year, \$2-billion subsidy for so-called “clean coal” technology, first proposed in the president’s budget. Even if the Energy Department’s research and demonstration targets are met, proposed “clean coal” plants would still emit more pollution than alternative technologies – natural gas plants and renewable power sources. While the plan says the objective is to make coal-fired electricity less polluting, the president’s budget documents reveal that the goal is the “*expansion* of coal use for power generation in the United States” (emphasis added). Expanding coal use would further increase CO₂ pollution from electricity generation.

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The Myth of 1,300 Power Plants

The Bush plan’s forecast that we need to build at least 1,300 new power plants is based on projections by the Energy Information Administration (EIA), an arm of the energy department that has historically emphasized energy supply from traditional sources and downplayed the potential of energy efficiency and renewable energy sources. EIA projections assume that *no new policies* would be adopted to promote energy efficiency or renewable sources of electricity over the next 20 years. Under those assumptions, EIA projects that demand for electricity will increase by 320,000 megawatts over the next two decades and that the United States will have to replace existing plants that generate another 70,000 megawatts. Using an average power plant size of 300 megawatts, the administration translates the EIA projection into the need for 1,300 new power plants, fueled mostly by coal and natural gas. With the assumption of a higher economic growth rate – one that most analysts would consider unrealistic – the EIA forecasts translate into as many as 1,900 new power plants.

But a November 2000 Department of Energy study, which the Bush administration has ignored, shows that the nation has another, starkly different choice. The study, “Scenarios for a Clean Energy Future,”³ was written by energy experts at five of the Energy Department’s national research laboratories. It shows that:

- Energy efficiency measures could avoid the need for building approximately 610 of the new power plants that the Bush plan assumes are needed.
- Renewable power capacity (wind, geothermal, biomass and others) could expand by the equivalent of about 180 plants.

In other words, energy efficiency and renewable power could meet 60 percent of the need for new power plants projected by the administration. The study anticipates construction of 570 new high-efficiency, natural gas-fired plants, but they would replace older, dirtier and less efficient plants.

The Bush plan persists in rejecting this path. Vice President Cheney, in a speech on April 30, derided energy conservation as just “a sign of personal virtue.” In the same speech he also declared that reliance on renewable energy would threaten “our way of life.” A week later, presidential spokesman Ari Fleisher sought to portray conservation as sacrifice – as asking Americans to give up their “blessed ... way of life.” While paying more lip service to energy efficiency since then, the administration still has not acknowledged the mythic quality of its 1,300-plant forecast. The vice president, in particular, remains woefully misinformed or bent on misleading the public, claiming in a Wall Street Journal interview on May 11 that the forecast of 1,300 plants came “after we assume very significant savings from conservation and increased efficiency.”

³ The DOE report is available online at: www.ornl.gov/ORNL/Energy_Eff/CEF.htm

What would it take to achieve the results set forth in the “Clean Energy Future” report? That report examined a range of policies to promote energy efficiency and renewable power, including:

- Limits on all major power plant pollutants, including carbon dioxide, which George W. Bush endorsed as a candidate but has rejected as a president;
- Stronger efficiency standards for appliances and buildings (Bush has proposed to *weaken* efficiency standards for air conditioners issued by the Clinton administration and to cut the Energy Department’s budget for setting efficiency standards by more than 50 percent;
- Establishment of a fund to increase energy efficiency investments by utilities and other energy service companies, supported by a charge on electricity transmission (not in the Bush energy plan);
- A broad range of tax incentives to expand the market for high-efficiency technologies and renewable generation (the Bush energy plan leaves out tax incentives for more efficient homes and other buildings);
- Increased funding for energy efficiency and renewable energy research and development (President Bush has proposed dramatic cuts in these programs in his current budget).

Far from requiring Americans to make sacrifices, the “Clean Energy Futures” report concludes this energy path would save Americans more than \$30 billion per year on their electric bills. Power plant emissions that cause smog and dangerous fine particles would decline by more than half from current levels, and power plant emissions of carbon dioxide would be cut by a third.

A Three-Pollutant Strategy Runs like a Three-Legged Horse

The Bush energy plan proposes a “multi-pollutant strategy” to control only three of the four major air pollutants from fossil fuel burning power plants: sulfur dioxide, nitrogen oxides and mercury. The strategy does *not* include limits on carbon dioxide, the pollutant that contributes most to global warming. Nor does the plan indicate what emissions targets or compliance deadlines the administration supports for the other three pollutants.

During the presidential campaign, candidate Bush promised a *four*-pollutant bill – one that would also control carbon dioxide. But in March, President Bush abruptly reneged on this campaign promise.

American power plants emit *2 billion tons* of carbon dioxide pollution each year – 40 percent of the U.S. total, more than any other source. CO₂ pollution from U.S. power plants alone equals the *total* CO₂ emissions of Germany, Italy and India combined.

A four-pollutant strategy that includes CO₂ could address the full range of damage to human health and the environment that power plants cause and at the same time give the power industry the certainty it craves regarding future regulatory requirements. In contrast, a three-pollutant plan that excludes CO₂ protects neither the environment nor business. It does nothing to meet the risks of global warming, and it leaves the power industry without information essential to making cost-effective clean-up decisions for the other three pollutants.

That is why, in the words of the Wall Street Journal, “a substantial segment of the electric-utility industry was almost as disappointed” as environmentalists by President Bush’s abandonment of his campaign promise on CO₂. The Journal continued:

“Sensible, farsighted utility executives look at the world as it is, not as they wish it would be. To them, a few things are clear: 1) Although the science remains incomplete, they must treat global warming as real. 2) Carbon emissions are part of the problem. 3) Electric utilities will be forced to reduce CO₂ while producing more electricity.”⁴

By leaving the power industry in the dark about future CO₂ regulation, the Bush three-pollutant plan runs the risk of *increasing* CO₂ pollution. Alternatively, it will lead to the waste of hundreds of millions of dollars in wrong guesses about future requirements:

- If the power industry believes it can count on no regulation of CO₂ for another decade or more, then it would make business sense for owners of existing coal-fired plants to invest more capital in fixing them up and adding controls for the other pollutants. They then would want to run those plants for longer hours and keep them operating for extra years. In that case, CO₂ emissions would keep growing for decades to come.
- But if Congress or the president subsequently decides CO₂ controls are needed more quickly, then many of these investments would be wasted and new investments would be needed – possibly on a crash basis – in energy efficiency, renewable power generators, and switching to cleaner fuels.

Starting with a three-pollutant plan may actually make it more expensive and politically difficult to address CO₂ later. If power generators have hundreds of millions of dollars of wasted investments on the line from wrong guesses made under a three-pollutant regulatory regime, they may resist even more fiercely a government decision to change course.

In short, a three-pollutant strategy is like a three-legged horse: Even if you have most of the animal, it still can't run. The only responsible and viable policy is to address all four of this industry's pollutants – including CO₂ – now.

Attacking Clean Air Rules: More Pollution from *Old* Coal Plants

The Bush energy plan orders the Environmental Protection Agency and other federal agencies to review – and very likely to change – the clean air rule known as “new source review” that protects Americans from vast increases in pollution when power companies renew and expand existing coal-fired power plants without modern pollution controls. Electric utilities – and the oil industry – have long targeted this clean air rule for repeal.

