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Energy Dreams and Energy Realities

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We are, it seems, always in some kind of energy crisis, real or imagined. Some worry that our major sources of energy are about to run out. Some despair that our energy-hungry civilization is destroying the natural world. Some believe our quest for energy is driving us into unnecessary wars and unsavory alliances. And some lament that excessive regulations on energy development are crippling the American way of life. When it comes to energy politics, there is no shortage of alarmism, conservative and liberal alike.

By now, it is obvious where the two political parties generally come down on energy issues: Republicans value energy production and economic progress above protecting nature, and they look to the gradual improvement of existing technologies as the key to American progress. Democrats see the energy debate through the lens of nature, and they look to government regulation and technological revolution as the only way to balance growing energy demands with ecological responsibility.

What seems likely is that neither side will ever get to enact the energy policy of its dreams. We will probably not mine every last oil reserve in Alaska, and we will probably not regulate the internal combustion engine out of existence. And despite the deep differences between the two parties, most Americans probably agree on the "energy ideal": we want an energy system that liberates us from doing business in the Middle East, that adds American jobs and expands American industry, and that leaves no environmental or aesthetic wreckage in its wake. We want a world where industry lions and naturalist lambs lie together in harmony.

But the two parties differ about whether they believe this energy ideal is truly possible, and to what extent we should actually try to achieve it. They differ about what is most worth *preserving* in a world of imperfect choices—economic growth or an unspotted landscape, American power or American purity—and thus what must be sacrificed in pursuit of the good energy society. To be sure, regional economic interests play a significant role in the energy debate—there are oil states, coal states, and ethanol states. But more deeply, the two parties hold fundamentally different ideas about the relationship between man, nature, and modern technology. Both Democrats and Republicans have something valuable to say in the energy debate, but neither party by itself offers a satisfactory public policy—in part, perhaps, because no energy policy can fully satisfy us.

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Energy Technology in America

Modern societies need energy to function, and for centuries we have lived off the energy resources that human beings were most able to find and best equipped to mine. Energy production has been a triumph of technology over nature—turning decayed 300-million-year-old plants into useful fuel; discovering a way to split uranium atoms and release power; using sonar technology and satellite imaging to find underground oil and coal reserves; shrinking the volume of natural gas by storing it at subfreezing levels; running cars on fuels made from corn.

At its inception, America devoured its forests, then mined for coal, then embraced domestic and eventually foreign oil, and now eagerly anticipates a flood of natural gas from around the world. Each resource has dominated, still dominates, or will dominate the U.S. energy portfolio. These sources of energy are naturally formed and found; man contributed nothing to their existence, but reaps the benefits of their discovery.

Central to this history is the way "useless" or unknown resources become invaluable. As Barbara Freese describes in her book *Coal: A Human History*:

> The colonists had no reason to search for coal. It would therefore be a very long time before anyone realized that in addition to this astonishing wealth of wood, the continent also held the world's richest coal deposits, including a coal field half the size of Europe lying beneath the eastern American forest.... Coal would be dug the way the forests had been cut—not simply for survival and comfort and profit, but in service of the larger mission of transforming the wilderness into something that transcended nature.

A similar story is taking shape today with natural gas. Once considered an undesirable byproduct of oil drilling, natural gas became the "fuel of the future" in the late 1980s, after technology improved exploration and production techniques and the delivery of natural gas became more efficient. Natural gas has many advantages—it opens up a largely untapped energy resource and burns more cleanly than coal or oil. But it also requires extensive drilling, and a significant percentage of the world's natural gas supplies lie buried in the politically tumultuous Middle East.

This points to a second salient fact in the history of energy technology: the quest for an endless, stainless, and guiltless source of energy. For a time, some people thought nuclear power might be the answer—it produced no emissions, involved limited purging of the earth's resources, and seemed almost magical in the extent of power it could produce. In 1973, 41 nuclear power plants were ordered for construction in the United States, a one-year record. But the 1979 accident at Three Mile Island in Pennsylvania devastated the nation's nuclear energy industry. Although no one suffered injuries, the image of nuclear power

was permanently tarnished, and the American faith in nuclear technology has never fully been restored. Still, the debate over nuclear energy remains a crucial one—far too significant to be handled adequately here. Many countries around the world (especially in Europe) rely extensively on nuclear power as a national energy source; many American conservatives have attempted to spur a "nuclear revival"; but in the end, the ire of American environmentalists and fears about nuclear weapons proliferation mean that nuclear power will not, at least for now, be the guiltless source of fuel America longs for.

The nation also continues to explore various types of "renewable energy" resources. This includes an ever growing list of possibilities: solar power, wind power, biomass, municipal solid waste, landfill gas, hydroelectric power, and even energy harvested from animal carcasses. Much of this plan rests on the future of the "energy farm," and an "Agriconomy" in which agricultural bioproducts (rice, straw, soybeans, poultry waste, sugarcane, forest thinnings, grapeseeds, and barley grain) are converted into valuable fuel using chemical and thermo-chemical technologies. But despite the fact that today's energy markets feed off varying quantities of renewable energy, the dominance of hydrocarbon—King Coal and Black Gold—persists, even as the desire to make the leap to a post-hydrocarbon age is as strong as ever.

Energy Politics in America

Many of the dominant themes in today's energy debate are in fact very old: "big oil," "energy independence," "ecological disaster," "renewable resources." Nearly every president in the last century has confronted an energy problem or helped steward an energy revolution, often real and sometimes imagined. Theodore Roosevelt squared off against Standard Oil's monopoly and protected large swaths of the American landscape from developers; Woodrow Wilson converted the American military from coal to oil; Warren Harding created and scandalized federal oil reserves; Franklin D. Roosevelt launched a national dam-building project to produce jobs and the Manhattan Project to produce the nuclear bomb; Harry Truman signed the Atomic Energy Act in 1946; Dwight Eisenhower promoted the development of the domestic nuclear power industry; John F. Kennedy sought to combat what he perceived as the Russian energy juggernaut; Lyndon B. Johnson weathered the nation's first major blackout in 1965; Richard Nixon confronted an international oil embargo and ensuing fuel shortages; Jimmy Carter presided over the gas-line malaise and preached the gospel of conservation; Ronald Reagan abolished energy price controls amid the collapse of the domestic energy market; George H.W. Bush signed the Energy Policy Act of 1992; and Bill Clinton worried about the effects of global warming on the environment.

This history—especially since the 1970s—has been shaped by three overlapping realities: First, widespread fears of an imminent energy catastrophe, both

economic and ecological. Second, dramatic plans and proposals to liberate us from our genuine energy problems—i.e., blackouts, price-spikes, wars in the Middle East, deals with dictators, and global warming. And third, the gradual evolution of energy technology across time, creating new opportunities and new problems, but so far not displacing the age of hydrocarbon or the global politics of oil.

Since the turn of the century, we have worried about running out of energy. In 1925, national estimates put coal's life expectancy at 14 years. In 1943, Secretary of the Interior Harold Ickes declared an end to American oil supplies. In 1956, the American geologist M. King Hubbert famously predicted that the peak of world oil production was only a few decades away. But it was not until the 1970s that concern over the viability of the nation's energy supplies became a potent political topic. President Nixon delivered the first "comprehensive energy message" to Congress in 1971, and described America's growing dependence on foreign oil supplies.

This dependence turned into a genuine "energy crisis" in 1973, when the Organization of Petroleum Exporting Countries (OPEC) halted sales of oil to the United States following Israel's victory in the Yom Kippur War. Domestic affairs—employment, fuel prices, economic growth—were caught in the clenches of an international power dispute. Nations abroad seeking to harm America at home had found their tool—oil. Nixon believed that the U.S. needed to find a long-term solution to the American energy problem:

> America is a rich, a strong, and a good country. We must set for ourselves this goal: We must never again be caught in a foreign-made crisis where the United States is dependent on any country, friendly or unfriendly, for the energy we need.

In other words, the world is a mess, and only a technological revolution can insulate us from its troubles. Nixon called on the forces of American ingenuity to free the country from oil's tyranny; he called on science and industry to make America the "sole masters of our fate." He announced "Project Independence," a plan for the United States to achieve energy self-sufficiency by 1980 by gathering together the "largest pool of highly trained scientific talent in the world." He ranked the importance of the initiative equal to the Manhattan Project and the Apollo Project—a comparison that recurs again and again in the current energy debate.