The Clean Air Act's “new source review” rule requires that when capital expenditures are made to renew or expand an existing power plant, the owner must either (1) prevent any additional pollution (by offsetting any increases with reductions in other sources on the same plant site), or (2) obtain a clean air permit showing that it has installed state-of-the-art pollution controls. These protections are vital to the health of families living downwind of the 600 existing coal plants.

Power and coal companies, joined by the oil industry, are lobbying the Bush administration to weaken these clean air requirements, claiming that they are preventing existing coal plants from expanding electricity production. This is a false assertion. A power plant may expand electricity production by any amount under current law without triggering “new source review” provided it prevents or offsets any additional pollution. There are ample opportunities at old coal plants to control emissions and avoid pollution increases.

Many coal plant owners, however, have undertaken projects to expand their plants without meeting these

⁴ David Wessel, “Utilities May Be Greener Than Bush,” Wall Street Journal, May 10, 2001.

clean air requirements. Over the last two years, EPA has brought enforcement actions against some of those companies. EPA has settled enforcement cases with three electric utilities in the past year that will reduce pollution by more than 940,000 tons per year. Some of these settlements expressly provide for the expansion of electricity generating capacity. Settlement discussions with other companies continue, and the government is pressing other cases in the courts.

Now, however, the Bush energy plan orders EPA to consider industry proposals to drop enforcement efforts against those who have violated the rules in the past and roll back these clean air requirements. EPA must undertake a multi-agency review of the new source review rules and enforcement initiative, with helpful assistance expected from the Department of Energy and other agencies friendly to the power, coal and oil industries.

The industry proposals would open a huge loophole for expansion of their refineries without assurances that they will offset pollution increases or install state-of-the-art pollution controls. Especially at a time of record energy industry profits, this would be an intolerable assault on public health.

Subsidies for “Clean Coal”: More Pollution from *New* Coal Plants

The Bush energy plan includes a 10-year, \$2-billion subsidy for so-called “clean coal” technologies. While the energy plan says the objective is to make coal-fired electricity less polluting, the President’s budget documents from March reveal that the goal is the “*expansion* of coal use for power generation in the United States”⁵ (emphasis added). Expanding coal use would further increase CO₂ pollution from electricity generation.

“Clean coal” technology is a contradiction in terms. Even if research and demonstration targets are met, proposed “clean coal” plants would still emit more sulfur dioxide, oxides of nitrogen, mercury, and carbon dioxide than alternative technologies – natural gas plants and renewable power sources.

Since its inception in 1985, the Energy Department’s “clean coal” research and development program already has received more than \$2.3 billion in federal funds through two separate programs. The coal and power industries also receive hundreds of millions of dollars through another, separate DOE coal research and development program. Many “clean coal” projects have already failed because of high construction and design costs, environmental concerns, technology problems, risky business plans, and loss of investor confidence. As of March 2000, 10 DOE projects – one-fifth of the total projects funded – had been withdrawn or terminated. The General Accounting Office (GAO) has released at least seven reports documenting waste and mismanagement in the “clean coal” program. The most recent, released in March 2000, found that eight ongoing projects “had serious delays or financial problems.” Two were in bankruptcy and may never be completed, and the other six were behind their original schedules by two to seven years. DOE funding for those six plants is at least \$519 million.

Last year, GAO watchdogs found \$588 million in unspent federal grants in a sampling of 13 government-supported “clean coal” projects. Some were moving too slowly to use their money; others had failed before spending their money. A GAO audit as far back as 1991 noted, “DOE apparently let its desire for a broad mix of technologies outweigh serious concerns about the economic viability of the projects.” The same report said, “DOE continued to fund some projects that it knew were experiencing financing problems and that were eventually withdrawn from the program.” Other projects, the GAO concluded, “may not be the most effective use of federal funds. For example, some projects are demonstrating technologies that might have been commercialized without federal assistance.”

⁵ Budget of the United States, Fiscal Year 2002, p. 39.

President Bush now wants to dump \$2 billion more into the bank accounts of the energy industry amidst a climate of astonishing profitability for utility, mining and energy companies. For example, American Electric Power, a beneficiary of the “clean coal” technology program, posted profits of \$266 million in the first quarter of 2001. In April 2001, the stock price of Southern Company, another recipient of “clean coal” largesse, hit a 52-week high. Beneficiaries of the program also include some of the nation’s largest and wealthiest corporations, such as General Electric, United Technologies and Westinghouse.

While the energy plan is silent on the matter, legislation introduced in the Senate would exempt “clean coal” technologies from the Clean Air Act’s “new source review” rules – hardly a testament to confidence in the cleanliness of these technologies.

In short, the Bush administration’s push for so-called “clean coal” is a recipe for more pollution from a new generation of coal plants. New subsidies for coal would not be part of a responsible energy policy.

California and the West: Don't Call Washington for Help

The Bush Energy Plan:

- Tries to scare the public into believing the California electricity crisis will infect the rest of the country unless we accept higher energy bills, more pollution, and less input into decisions that affect our communities.
- Provides California with no relief from exorbitant wholesale electricity prices by flatly rejecting any effort to cap wholesale electricity prices in the West.

A Responsible Alternative:

For California – and the rest of the country – energy efficiency and clean power are the fastest, cheapest and cleanest way to meet our energy needs. The solution to California's problems is not to be found in weakening environmental standards. California needs federal help to deal with the exorbitant prices being charged by electricity wholesalers. Temporary caps on Western wholesale electricity prices are a sensible response to the currently dysfunctional Western power market.

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Misrepresenting the Problem

The Bush administration has suggested that the California electricity crisis stems from overemphasizing conservation and systematically failing to address energy supplies. President Bush and Vice President Cheney have suggested that the answer is drilling for oil in the Arctic National Wildlife Refuge or relaxing clean air standards. In reality, the roots of the problem are more complex, and the solutions have nothing to do with exploiting pristine wilderness areas or rolling back environmental protections.

The True Roots of the Crisis

A sharp upswing in natural gas prices began last summer, after a long period of low gas prices led to a contraction in exploration and storage. In addition, the supply problem in the Southwest was aggravated by a pipeline explosion last summer.

- More expensive natural gas has driven up the operating cost of electric generation. High electricity prices also tracked sharply reduced Northwest hydropower production due to some of the lowest rainfall totals on record, a generally overstressed power grid, widespread failures to hedge spot-market prices with long-term contracts, and reduced investment over the past decade in both energy efficiency and generating capacity throughout the West. As if all that were not enough, investigations continue of alleged anti-competitive practices by many market participants.

Drilling for Oil in the Arctic Wildlife Refuge is Not the Answer

One thing is certain: Less than 1 percent of California's electricity is generated by oil. That means oil from the Arctic National Wildlife Refuge, or anywhere else, is irrelevant to solving the California electricity problem.

Environmental Regulations Are Not to Blame

The Bush administration has suggested that environmental protection rules somehow caused the California electricity crisis. But there is no credible basis for blaming siting rules or clean-air standards.

- The Los Angeles Times noted on January 25, "California regulations have not short-circuited the amounts of electricity produced, according to power company representatives." The only exception that the Times could find was one obsolete plant accounting for less than one-fifth of 1 percent of the state's demand that had chosen "not to participate in a smog market that gives companies more flexibility in meeting pollution limits."

- Ample opportunities remain to reduce pollution at relatively low costs by cleaning up older fossil fuel generators.