Despite the very real pain felt by U.S. consumers during the embargo, the idea of a great national project failed to take root. This was in part because of Nixon's belief that most of the funding for such a grand scientific project should come from the private sector, which had no incentive to put itself out of business. Ultimately the project became an effort not to find a single new source of energy but rather to increase traditional energy supplies using gradually

improved technologies. "Our coal reserves could supply our needs for 300 years, while shale oil could satisfy an additional 130 years of demand," Nixon promised. But much of the supply was not easily recoverable, or else not recoverable in an environmentally safe manner.

Jimmy Carter saw the energy situation as both a stain on America's character and a looming disaster for the American way of life—an "overall sign of weakness," as he put it. In the 1976 presidential debate, Carter declared that there was just 35 years-worth of oil left in the entire world, and that "we are the only developed nation in the world that has no comprehensive energy policy." He described the oil embargo as an "economic declaration of war," but ruled out military intervention to defend America's interests. Yet he used war-like rhetoric to exhort the American public to "conserve," "sacrifice," and "endure" while a "comprehensive energy policy" worked its way through the legislative process.

It was a strange kind of patriotism—a mix of criticism, despair, and scientific optimism all in one. Carter called on "American technology and American ability and American natural resources," even as he lamented the excessive materialism and environmental consequences of American industry and consumerism. He signed the National Energy Act, appointed an "Energy Czar," chartered the Department of Energy, and witnessed U.S. oil imports reduced by two million barrels per day. But these actions did nothing to prevent the world oil shortage that Carter acknowledged in January 1979, nor did they significantly reduce U.S. reliance on foreign oil. The long-term answer, Carter believed, was the development of alternative energy sources: synthetic fuels, biomass energy, renewable energy, geothermal energy, and ocean thermal energy. But when these initiatives failed to have an immediate impact in relieving the energy crisis—and facing the pressures of seeking re-election in 1980—Carter sought to bolster his fossil-fuel credentials. "We'll drill more oil and gas wells this year than any year in history," Carter promised during a presidential debate. "We'll produce more coal this year than any year in history." But for a nation in economic pain, such reassurances were too little and too late.

Twenty-eight days after Ronald Reagan became president, he issued an executive order that abolished price controls for crude oil and refined petroleum products. More importantly, he exuded a confidence about American industry that Carter lacked, and a willingness to use land that conservationists thought should remain untouched. Reagan disregarded the portrait of America as energy-poor. "There are hundreds of millions of acres of land that have been taken out of circulation by the Government," he declared in 1980, with "more oil and natural gas than we have used so far since we drilled that first well 121 years ago." But excessive regulation, he believed, was destroying the incentives to search and produce. Open more mines, burn more coal, reach into the ocean's outer continental shelf, place public land areas back into service—these were

Reagan's answers to a perceived energy shortage. When primary methods of removal fail, move on to secondary or tertiary techniques for bringing marginal oil and gas out of the ground. "As technology improves," Reagan said with certainty, "we'll be able to do even better."

In these three presidents—Nixon, Carter, Reagan—the major themes in the current energy debate find their antecedents: conservation and production, current crisis and future technologies, energy independence and reliance on foreign oil. Lawmakers hammering out an "energy policy for the 21st century" have become mired in an eerily similar discussion of limitations and expectations: a debate over what must prevail at the intersection of energy development, environmental preservation, and technological promise. And while George Bush, Sr. and Bill Clinton both put energy issues at the center of their presidencies—the first Gulf War, the Energy Policy Act of 1992, the fight against global warming—neither administration changed the fundamental terms of the energy debate, and neither put to rest the anxieties that continue to drive the politics of energy in the current Bush administration.

George W. Bush and the Energy Debate

More often than not—to James Madison's delight—big energy bills die a congressional death. No single faction is able to impose its vision of the energy future on the country as a whole, and the effort to please every faction often degenerates into incoherence. It ends up pleasing no one and offending nearly everyone. The Bush energy initiative is so far no exception, and after three years of debate, no comprehensive energy legislation has emerged, despite Republican control of both Congress and the White House.

Consider the major initiatives in one iteration of the Republican energy package: $1.8 billion for a Clean Coal Power Initiative aimed at cutting pollution from coal-fired power plants; $2.081 billion for research into "fusion energy"; $2.15 billion to get hydrogen-powered automobiles on the road by 2020; $1 billion for an experimental power plant capable of producing hydrogen; $18 billion for a natural gas pipeline stretching from Alaska's North Slope to the lower 48 states; a federal mandate to produce five billion gallons of the fuel additive ethanol; $500 million for extracting oil and gas from "unconventional" locations; and funding for "horizontal drilling," "three-dimensional" seismic techniques, and "enhanced recovery" of energy sources.

The Bush initiative received a predictable and often unfavorable reaction from many quarters. Liberal critics called the administration a bunch of "fossil fuel dinosaurs" and condemned their devotion to "petro-politics" and "traditional" energy sources. Others labeled the bill a Christmas tree for oil interests, a license for industry profiteering, or a wide-ranging assault on the environment. Conservative critics saw the Bush initiative as an example of needless, reckless,

and excessive government spending—much of it on futuristic energy technologies better left to the private sector, where they would face the dream-destroying gauntlet of the marketplace.

Two newspapers that rarely agree both saw the energy bill as an abomination. The *Washington Post* said the bill was "stuffed with more goodies than a Thanksgiving turkey." The *Wall Street Journal* described the bill as "one of the great logrolling exercises in recent congressional history," and said that the "GOP leadership has greased more wheels than a NASCAR pit crew" in its attempts to buy votes. The bill drew the wrath of interest groups across the spectrum from the green left to the libertarian right—from the Sierra Club to Taxpayers for Common Sense, from the Wilderness Society to the Heritage Foundation. The result is that several versions of energy legislation have all dissolved under the weight of contentious "poison pills"—such as permitting oil exploration in the Arctic National Wildlife Refuge, exempting manufacturers of fuel additives from product liability claims, or restructuring electricity markets. The clash of interests has created an unpassable beast and thus, it seems, an unbreakable stalemate.

Of course, the interests in the energy debate are not simply philosophical—pinning pro-development conservatives against pro-conservation liberals. For example, Republican Governor Jeb Bush has vigorously opposed off-shore drilling in Florida—saying explicitly that it is different than drilling in Alaska, and that we need to protect the "pristine natural environment" that Florida tourism depends upon. Republican senators from coastal states have advocated similar positions to protect state aesthetics and commerce. Meanwhile, Democratic Senator Edward Kennedy, a vigorous supporter of renewable energy technology, has vigorously opposed the creation of high-tech windmills off Cape Cod, which would be an eyesore for those with beachfront property. The "not-in-my-backyard principle" and the "more-jobs-in-my-district principle" are always important, and probably decisive on particular votes. But over the long run, the larger philosophies of energy—Democrat and Republican, liberal and conservative, industrialist and naturalist—remain more important in shaping the terms of the energy debate.

The Republican Idea of Energy

In some ways, what is most remarkable about the Bush administration's energy initiative is how much faith it seems to put in "transformational technologies" jump-started through government activism, and how much homage it pays to the rhetoric of environmentalism. As David Garman, Assistant Secretary of Energy, described it: "We are working toward that day when our primary energy carriers are electricity and hydrogen derived from primary energy sources that are carbon-free."

The Bush administration's biggest push in this area has been for the development of fuel cells, a technology typically associated in the public mind with eco-conscious Democrats. Fuel cells are conductors of electricity, not a source of energy. For now, this means that in order to use fuel cells to produce useful power, fossil fuels will likely feed the system. But the long-term hope is that further advances will eventually make the old inputs unnecessary and obsolete.

No one actually expects the coming of the "global hydrogen economy" to be a simple affair, despite some early optimism that the American Northwest will become the "Saudi Arabia of hydrogen." The administration has called for $1.7 billion to fund the FreedomCAR and Hydrogen Fuel Initiative to help industry produce a commercially viable hydrogen-powered fuel cell car by 2020. Congress responded by including this proposed funding in several versions of the energy bill.