Complaints about California's recently streamlined power-plant siting rules are equally ill-founded. The California Energy Commission (CEC) works aggressively to site new power plants, generally in less than a year, and the agency can override local opposition where broader public interests dictate. For much of the 1990s, investors throughout California and the West showed no interest in financing new power plants – because of low prices and widespread electricity surpluses, not environmental rules. Even so, the CEC licensed 12 power plants in the early 1990s, and nine are producing nearly 1,000 megawatts of power today (the equivalent of about 1 million California households). Since April 1999, more than 9,300 megawatts of new plants (equivalent to almost 20 percent of California's peak needs today) have received CEC siting approval, and more than 6,000 megawatts more are poised to follow.

Energy Efficiency and Renewables are the Best Ways to Lighten the Load

Thanks in part to recent state legislation that NRDC helped pass, California is ramping up its investments in energy efficiency and renewable energy sources, which already contribute more than 15,000 megawatts of demand reduction and supply to a Western power grid that never needed them more. The California Energy Commission has just upgraded efficiency standards governing all new buildings and equipment, and the legislature has created a new 10-year investment fund for sustainable energy technologies that exceeds \$5.5 billion.

The president could have helped by supporting a bipartisan bill that provides new financial incentives to improve dramatically the energy efficiency of new buildings and equipment (S. 207 in the Senate, H.R. 778 in the House). But the Bush energy plan is silent on tax incentives for energy efficient buildings and equipment.

Affordable Power Can Be Green Power

California's air, water and land-use safeguards are not to blame for this crisis. Developers of new, clean generation are taking advantage of expedited siting processes, and the new plants (both renewable and fossil) are dramatically cleaner than the incumbents. Indeed, the capacity additions anticipated over the next several years are both clean and large enough to begin improving California's air quality by displacing dirtier competitors during at least some hours of the year. Short-term schemes that rely on dirty diesel back-up generators are unnecessary and unacceptable because diesel generators are significantly more polluting than modern power plants being permitted in California today.

Californians Need Immediate Relief From Exorbitant Wholesale Prices

The president could also help by supporting temporary west-wide caps on wholesale electricity prices, such as those proposed by Sens. Diane Feinstein and Gordon Smith and Federal Energy Regulatory Commission (FERC) Commissioner William Massey. There is no justification for the exorbitant prices now being charged at times of peak load in the currently dysfunctional Western power market.

Low-income Citizens Need Immediate Relief

California and other Western states traditionally have sought to ensure that low-income households get targeted energy efficiency assistance and rate discounts; in California, these programs are administered by the state's utilities and funded through a modest surcharge on bills. Additional resources must be added at to ensure that no one loses access to essential services. Emergency legislation recently signed by Gov. Gray Davis (SBX5, Sher) provides a down payment of \$240 million to help indigent households, along with additional infusions for energy efficiency and renewable energy throughout California.

Drilling in the Arctic National Wildlife Refuge: No Need to Despoil

The Bush Energy Plan:

- Calls for drilling for oil in this pristine wilderness area, despite the fact that the oil from the Arctic Refuge would not reach consumers for at least 10 years, and the government's best estimate of the economically recoverable oil is a six-month supply.

A Responsible Alternative⁶:

The president's ever-changing rationale for drilling in the Arctic National Wildlife Refuge has never made sense. Drilling would do nothing to affect the current California energy crisis, and the new energy plan overstates how much oil could be pumped from the Arctic Refuge. A six-month supply of oil would do virtually nothing to meet America's long-term energy needs. The Bush plan to drill in the Arctic Refuge would cause substantial environmental damage, would do nothing to address America's long-term need for greater energy efficiency, would not affect the price of gasoline at the pump and would not significantly reduce U.S. dependence on foreign oil.



There is Little Economically Recoverable Oil in the Arctic National Wildlife Refuge

The U.S. Geological Survey (USGS) determined that the refuge's coastal plain likely contains only 3.2-billion barrels of oil that could be economically recovered and brought to market, assuming a price of \$20 per barrel. It would take 50 years to extract it all, and during that time, the oil would satisfy only 1 percent of projected U.S. demand. Moreover, it is far from certain that oil will remain above that price for the next 50 years. If the price drops below \$20 per barrel, there might not be any economically recoverable oil in the refuge.

Proponents of drilling claim that 16 billion barrels of oil could be recovered from the refuge's coastal plain. But USGS says there is less than one chance in 20 that the coastal plain contains that much oil – and only a portion of it could be recovered economically. The Bush administration overstates the amount of oil in the refuge because it ignores the costs of exploration and production, which are substantially higher in the Arctic than in other regions. Such costs make most of this oil too expensive to recover, even if it could be found in the quantities predicted.

Arctic Refuge Oil Won't Lower Oil and Gas Prices or Increase Energy Security

Slightly more than 3 billion barrels of oil – the amount that might be economically recoverable from the refuge – may sound like a lot, except:

- The United States consumes 7.1 billion barrels of oil per year, so those 3.2-billion barrels represent less than a six-month supply. What's more, oil from the refuge would take roughly 10 years to begin reaching the market.
- Since oil prices are set on the world market and other nations have vastly larger reserves and lower production costs, whatever oil is recovered from the refuge would not lower prices at the pump, nor would it contribute to U.S. energy security.

New Oil Development Technology Won't Eliminate Threats to the Refuge

Industrial oil production and development – despite proponents' promises – would harm large portions of the refuge.

⁶ This section produced in conjunction with the Alaska Coalition and the Alaska Wilderness League.

- Exploration and production would not be confined to a single contiguous 2,000-acre site, as proponents claim. The area affected by drilling would range across as many as 35 discrete oil fields, affecting wildlife habitat on hundreds of thousands of acres interspersed between sprawling oil facilities and pipelines.

Habitat would be further disrupted by industrial activity associated with airports, permanent production and support facilities, housing, and the gravel roads needed to connect the drilling sites. All this industrial activity would fragment the coastal plain; harm dozens of rivers; and disrupt critical birthing, denning and breeding habits.

Existing North Slope Oil Fields Remain Productive

Proponents of drilling often claim that new sources of oil will be needed for the Trans-Alaska Pipeline. Yet there still are significant oil reserves in already developed areas.

- The state of Alaska projects that from 1999 to 2020 another 5.7 billion barrels of oil could be produced from the Prudhoe Bay production area, seven adjacent fields, and nearly 50 satellite fields near the existing oil fields. In addition, the West Sak oil field, which overlays the existing production area, contains 15 to 20 billion barrels of oil.
- While yields at the Prudhoe Bay production area are declining, even conservative projections predict another 40 years of production from the North Slope, without considering the Arctic National Wildlife Refuge.

America Does Not Need the Oil

The United States consumes approximately 19.6 million barrels of oil a day. Arctic Refuge coastal plain oil production likely would peak in 2027 at 150 million barrels per year – not even 2 percent of projected U.S. consumption for that year.

- Proponents of drilling in the Arctic National Wildlife Refuge refuse to acknowledge the reality that the United States cannot drill its way out of its energy problem. America is home to 5 percent of the world's population, but it consumes nearly a quarter of the world's oil supply. We already have extracted most of the available domestic oil. The conclusion is obvious: The United States can better meet its energy needs – and do more to help American consumers – by cutting its demand.
- Simply upgrading the quality of replacement tires to match that of tires that come as standard equipment on new cars would save 5.4 billion barrels of oil over the next 50 years – 70 percent more than the total amount of oil likely to be recovered from the Arctic Refuge over the same period.
- Updating fuel efficiency standards to reflect the capabilities of modern technology would produce even greater savings. Increasing fuel efficiency standards for new passenger vehicles to an average of 39 miles per gallon over the next decade would save 51 billion barrels of oil over the next 50 years – more than 15 times the likely yield from the Arctic Refuge.