But while the administration has compared its hydrogen initiative to the Manhattan and Apollo Projects—an old story—it has made clear that wartime initiatives aimed at developing a specific technology should not be confused with commercial research and development. "When we built the Apollo program, the government ran the entire program, and it consisted of one very important scientific step forward, but that did not require Americans from coast to coast to decide they wanted to have their own rocket ships or the need to have a support system for them," said Energy Secretary Spencer Abraham. "The federal government will assist, aid, coordinate, sponsor, and fund. But we will not pick one technology over another, or insist that our partners follow a path we dictate."

Indeed, the Bush proposals would put no major mandates on industry, and they would set technology goals far off in the future—with no guarantee that such initiatives would be funded over the long-term. "I'd love to be the president [who could] … stand up and say, we've grown enough crops so we're no longer dependent upon a source of energy. And that's possible. It's just not possible for the short run," declared President Bush in 2004. Which is why the major dimensions of the Bush energy policy aim to bolster or improve more "traditional" sources of energy: more natural gas pipelines, more clean coal technology, more oil exploration, and so on.

To take the term "conservatism" in its political meaning is to see that conservatives seek to preserve what works; they seek to advance gradually along a path of incremental discovery rather than acting in radical new directions. The Republican idea of energy development is mired in awe at the steady cadence of industrial achievement; in a philosophy of nature that celebrates man's powers of development; and in a belief that economic growth depends on expanding opportunities for oil, natural gas, coal, and nuclear power by improving existing technology and limiting government interference. It is a philosophy founded on what *is* more than what *might be* in the future, on current demands and opportunities more than future dreams and future nightmares. The Republican energy strategy is about "active exploration" throughout the hemisphere; it is a policy of muscular development

over idle or "romantic" plan-making. It takes a certain pleasure in man's superiority over the world he inhabits; it assumes or aims to demonstrate that environmental worries are misguided or overstated; and it believes that gradual technological progress will ameliorate the ecological problems that actually exist.

The Republican philosophy is premised on the possibility of protecting the environment *without* destroying existing industry rather than protecting the environment *from* existing industry. "I am not an enemy of conservation," Ronald Reagan declared in 1980. "I wouldn't be called a conservative if I were." But despite Reagan's assurances and Bush's recent proposals, Republicans are overwhelmingly viewed as the party of production and Democrats as the party of conservation. Indeed, many Republicans actively identify themselves as enemies of the "conservation movement," in an attempt to portray themselves as the only real defenders of American progress and prosperity. The Republican Party is filled with many "industrial devotees," primarily from coal, oil, and coastal states, who seek to advance production as the first order of business.

When it comes to public policy, many Republicans see nature largely in terms of its economic value. At present, for example, the Outer Continental Shelf along most of the east and west coasts of the United States is protected from drilling activity by a federal moratorium. Beginning in 2001, the House of Representatives debated a provision in the energy bill that would have permitted the federal government to undertake an "inventory" of the first couple of miles off coastal shores, to identify unknown oil and gas resources. The language would not have permitted any drilling, just the collection of information. Representative Billy Tauzin, the Republican former chairman of the House Energy Committee, wanted an economic value ascribed to conservation, in the same manner that environmentalists try to quantify the ecological effects of certain industrial activities. The decision to protect this area, he declared, must be made knowing what lies beneath:

> How do you make wise decisions if you close both eyes and shut both ears? You will not listen, you will not look, you will not learn. You do not want to know. I think you make unwise decisions when you do that. In a country, a free country like ours where we prize free speech and information, an information society where knowledge is power, where we make good decisions because we know more, not less … what are you afraid to know? Why do you act in the dark? Why would you rather make decisions without the facts rather than making decisions with the facts?

Democrats opposed to the measure argued that the "inventory" was a means of setting up the perfect crime: tempt industry, await a growing imbalance between energy supply and demand, and then unveil a production boon.

Where Democrats speak of untouchable lands, Republicans speak at most of minimizing the human footprint. Republicans do not take exception to the

charge that coal and oil provide "yesterday forever"; they seek instead to live realistically with the trajectory of existing technology and to find ways to expand existing industries. For fossil fuels, this means narrowing the scope of the search, by using technology that sees further, deeper, and more clearly where the buried treasures lie.

Of course, the Republican Party also includes many self-described "moderates," who have become solid supporters of environmental reform—such as Arizona Senator John McCain, Rhode Island Senator Lincoln Chafee, and Maine Senators Olympia Snowe and Susan Collins. This group has opposed the administration and their Republican colleagues on issues such as global warming and fuel economy standards. In an interview in January 2004, Senator Chafee discussed the electoral layout of the environmental-energy movements, arguing that America's environmental expectations are on the rise:

> Look at a map of all the states Bush won in 2000—the red states are mining states, they are timber producing states, they are ranching states, many of which have a very strong opposition to environmental laws. But that doesn't represent the interests of most of the swing states. And even the mentality in the traditionally Republican states is changing—states like Idaho, where people are beginning to understand that there has to be a balance.

This idea of a rising environmental conscience gives Republicans like Chafee a leg to stand on, one bolstered by a faith that the industrial lion and the environmental lamb need not be enemies. "We don't think we ought to buy into this false choice that somehow we cannot develop energy resources without being [cautious] with the environment. We can. We've got the technology to do it."

Speaking on the Senate floor in April 2004, Republican Senator Lamar Alexander, who supported passage of the Republican-crafted energy legislation, acknowledged the presence of a "conservation majority," a reality that Republicans will have to confront sooner rather than later:

> Our magnificent land, as much as our love for liberty, is at the core of the American character. It has inspired our pioneer spirit, our resourcefulness and our generosity. Its greatness has fueled our individualism and optimism, and made us believe that anything is possible. It has influenced our music, literature, science, and language.… That is why there is a conservation majority—a large conservation majority—in the United States of America.

But in general, the Republican devotion to the land, where it exists, is different from the Democratic devotion. The Republican ranch is the Democratic temple.

The Democratic Idea of Energy

Democrats generally find Republican energy bills to be simultaneously radical in their disregard for the environment and primitive in their obsessive hunt for

300-million-year-old fossil formations. Democrats place environmentalism at the heart of energy policy, and they see fossil fuels as a mark of the "old world order." They believe the Bush initiative is a phony step forward and a giant step back—supporting the well-refined, deeply-vested, technologically-perfected techniques of removing fossil fuels from small crevices of the land and deep depths of the ocean. And, of course, they see it as a big pay-off to Big Oil.

The liberal idea of energy blends a romantic desire for Elysian Fields, a conservation ethic, and a vision of American energy independence that requires a technological revolution in the way we make and use energy. Liberals pine for better and more efficient energy production while expressing dismay over many entrenched industrial techniques. They worry about what is being "lost forever" and dream about what might be achieved with a "new energy paradigm." Most Democrats yearn for a world devoid of coal-fired power, nuclear power plants, and oil refineries, and imagine a new age of bio-refineries, wind farms, and solar power initiatives, with some Democrats willing to bear "clean coal." A good energy policy, they say, is one of "energy self-sufficiency," rooted in a belief that renewable energy sources, constantly replenishing themselves, will one day allow us to transcend our energy problems.

The Democratic vision is also shaped by two salient political facts: traditional energy companies are largely Republican supporters, while Democrats have formed a strong alliance with the environmental movement. These political realities helped make stopping oil drilling in the Arctic National Wildlife Refuge (ANWR), a section of Alaska's North Slope, the defining energy issue for Democrats during the past few years.

Republicans have long sought to overturn an existing legislative ban on drilling in this region, which contains known oil reserves of unknown quantity. Environmental groups see ANWR as a battle of biblical proportions, a David and Goliath struggle between natural preservation and resource profiteers. From this one issue they have sought to define a "conservation ethic," a religion that champions nature over man and self-denial as virtue, and that opposes the "lust" for oil as an unforgivable transgression.