Drilling the Outer Continental Shelf: Threatening Our Coasts

The Bush Energy Plan:

- Calls for a review of statutes, regulations and executive orders pertaining to Outer Continental Shelf activities, and recommends that the interior secretary examine impediments to federal oil and gas leasing on public lands, which include offshore areas. This recommendation sets the stage for lifting the OCS moratoria that protects the East and West Coasts, Alaska's Bristol Bay, and most of the Eastern Gulf of Mexico off Florida from new leasing.
- Threatens the ability of states to object to offshore oil and gas development off their shores and to control the siting of energy facilities on their coasts.

A Responsible Alternative:

NRDC opposes any attempt to lift the moratoria, which have protected sensitive coastal and marine areas for two decades. NRDC also opposes offshore oil and gas activities in other sensitive areas not protected by the moratoria, including the Sale 181 area off Florida and the OCS off Alaska, both of which are targeted for more drilling. NRDC supports states' rights to object to harmful oil and gas drilling off their coasts and to control the siting of harmful energy facilities in their coastal zones.

Drilling in these areas poses unacceptable environmental risks of oil spills, air and water pollution, seismic impacts and onshore damage. Drilling is not necessary, given that government estimates indicate that 60 percent of the untapped economically recoverable oil and 80 percent of the untapped economically recoverable natural gas on the Outer Continental Shelf are located in areas that are currently open to the oil industry.

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The Outer Continental Shelf Moratorium

Since 1981, Congress has imposed restrictions on oil and gas leasing in sensitive areas of the Outer Continental Shelf (OCS). These moratoria now protect the East and West coasts of the United States, Alaska's Bristol Bay, and most of the Eastern Gulf of Mexico off Florida from new leasing. The moratoria reflect a clearly established consensus on the appropriateness of OCS activities in most areas of the country, and have been endorsed by an array of elected officials from all levels of government and diverse political persuasions, from former President George H.W. Bush to Gov. Jeb Bush of Florida, and from Gov. Tony Knowles of Alaska to Gov. Gray Davis of California.

Drilling in the Moratoria Areas, off Florida, or on the Alaskan OCS is Unnecessary

Despite assertions from industry and their supporters on Capitol Hill, we do not need to drill in sensitive areas to meet America's energy needs.

- Government estimates show that 60 percent of the nation's untapped, economically recoverable OCS oil, and 80 percent of the nation's untapped, economically recoverable OCS natural gas is located in the Central and Western Gulf of Mexico, which is currently open to industry.
- Protecting the moratorium areas, the Florida coast, and the OCS off Alaska would leave the vast majority of the nation's OCS oil and gas available to industry.
- Tax incentives and standards for energy efficient buildings and heating, cooling and water-heating equipment could save 300 TCF (trillion cubic feet) of natural gas over 50 years. This is more than 12 times the Interior Department's mean estimate of economically recoverable gas located outside the Central and Western Gulf of Mexico.

Sensible tax incentives and efficiency measures would do far more to increase our nation's energy security than a "drain America first" policy of exploiting sensitive offshore and onshore federal lands.

Drilling in the Moratoria Areas, off Florida, or off Alaska Would Be Harmful

The extraction and transport of offshore oil and gas entails significant environmental consequences:

Oil Spills: According to statistics compiled by the Department of the Interior, some 3 million gallons of oil spilled from OCS oil and gas operations in 73 incidents between 1980 and 1999. Oil is extremely toxic to a wide variety of marine wildlife, including marine birds, mammals and commercially important species of fish. Despite industry claims to the contrary, new technology has not alleviated these risks. In one incident in April, for example, more than 90,000 gallons of saltwater and crude oil spilled out of a pipeline in Alaska's North Slope – the fourth major incident there in the last three years.

Onshore Damage: The onshore infrastructure associated with offshore oil and gas causes significant harm to the coastal zone. OCS pipelines crossing coastal wetlands in the Gulf of Mexico, for example, are estimated to have destroyed more coastal salt marsh than can be found from New Jersey to Maine.

The industrial character of offshore oil and gas development is often at odds with the existing economic base of the affected coastal communities, many of which rely on tourism, coastal recreation and commercial and recreational fishing.

Water Pollution: Drilling operations generate massive amounts of waste muds, which are used to lubricate drill bits and maintain downhole pressure, and cuttings, which are pieces of rock ground by bits and brought up from the well along with used mud. Operators dump most of this waste, which averages 180,000 gallons per well, into surrounding waters without treating it. Drilling muds contain toxic metals, including mercury, lead and cadmium. Significant concentrations of these metals have been observed around drilling sites.

A second major polluting discharge is "produced water," the water brought up from a well along with oil and gas. The Minerals Management Service estimates that each OCS platform discharges hundreds of thousands of gallons of produced water every day. Produced water typically contains a variety of toxic pollutants including benzene, arsenic, lead, naphthalene, zinc and toluene, and even radioactive pollutants.

All major field research programs investigating the fate and effects of produced water discharges have detected petroleum hydrocarbons, toxic metals and/or radium in the water column down- current from the discharge.

Air Pollution: Drilling an average exploration well generates some 50 tons of nitrogen oxides (NO_x), 13 tons of carbon monoxide, 6 tons of sulfur dioxide, and 5 tons of volatile organic hydrocarbons. Each OCS platform generates more than 50 tons of NO_x, 11 tons of carbon monoxide, 8 tons of sulfur dioxide and 38 tons of volatile organic hydrocarbons every year.

Drilling off of Florida

Two imminent threats face Florida's spectacular Panhandle coast: a new lease sale (Sale 181), and pending development of existing leases awarded many years ago some 25 miles off the Panhandle coast.

Sale 181: The proposed lease Sale 181, scheduled for December 2001, covers nearly 6 million acres in the Eastern Gulf of Mexico off the coasts of Florida and Alabama. The sale's northern boundary extends to within 17 miles of Florida's northwest coast, an area famed for its white sand beaches. Virtually every

politician in the state of Florida, including Gov. Jeb Bush, opposes the lease sale. Interior Secretary Gail Norton recently refused to cancel the sale as requested by Gov. Bush.

Development of Existing Leases: The state of Florida, supported by virtually the entire Florida congressional delegation, has repeatedly objected to the development of existing leases located 25 miles south of Pensacola's world-famous beaches. Chevron has asked the federal government to overrule Florida's rejection of its plans to develop the leases. A decision by the Bush administration is imminent.

Drilling on Public Lands: Scarring the Landscape

The Bush Energy Plan:

- Calls for accelerated leasing and development of oil, gas and coal on public lands.
- Proposes opening up currently protected areas of the public lands, including pristine roadless areas.

A Responsible Alternative:

A responsible energy plan would not give away our remaining wildernesses and special places to the energy industry, which already enjoys ample access to federal lands. The vast majority of public lands and their energy resources are already open for exploitation. The Bush plan is a recipe for industrializing treasured places in the lower 48 states that have been set aside for protection for future generations. A responsible policy would protect these spectacular wildlands, irreplaceable habitat for deer, antelope and other wildlife species that feature superior air quality, visibility and water quality.

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The Bush plan is based on a false premise – that too many federal lands are “off limits” to the energy industry. That claim cannot be squared with what’s really happening on our public lands.