To mar a "precious environmental treasure," deface an "irreplaceable" and "pristine" landscape, alter centuries-old herding and grazing patterns in pursuit of oil—this was deemed the final stand for Democrats with an environmental conscience. A handful of senators announced they would filibuster any energy legislation that opened up ANWR to drilling. The issue is not about what man can achieve here-and-now but what we should not want to achieve at all. It is not about present needs but future possibilities—both the nightmare of a future with nature irreparably destroyed, and the dream of a future where such ecological violation is unnecessary. ANWR has become a symbol of American liberalism's attempt to halt the advance of the drill in the wilderness. Even if satellite and

seismic technology could pinpoint the exact location of oil, and even if new drilling instruments that spider underground could limit the footprint of exploration, these sacred grounds should be off limits.

More deeply, the ANWR debate brings the two faces of liberal romanticism into focus: on the one hand, a vision of nature's innocence and man's guilt for daring to impose modern machinery on the natural world; on the other hand, a vision of liberating technology, which promises to restore man's innocence by fueling advanced civilization without violating nature at all. The idea is at once pre-modern and post-modern. "This is one of the most beautiful, pristine places that the good Lord has created on earth, and it happens, fortunately, to be within the United States of America," Senator Joseph Lieberman said of ANWR. Then, in the next breath, he championed the success of "new technology" as "the answer" to finding greater supplies of energy elsewhere.

From this issue "warrior naturalists" have been molded—lawmakers who see portions of the natural world as an untouchable haven, who speak of the "last great wilderness," who believe that "biologically unique" areas of the country must be removed from the trajectory of modern progress. This vision looks to the past with a sense of what has already been lost. It longs for "what America used to be" and sees preservation as the best way to get it (partially) back.

The irony is that in seeking to preserve the wonders of nature, we may need to limit the people who venture forth to behold them, or at least alter the paths we travel to do so. A recent article in the *Washington Post* detailed efforts by Yosemite National Park to lessen the impact of tourists: "After decades of debate, Yosemite is embarking on a $440 million plan to limit or change human activity around the glorious but beleaguered park. Some campsites will be eliminated or moved, roads and trails will be refigured, and many visitors will eventually have to roam the valley in shuttle buses instead of cars—all to better protect the park's natural wonders without ruining public access.... New population pressures and recreational pastimes that keep pushing deeper into pristine wilderness are laying siege to many national parks." It seems likely that even more severe restrictions could become necessary in the future.

More broadly, the ideal of "preservation," taken to its logical extreme, means battling against nature's own capacity for self-destruction, or trying to stop the evolution of natural erosion. Only technology allows us to try to preserve nature's elements from destruction or decay. To "preserve" is to reduce nature to art, to manage its wonders in a temperature-controlled, light-controlled, humidity-controlled box under human supervision for generations to view. In the cult of preservation, the pace of life, or natural decay, is slowed to a crawl—an unnatural development itself.

But in the deepest sense, the conservation ethic is about us—our souls—as much as it is about the world we inhabit. "Environmental justice," "environmen-

tal equity," and even "environmental racism" are terms sprung of the modern environmental movement—what author Michael Crichton has compared to a "religion of choice for urban atheists." Speaking at the Commonwealth Club in San Francisco in September 2003, Crichton described man's consumption of Eden as depicted by environmentalists:

> There's an initial Eden, a paradise, a state of grace and unity with nature, there's a fall from grace into a state of pollution as a result of eating from the tree of knowledge, and as a result of our actions there is a judgment day coming for us all. We are all energy sinners, doomed to die, unless we seek salvation, which is now called sustainability.

Of course, most practical-minded Democrats aim to be custodians of nature, not naturalist prophets. They aim to quantify the ramifications of energy use for the broader environment, and they seek to restore the quality of the air and water in the face of unceasing energy production. They look to technology to eliminate industry's worst violations, and they see government mandates as the most effective way to spur such technologies into existence. They support bolstering the nation's clean air and water regulations, ratifying the Kyoto accord to curb global warming, requiring stringent environmental reviews before new projects are approved, mandating the use of technology to purify coal, and requiring the production of electricity from renewable resources.

For decades, Democrats have argued for conservation and sacrifice as central to ameliorating the nation's energy problem. They believe Americans must be willing to "go without," especially without big cars, big trucks, and big SUVs. But Democrats also recognize that the message of conservation risks being perceived as a recipe for paralysis. And they are not content simply to manage or ameliorate the effects of the hydrocarbon age; they seek to create a new age altogether.