- According to a 1999 report on natural gas published by the National Petroleum Council, the amount of gas closed to development in the Rockies is less than 2 percent of the nation’s total gas resources. (National Petroleum Council, “Natural Gas: Meeting the Challenges of the Nation’s Growing Natural Gas Demand,” Vol. I, Summary Report, p. 42 (December 1999)).
- The vast majority of the public lands managed by the Bureau of Land Management in the Rocky Mountain states – about 95 percent – is open for leasing and development.
- Millions of acres of federal lands already are under lease for coal, oil and gas.

Furthermore, our public lands are now making major contributions to meeting our energy needs.⁷

- There are currently more than 50,000 producing oil and gas wells on our public lands.
- Production of oil and gas from federal public lands, including offshore lands, steadily increased between 1988 and 1998; the last year complete data were available.
- From 1988 to 1998, oil production jumped nearly 39 percent, while production of natural gas increased 26 percent.
- Coal production from federal leases rose from 285 million tons in 1991 to 371 million tons in 1998 (the last year for available data).
- The percentage of domestic oil production from federal on- and offshore lands increased from 16.3 percent in 1989 to 26.5 percent in 1998.

Below are examples of the pristine wilderness and other areas that the Bush plan would threaten:

Wyoming’s Red Desert

This area has stunning rainbow-colored rock formations, towering buttes and prehistoric rock art as well as outstanding wildlands. It is home to the largest pronghorn antelope herd in the lower 48 states as well as a rare desert elk herd. For centuries, the Red Desert has been a sacred place of worship for the Shoshone and Ute tribes, and it contains remnants of the Oregon and Mormon Pioneer trails.

⁷ See U.S. Department of the Interior, “Production of Oil, Gas, and Coal from Offshore and Onshore Federal & Indian Lands,” 1981 to 2000 (January 17, 2001).

Little Missouri National Grassland

Situated in the western North Dakota badlands, this area contains some of the most important wildlife habitat, wilderness and recreational areas in the state. It is home to bighorn sheep and is a potential reintroduction site for the endangered black-footed ferret, the rarest mammal in North America. The area's topography ranges from deeply incised, dramatically hued canyons to verdant ridges and 200-year-old ponderosa pines. Extensive oil development already has claimed much of the badlands, and industry efforts to increase the amount of drilling continue.

Utah's fabled Red Rock Country

These lands are some of the last unspoiled wilderness outside of Alaska. Their red-hued massive cliffs, arches, towers and other rock formations support bighorn sheep, mountain lions, pronghorn antelope, peregrine falcons, golden eagles and other wildlife species, as well as ancient Native American ruins.

Vermillion Basin in Northwest Colorado

One of the state's most stunningly beautiful and isolated regions, this wild landscape is dotted with banded cliffs, desert mountains and rugged badlands along with a host of significant historic and scientific resources. These lands look much like they did when the Ute Indians' ancestors first arrived. However, oil and gas development currently surrounds the area and threatens to encroach into the basin.

Passing on Fuel Efficiency: No Relief at the Pump

The Bush Energy Plan:

- Claims the nation needs to drill in the Arctic National Wildlife Refuge and other pristine places to increase supply of gasoline to meet ever-increasing demand.
- Delays any action to close the “SUV loophole” or raise fuel efficiency standards.
- Proposes a tax credit for hybrid-electric and fuel cell vehicles.
- Takes no action to improve public transit or support “smart growth” development that would reduce the need to drive.

A Responsible Alternative:

Technologies already exist to dramatically improve fuel economy in new vehicles:

- The Bush administration should move to close the “SUV loophole” immediately. SUVs should not benefit from more lenient fuel economy standards than other automobiles. The largest SUVs are currently exempt from *any* fuel economy requirements.
- The Bush administration should increase overall fuel economy to 40 miles per gallon. This would save more than 50 billion barrels of oil over the next 50 years—more than 15 times as much oil as is expected to be economically recoverable from the Arctic Refuge.

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Improving fuel economy is one of the most important steps America could take to reduce the pollution that leads to global warming. Our family vehicles emit roughly 20 percent of the greenhouse gas emissions that are linked to global warming – making transportation the second-largest and fastest-growing source of these climate-changing gases. Plus, every extra mile-per-gallon saves money for American consumers, and reduces U.S. dependence on foreign oil.

Improving vehicle fuel economy is a better strategy than drilling for oil in the Arctic Refuge or other pristine places. The technology to dramatically improve fuel economy clearly exists. Nonetheless, America’s average fuel economy has been steadily declining for years, thanks to increasing numbers of light trucks and SUVs and to a congressional freeze on increasing the Corporate Average Fuel Economy (CAFE) standards. Under the current CAFE regulations, light trucks average 20.7 mpg, while cars average 27.5 mpg. As a result of this “SUV loophole,” combined auto and light truck average fuel economy in 1999 was lower than in 1981, according to U.S. Department of Transportation data. But the largest SUVs are exempt from the CAFE standards, so the real-world average fuel economy was even lower. Rather than increasing fuel economy, automakers have plowed their improved engine efficiency into greater acceleration, towing capabilities and vehicle weight.

General Motors and Ford have announced that they will increase the fuel economy of their SUV models by 2004. Their actions would not close the loophole, but they demonstrate that it is technically feasible to improve SUV fuel economy. One note of caution: each car company is considering switching some of their SUVs to diesel fuel to improve fuel economy. While this would improve fuel economy somewhat, doing so would sharply increase emissions of smog-forming gases and soot particles that trigger asthma attacks and cause cancer. NRDC believes that diesel SUVs present a false choice between fuel economy and public health, and that hybrid-electric and other emerging technologies will do a better job of saving fuel and protecting the public’s health.

The Bush plan proposes a tax credit for consumers who buy hybrid-electric -gasoline or fuel cell vehicles. Last year, Toyota and Honda began selling a limited line of hybrid vehicles that get more than 50 miles-per-gallon, roughly a 50 percent improvement over comparable models. Ford has announced that it will

use similar hybrid technology to improve the fuel economy of its Escape SUV model. But the Bush plan does not call for increasing the fuel economy of the overall vehicle fleet. Instead, the administration is delaying action until a National Academy of Science's study of the issue is complete.

Nuclear Power: Unacceptable Risks at Too High a Price

The Bush Energy Plan:

- Recommends the expansion of nuclear energy in the United States.
- Proposes an initiative to reexamine reprocessing of nuclear fuel.
- Calls for renewal of the Price-Anderson Act limiting the nuclear industry's liability for accidents.

A Responsible Alternative:

The Bush plan for increasing the nation's reliance on nuclear energy fails to address four major obstacles that have dogged nuclear power for decades:

- Nuclear Power poses long-term proliferation risks.
- The nuclear power industry is no longer competitive with a host of cleaner and cheaper technologies and requires continued federal intervention to survive.
- Reactor safety issues remain unresolved.
- The United States has no long-term solution for storage of radioactive wastes.

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Nuclear Power Poses Unique Risks for Weapons Proliferation

Civilian nuclear activities have directly and indirectly contributed to the spread of nuclear weapons. India's first nuclear weapons test in 1974, for example, used plutonium produced in a Canadian-supplied research reactor, and the plutonium was separated in a reprocessing plant that was part of India's breeder reactor program. Some nations have established nominally civilian nuclear programs as a pretext to acquire technologies for military programs or have acquired materials, equipment, technologies or technical personnel from the civil sector for their nuclear weapon programs. Even today Iran is pursuing a nuclear weapons option by purchasing nuclear expertise and dual use fuel cycle technology from Russia.