The Democratic position is not rooted entirely in confidence about American vigor or American scientific greatness. It is as much about fear as it is about readiness, and as much about despair at our military entanglements abroad as confidence that we can become masters of our own energy fate. Alternative forms of energy are seen not only as an answer to our domestic energy needs, but a shield from volatile warfronts and a dangerous "axis of oil." As Senate Minority Whip Harry Reid, Democrat of Nevada, declared: "It is much cheaper and much less deadly to conserve energy and increase efficiency than to send troops to protect oil interests in the Middle East.… While our soldiers in Iraq are fighting for many reasons, we cannot divorce what is happening in the Middle East from our dependence on oil."

During the Democratic primary of 2004, Representative Dick Gephardt unveiled a ten-point "Apollo 21" program to achieve energy independence within ten years, and Senator Lieberman offered a "Declaration of Energy

Independence" to free America from oil in twenty years. Presidential candidate John Kerry, offering praise for the pro-renewable energy group Apollo Alliance, declared the following: "Renewable energy sources are important because they are entirely under our control. No foreign government can embargo them. No terrorist can seize control of them. No cartel can play games with them. No American soldier will have to risk his or her life to protect them." But perhaps Democratic Senator Byron Dorgan best combined the realist's vision with the romantic's hopes:

> I believe we will continue to use fossil fuel in our economy for a long while. And I believe we need to do that. But we also need to understand that it is time to change. After a century of running gasoline through the carburetors of our vehicles, it is time for our country to think in different ways, about how technology can change our energy future.… We need an Apollo-type project—not timid, not baby steps, [but] bold, big steps—that says: Here is our goal. Here is what our country intends to do, and here is how.

Some dreams, apparently, never change. We still await the ideal energy source, and we still live in a world where the necessity of producing energy confronts us with many unpleasant realities—both in our dealings with other nations and our relationship to the natural world.

A Sober Balance

As America thinks about its energy future, it might do well to revisit a vision from the past. Theodore Roosevelt offered a portrait of America gleaned from surveying the country's majestic crests and ebbing creeks, from scaling her jagged geological formations, and from hunting down a number of her wilder creatures. He invaded and wrestled with the rough country, and identified with the hunter, developer, and naturalist alike. He was moved by a reverence for the given world, combined with deep-seated repugnance for excessive annihilation of the land and distaste for those whose drive for wealth was completely disjointed from the cause of national greatness. In Roosevelt's mind, a civilized man felt shame over "senseless destruction of that which, once destroyed, could never be replaced." And he believed that the American soul was inseparable from the American landscape.

But Roosevelt was not a purist. He saw in the country's natural territories both beauty and business, both a precious legacy to be protected and the setting for American progress. He did not believe that man's transformation of the land was always a blemish, and he drew a clear distinction between the "land-skinner" and the "man who develops the country." He contrasted the commercial interests that tore down every tree and obstacle in their path with an enlightened generation (like his own) that would advance a commitment to preservation and thoughtful expansion.

Roosevelt also perceived the role that technology would play in the destruction of the environment, and argued that as the age of man advanced, so too would his ability to destroy nature more fully. "The mineral wealth of the country, the coal, oil, gas, and the like does not reproduce itself, and therefore is certain to be exhausted ultimately," he warned. Roosevelt's frequent depictions of the American landscape, delivered in the hope of engendering an "awakened public," were intended as a lesson in noble progress. The alternative, he believed, was a scorched, barren continent incapable of producing inspiration or opportunity.

It is impossible to know whether Roosevelt would be more sympathetic today to the energy visions pronounced by Republicans or Democrats. Most likely, he would identify fully with neither party, seeing in each a partial wisdom. And he would lament the inability of either Republicans or Democrats to advance reforms that balance national ideals with the demands and uncertainties of the present. In the end, there is no ideal energy policy, and no easy way to vanquish all our energy troubles—growing demand, growing dependence, and the possibility of doing short-term harm to the American economy or permanent harm to the American landscape. Likewise, no energy technology is entirely guiltless and problem-free. The energy statesman needs to balance reverence for nature with the virtues of progress, and he needs sufficient realism to see that our use of the land is neither totally innocent nor eternally corrupt.