All civil nuclear power plants and their associated fuel cycles theoretically can contribute to the risk that weapon-usable fissionable materials, facilities, technologies or expertise might be diverted or misused. For example, all U.S. and most foreign nuclear power plants are fueled with low-enriched uranium fuel. As this fuel is burned in a reactor, it produces plutonium as a by-product. A typical large power reactor produces about 200 kilograms of plutonium annually, whereas only a few kilograms are needed to make a crude nuclear weapon.

For years the United States has taken the position that it does not "encourage the civil use of plutonium and accordingly, does not itself engage in plutonium processing." Unfortunately, while the United States has actively sought to limit reprocessing in some regions of proliferation concern, it regrettably has taken the position that it will "honor its existing commitments regarding the use of plutonium in civil nuclear programs in Western Europe and Japan,"⁸ thus establishing an unworkable double standard in dealing with global proliferation.

The Bush energy plan makes matters worse by recommending that "the United States should reexamine its policies to allow for research, development and deployment of fuel conditioning methods [i.e., reprocessing] (such as pyroprocessing) that reduce waste streams and enhance proliferation resistance," and "[t]he United States should also consider technologies, in collaboration with international partners with highly developed fuel cycles and a record of close cooperation, to develop reprocessing and fuel treatment technologies that are cleaner, more efficient, less waste intensive, and more proliferation resistant." In fact, neither pyroprocessing nor any other reprocessing scheme proposed to date is cleaner,

⁸ White House National Policy Statement of September 1993.

less waste-intensive or more proliferation-resistant than the once-through fuel cycle, i.e., direct disposal of spent fuel.

The Bush administration should adopt of a policy of unequivocal opposition to commercial use of weapons-usable plutonium and highly enriched uranium by all countries, including the United States and her allies, and assert that any spent-fuel reprocessing to recover plutonium would constitute prima facie evidence of intent to proliferate.

Nuclear Power Cannot Survive without Ongoing Federal Assistance

The Bush plan ignores the reality that, despite past injections of massive federal subsidies, it is the dismal economics of nuclear power that has limited its role in electricity production in the United States. As energy expert Amory Lovins has said, nuclear power suffers from “an incurable attack of market forces.”

- In 1999, the 103 civilian nuclear power plants in the United States produced about 20 percent of U.S. electricity consumed in that year.⁹ But no new nuclear plant has been ordered in the United States since 1978, and every plant ordered after 1973 has been canceled or abandoned.¹⁰
- In addition, owners of nuclear plants in Illinois, Maine, New York, Oregon and Connecticut have shut them down before they reached the end of their expected lifespans because the electricity they produced was too expensive.

The United States continues to artificially lower the costs of operating nuclear power plants through the 1957 Price-Anderson Act, which protects nuclear power plant owners from the full cost of accidents. The law also limits the protection offered to the public by the federal government in the event of a large accident, demonstrating the uncertainties inherent in the use of reactors to produce power. This unique form of federal intervention distorts competition in the wholesale electricity market in favor of nuclear power. The Bush energy plan, which would “streamline” the already compressed licensing process and effectively shut out public participation, would enhance the nuclear industry’s competitive status by further reducing the costs of building nuclear plants.

Without the Price-Anderson Act, which is set to expire in August 2002 unless renewed by Congress, it is highly unlikely that any new nuclear reactors would be built in the United States. Efforts to renew the Price-Anderson Act by the Bush administration and the nuclear power industry demonstrate a continuing lack of faith in the safety of nuclear reactors.

The most cost-effective and environmentally beneficial way to ensure reliable electric service would be to implement energy efficiency programs that enable consumers to have the same or even a higher standard of living while using less electricity. Cleaner, renewable technologies, such as wind, biomass and solar power, can be sited and deployed much more quickly than a new nuclear plant. The full cost of building and operating a new wind farm on a per-megawatt-hour basis is several fold less than that of constructing, operating and decommissioning a nuclear power plant.

Reactor Safety Issues Remain Unresolved

The safety of U.S. nuclear reactors has improved in the decades following the infamous Three Mile Island accident in 1979, but reactor safety is still of paramount concern. While the probability of accidents with major off-site releases of radioactivity is small, the consequences of such accidents are unacceptable. The

⁹ Energy Information Administration, “Electric Power Annual 1999: Volume I,” DOE/EIA-0348(99)/1, August 2000.

¹⁰ Ralph Cavanagh, “Electric Power Marketing in an Increasingly Competitive Era,” 5 Yale Journal on Regulation, Summer 1988.

probability of releases caused by acts of terrorism is also highly uncertain. The nuclear industry and the Bush administration cannot have it both ways. They hypocritically argue that nuclear reactors are safe while at the same time claim that Congress needs to renew the Price-Anderson Act.

The nuclear industry has developed and obtained Nuclear Regulatory Commission licenses for three newer and potentially safer designs, so-called Generation III designs, but even here safety improvements have been short-changed by the desire to reduce the cost of new plants.

There are even safer designs on the drawing board, so-called Generation IV technology. For example, the Bush energy plan and some in the nuclear industry are now touting a pebble-bed modular reactor as a much safer way to generate nuclear power. The pebble-bed modular reactor is still in the design phase and its safety and proliferation risks have not been subjected to a thorough licensing review. In any case, no new nuclear reactors should be deployed unless they are demonstrated to be “inherently safe,” thereby obviating the need for Price-Anderson Act protection from liability.

No Safe Solution for Permanent Storage of High-Level Radioactive Wastes

While nuclear power plants produce a relatively small amount of solid waste, these radioactive wastes pose health risks that far exceed that of any other source of electricity.¹¹ No site for long-term storage of these wastes has been approved,¹² and the Environmental Protection Agency has not yet issued final licensing criteria against which the adequacy of the geologic repository can be judged, despite having been tasked to develop these criteria more than 20 years ago. There is considerable uncertainty associated with the long-term integrity of the proposed Yucca Mountain geologic repository for U.S. spent fuel and high-level nuclear waste.¹³ By selecting Yucca Mountain as the repository site, the Department of Energy and Congress corrupted the site selection process. The Bush administration’s Department of Energy is now corrupting the licensing process by attempting to coerce EPA into relaxing its proposed licensing requirements, to ensure the Yucca repository is licensed.

Even if the Yucca Mountain site is eventually approved, it will continue to pose a weapons proliferation problem for future generations once most of the radioactive fission products decay and the repository becomes a potential plutonium mine.

Nuclear Power is not “Clean”

Nuclear power cannot be accurately characterized as “clean” or “green.” Both the Better Business Bureau and the Federal Trade Commission have agreed that such claims are unsubstantiated.¹⁴ There are numerous other environmental problems associated with nuclear power besides the proliferation, reactor safety and waste storage issues described above. These include pollution from uranium mining (uranium ore decay¹⁵ and radioactive uranium tailing piles¹⁶); uranium enrichment (emissions from dirty, coal-burning power plants in the Midwest that supply power for the electricity-intensive uranium enrichment

¹¹ “Generic Environmental Impact Statement for License Renewal of Nuclear Plants,” Nuclear Regulatory Commission, NUREG-1437, May 1996 at 2-10, note 6.

¹² “Radioactive Waste: An Introduction,” Nuclear Regulatory Commission, at 2. Available at www.nrc.gov/NRC/NUREGS/BRO216/part03.html.

¹³ See Environmental Protection Agency fact sheet: “Setting Environmental Standards for Yucca Mountain,” available at www.epa.gov/radiation/yucca/faqs.htm#concerns.

¹⁴ See Better Business Bureau National Advertising Division, NAD Case Reports #3508 PCM, Vol. 28 No. 8, November 1998; Better Business Bureau National Advertising Division, Referral to Government Agency, May 13, 1999; “FTC Decides Not to Ban Nuclear Ads But Finds Claims Are Unsubstantiated,” New York Times, December 12, 1999.

¹⁵ See Union of Concerned Scientists “Mining and Processing Nuclear Fuels,” available at www.ucsusa.org/index.html.

¹⁶ Id.

process), and reactor operation (including damage to fish and other aquatic species through cooling water intake and discharge of heated water from those nuclear power plants with “once through” cooling water systems¹⁷).

New Nuclear Plants are not Necessary to Reduce Global Warming Pollution

“Energy Innovations: A Prosperous Path to a Clean Environment,” a 1997 report by NRDC and several other groups, charted a way to reduce U.S. carbon dioxide emissions to 10 percent below 1990 levels by 2010, more than the Kyoto global warming treaty requires. In lieu of reviving nuclear power, the report called for greater reliance on energy efficient technology and clean, non-fossil-fuel energy generation such as fuel cells, advanced gas turbines, biomass, wind and solar power. Such a strategy would cut energy use, saving Americans \$58 billion annually by 2010 – about \$530 per household. Numerous studies by non-profit organizations and Energy Department laboratories support these conclusions.

¹⁷ See Proposed Rule, National Pollutant Discharge Elimination System – Regulations Addressing Cooling Water Intake Structures for New Facilities, 65 Fed. Reg. 49060, 49073-04, August 10, 2000.

Renewable Energy: Limited Support for Inexhaustible Sources

The Bush Energy Plan:

- Proposes extending the existing production tax credit for wind, expanding the tax credit for biomass, and creating an investment tax credit for solar systems.
- Directs the secretary of energy to review the renewable energy research and development budget, following proposed budget cuts of nearly 50 percent for most renewable technologies.
- Fails to propose a renewable portfolio standard that would ensure a steady expansion of the share of electricity generated by renewable energy resources.
- Fails to break down market barriers to distributed renewable energy systems through interconnection standards and net metering.

A Responsible Alternative:

Despite the enormous potential for renewable energy technologies, the Bush plan offers only limited support. The plan places far more emphasis on expanding use of the dirtiest fuel – coal – than it does on removing barriers to greater reliance on clean and inexhaustible renewable energy sources. This despite the fact that renewable energy technologies such as wind and solar are the fastest growing energy sources in the United States and the world today. One reason for their emerging success is that they can be brought online very quickly to help California and other states meet their power needs. For example, a 300 megawatt (MW) wind farm project on the Oregon-Washington border was announced earlier this year, as was a 260 MW project at the Department of Energy’s nuclear test site in Nevada. Both should be supplying badly needed power to the Western grid before the year is out. A responsible energy policy would be designed to steadily expand the share of our total energy needs met by such clean renewable energy sources.

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Tax Credits

The Bush plan would provide some support for renewable energy technologies in the form of tax credits. It proposes to extend the life of the existing wind and biomass energy production tax credit and to expand the scope of the biomass credit to include sources in addition to dedicated energy crops. Unfortunately the Bush plan’s definition of eligible biomass sources apparently would include not only environmentally sound resources, such as agricultural residues, but also municipal solid waste. Waste incineration should not be promoted because it produces toxic air pollutants and can undermine recycling efforts. The plan’s call for a tax credit to encourage greater use of solar energy is welcome, but experience shows that credits based on performance are far better than the investment-based credit proposed by the administration.

Research and Development Budget

President Bush’s budget proposed nearly 50 percent cuts in research and development into most renewable energy technologies. Recently the administration has backed off of some of these cuts and the energy plan directs Energy Secretary Spencer Abraham to review the renewable energy budget.

What is needed, however, is a commitment to adequate funding, not another review. The President’s Council of Advisors on Science and Technology conducted a detailed review of the energy research and development portfolio in 1997 and recommended doubling funding for renewable technologies, concluding that “with a strong R&D program coupled to appropriate demonstration and commercialization incentives, many renewable energy technologies have good prospects of eventually becoming fully competitive with conventional energy technologies in widespread applications.”

Missing Pieces

A responsible energy policy would include a full court press to expand the share of our energy needs met by renewable energy sources. Unfortunately, the Bush plan has gaping holes instead of a renewable portfolio standard, net metering, and interconnection standards.

- **Renewable Portfolio Standard:** Eleven states have adopted some form of renewable portfolio standard. These policies are designed to ensure a steady expansion in the share of electricity produced by renewable resources, using a market-friendly credit trading program. A responsible energy policy would include a national renewable portfolio standard increasing to 10 percent of electricity production in 2010 and 20 percent in 2020.
- **Net Metering:** This policy would require utilities to fully credit their customers for the retail value of the electricity produced by residential-scale renewable energy systems, such as rooftop solar photovoltaic systems. Net metering allows homeowners to literally run their electric meters backwards during periods when their electricity production exceeds their demand.
- **Interconnection Standards:** Standard procedures for connecting small-scale renewable energy systems and other clean generators to the electrical grid would reduce costs and remove a significant barrier to the widespread use of distributed generation, thereby increasing the diversity and reliability of our electric system.

Energy Infrastructure: Overriding Local Decision-Making

The Bush Energy Plan:

- Enables the government to seize private land for the construction of high-voltage electric transmission lines through the power of “eminent domain.”
- Proposes to weaken regulations for building new natural gas pipelines at the expense of the environment.
- Encourages pipeline development in environmentally sensitive areas.

A Responsible Alternative:

America does not need a dramatic expansion of federal authority to order construction of pipelines and transmission lines. States should be encouraged to work together to relieve power line congestion within the three synchronized electricity grids that serve the United States (Eastern, Western and Texas grids). Additionally, new lines should maximize use of existing transmission right of ways and allow input from all concerned stakeholders, including affected communities. Natural gas transmission pipeline permitting and approval are already the responsibility of Federal Energy Regulatory Commission, which has worked to reduce the time required for certification of new natural gas transmission pipeline projects. Attempts to further expedite natural gas transmission pipeline approvals could lead to compromising on public safety and environmental protections. Similarly, attempts by the Bush administration to intervene in the review of complex projects with potential environmentally sensitive routes are neither prudent nor warranted.



The Bush Plan for Electric Transmission Lines is Flawed

The Bush administration says a dramatic expansion in power line construction is needed to avoid the shortages and disruptions in electric service currently affecting California and adjacent Western states. However:

- Upgrading maintenance and connections among the three national electricity grids could relieve congestion on high voltage electric transmission lines within the grids.
- Siting of new or expanded transmission lines is now the responsibility of state and local regulators. Giving the federal government eminent domain authority to condemn private property for siting of power lines, especially in the West, could jeopardize crucial federal and state coordination in expediting upgrading and maintenance of grid connections.
- Granting the Federal Energy Regulatory Commission power of “eminent domain,” enabling FERC to condemn private property for the construction of electric transmission lines, has already drawn protests from Western state officials and members of Congress.

Environmental and Safety Regulations Don’t Block Infrastructure Development

Regulatory rollbacks proposed by the Bush administration to speed up line construction are unnecessary and could prove to be environmentally harmful. According to the Energy Information Administration (EIA), natural gas pipeline operators already have expanded natural gas transmission capacity across the United States by more than 20 billion cubic feet per day since 1990, an increase of 27 percent.

- Over the last two years, approximately 60 natural gas pipeline projects have been completed and put into service, providing added capacity to crucial markets, including the Midwest and Northeast. In 2000, industry constructed some 1,895 miles of new natural gas transmission pipelines. It should complete another 4,300 miles by the end of 2001, and 4,650 miles more in 2002.

- The failure last summer of one of two El Paso Pipeline Company natural gas transmission pipelines in Carlsbad, New Mexico (with catastrophic loss of life), along with the failure in Bellingham, Washington, of a gasoline liquids pipeline, highlight the need for reasoned rather than rushed evaluation of pipeline siting and monitoring.

Sensitive Areas Shouldn't Host Gas Pipelines

Another important natural gas issue involves siting pipelines to carry gas from production areas to market.

- Congress should reject calls for constructing an offshore pipeline off the Arctic National Wildlife Refuge coastal plain.
- Any Prudhoe Bay natural gas pipeline should follow the Trans-Alaska Pipeline System and the Alaska-Canadian Highway right-of-ways; undergo a thorough, new environmental impact statement; comply with all U.S. and Canadian environmental laws; and incorporate the best pipeline safety and environmental measures.

Efficient, combined-cycle natural gas power plants produce more pollution than renewable energy sources, but much less than oil or coal-fired power plants. For this reason, NRDC views them as an important bridge to a cleaner energy future. Natural gas pipelines are necessary to fuel these plants, but they must be sited so as to preserve fragile ecosystems.

Attacking Oil Refinery Clean Air Rules: More Pollution, Less Law Enforcement

The Bush Energy Plan:

- Orders the Environmental Protection Agency and other federal agencies to review – and very likely to change – the clean air rule known as “new source review” that protects Americans from vast increases in pollution when oil companies renew and expand existing oil refineries without modern pollution controls.

A Responsible Alternative:

A responsible plan would not attempt to roll back protections for clean air and public health when oil refineries have ample means of expanding gasoline production in compliance with the law. The Bush administration should not tamper with existing law enforcement cases against refiners.

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Refineries are Lobbying White House to Weaken Clean Air Act Requirements

The Clean Air Act’s “new source review” rule requires that when capital expenditures are made to renew or expand an existing oil refinery, the owner must either (1) prevent any additional pollution (by offsetting any increases with reductions in other sources on the same plant site), or (2) obtain a clean air permit showing that it has installed state-of-the-art pollution controls. These protections are vital to the health of families living downwind of the more than 150 oil refineries nationwide.

The oil industry, joined by power and coal companies, is lobbying the Bush administration to weaken these clean air requirements, claiming that they are preventing existing oil refineries from expanding oil production. This is a false claim. An oil refinery may expand its capacity and production by any amount under current law, without triggering “new source review,” provided it prevents or offsets any additional pollution. There are ample opportunities at existing refineries to control emissions and avoid pollution increases. In fact, few oil refineries among the nation’s total are equipped with the modern pollution controls that would be applied under the new source review program. This means that the many dirtier refineries actually have greater opportunities to prevent or offset additional pollution, thereby facilitating expansion of capacity and preventing dirtier air.

Many oil refinery owners, however, have undertaken projects to expand their plants without meeting these clean air requirements. Over the last two years, EPA has brought enforcement actions against some of those companies. Settlement agreements have been reached with four oil companies that will result in more than 83,000 tons of pollution reductions each year. Settlement discussions with other companies continue, and the government is pressing other cases in the courts. EPA and the Justice Department have noted that the “settlements will not reduce the capacity of these refineries but will require that their production emit less pollutants.” (March 21 DOJ and EPA press releases, “Clean Air Agreements Reached with Petroleum Refiners.”) Attorney General John Ashcroft called these settlements a “victory for our environment” and noted that “[p]rotecting our natural resources through strong enforcement of environmental law is a top priority for the Department of Justice.”

Now, however, the Bush energy plan orders EPA to consider industry proposals to drop enforcement efforts against those companies that have violated the rules and roll back these clean air requirements. EPA must undertake a multi-agency review of the new source review rules and enforcement initiative, with helpful assistance expected from the Department of Energy and other agencies friendly to the power, coal and oil industries.

The Bush Administration is Interfering with Clean Air Act Enforcement

In addition, the Bush energy plan directs the Department of Justice to review the pending Clean Air Act enforcement cases against oil refineries and power plants to ensure that they are consistent with the law and regulations. This directive represents a thinly veiled effort by the White House to interfere with important law enforcement actions. Reaching the correct conclusion on this matter does not require any “review.” The White House officials have been in place since January. The Ashcroft Justice Department has already filed legal papers in federal court supporting these enforcement cases and attesting to their consistency with the law and regulations. The Bush administration also has reached recent settlements in enforcement cases against four oil companies for Clean Air Act violations, based upon the same government view of the law and regulations.

The industry proposals to interfere with enforcement of the law, and to weaken Clean Air Act programs prospectively would open a huge loophole for expansion of their refineries without assurances that they will offset pollution increases or install state-of-the-art pollution controls. Oil companies are enjoying record profits, with first quarter profits for this year for Unocal up 121 percent (\$295 million), Conoco up 64 percent (\$653 million), Chevron up 53 percent (\$1.6 billion), and ExxonMobil up 44 percent (\$5 billion). There is no reason why oil refineries cannot afford to install state-of-the-art pollution controls when their expansion projects will significantly increase harmful air pollution in surrounding communities – especially when the purpose of those expansion projects is generate additional capacity and additional revenue.

Reducing Reformulated Gasoline Blends: Will the Cleanest Prevail?

The Bush Energy Plan:

- Calls for the reduction in the number and types of reformulated gasoline blends around the country.

A Responsible Alternative:

A shift to a regional or national specification for reformulated gasoline makes sense – so long as it does not compromise critical health protections provided by cleaner gasoline. NRDC does not support allowing dirtier fuels merely to increase oil company profits.



In many parts of the nation, gasoline is reformulated to burn more cleanly and produce less pollution from automobiles. Oil companies that are currently enjoying record profit margins are pursuing a campaign to blame these federal and state clean gasoline requirements for soaring gasoline prices at the pump.

In fact, the Environmental Protection Agency has found that federal reformulated gasoline requirements add only 4 to 8 cents to a gallon of gas, far less than the pump price increases over the last few weeks.

Oil companies are exaggerating the impact of the clean gas regulations, claiming that differing state and local formulas require them to make dozens of distinct gasolines. The truth is that most states that adopted gasoline formulas different from federal requirements did so because oil companies told them these fuels would be *cheaper*. Now, the oil companies have found it more convenient to criticize these differences and ignore their own role in promoting them. They claim the number of different gasoline requirements that they helped inspire is contributing to the price spikes.

A Federal Trade Commission study of gasoline price spikes in Chicago last summer found that part of the gasoline shortage was attributable to “decisions by some firms to maximize their profits (curtailing production, keeping available supply off the market).”

A simple, common-sense solution is to establish national, or at least regional, specifications for clean gas. But reducing the number and types of reformulated gasoline blends need not – and should not – reduce the health protections afforded to the American people. To protect public health, these blends need to be at least as clean as federal reformulated gas. In this way, we can increase public health protection and reduce oil industry excuses for price gouging.