In 1991, Wendell Berry wrote: “Under the rule of the ‘free market’ ideology, we have gone through two decades of an energy crisis without an effective energy policy. Because of an easy and thoughtless reliance on imported oil, we have no adequate policy for the conservation of gasoline and other petroleum products. We have no adequate policy for the development or use of other, less harmful forms of energy.”

Berry’s assertion—that by the early 1990s our nation had become entrenched in what was, effectively, no real cohesive energy policy—rang true then, when the 1973 Arab oil embargo was still relatively recent history and the 1990–91 Gulf War was barely in the rearview mirror. But looking forward rather than back, standing on the edge of this century’s next decade, it reminds me of another refrain from a very different context. Two years after Berry penned his words, a panel of the D.C. Circuit gave the Federal Energy Regulatory Commission (“FERC”) a decided tongue-lashing on a narrow question of administrative law and utility ratemaking that, it seemed, was intended to sting.

The court said this: “This court ‘has consistently disallowed attempts to blur the line between §§ 4 and 5 [of the Natural Gas Act].’ As we complained four years ago, ‘[o]n four occasions in the last three years this court has reviewed Commission efforts to compromise § 5’s limits on its power to revise rates. On each the court has repelled the Commission’s gambit. This is number five.’ We now make it an even six.”

On the face of its language, the court’s statement has no bearing on Mr. Berry’s, but the conjunction of the two pronouncements raises what is emerging as one of the most central questions of our time—a question we cannot escape. If in 1990 our nation was already at two decades of no cogent national energy policy, clearly by 2000 we were at three. So, the question is: As we look around the corner to 2010, are we about to make it an even four?

* © 2009 Lincoln L. Davies, Associate Professor of Law, S.J. Quinney College of Law, University of Utah. J.D., Stanford Law School, 2000; B.S., The University of Michigan, 1997. This Essay is based on my remarks at the Wallace Stegner Center for Land, Resources and the Environment’s Thirteenth Annual Symposium, *Alternative Energy: Seeking Climate Change Solutions*. I am indebted to Arnold Reitze and Amy Wildermuth for their very helpful comments, and to Ben Machlis and Mica McKinney for their research assistance. I thank Tara Davies for lending her keen eye and extensive graphic design faculties.


2 Western Resources, Inc. v. FERC, 9 F.3d 1568, 1578 (D.C. Cir. 1993) (quoting Pub. Serv. Comm’n v. FERC, 866 F.2d 487, 491 (D.C. Cir. 1989)).
The question of energy has long dominated the shape of our society, but the emphasis we have placed on making sound energy policy rarely has matched the subject’s importance. Critical energy decisions—from electric generation mix to transmission planning, from fuel economy to infrastructure efficiency—have come under repeated and varying federal and state scrutiny, but by and large our nation’s energy policy has been this: let the market act, let the market decide, and so long as the product is not one that butts up too harshly against negative short-term economic effects, carry on, no matter how mish-mashed, short-sighted, or contradictory the rationales and results might be.

In a world where resources are plentiful, demands are few, and externalities do not exist, such a policy regime might well be both politically expedient and reasonable. In the real world, however, where we rapidly approach oil’s peak, even if we have not yet passed it, where China and India each are home to over a billion people and the world’s population continues to boom, where the United States consumes more energy per capita than any other nation on the planet, and where the plain externalities of our current course risk destabilizing the very fabric of the world through climate change, what has passed for energy policy in the past quickly becomes seriously doubtful as a prudent path for the future.

It has become accepted wisdom that the United States in the next years will, in all likelihood, address climate change in some fashion. Indeed, climate change has become such a dominating question both politically and culturally that some scholars have begun referring to the current period as a “new era” of environmental policymaking. Certainly, any move the United States makes to regulate climate change will impact our nation’s prevailing energy paradigm. By

definition, limiting greenhouse gas emissions will create disincentives for the use of carbon-intensive fossil fuels, such as coal and oil, and corresponding incentives for the increased use of other less carbon-intensive options, such as natural gas as a “bridge” fuel, and carbon-“free” sources, such as solar, wind, and nuclear.

Whether and how we regulate climate change, however, is not the only issue on the table. Just as critical an inquiry, though one that tends to receive far less attention, is whether our decision to regulate climate change will affect how we regulate energy—not just indirectly through such legislation’s ancillary effects, but directly as well. Can, or will, the crisis of climate change propel us to a new form of energy regulation that is integrated with the regulation of environmental protection and resource use? Can we develop energy regulation aimed at long-term sustainability?

This Essay argues that a failure to transform the way in which we regulate energy would be a missed opportunity of enormous proportions. Overhauling energy regulation is as critical as enacting climate change legislation for at least three reasons. First, energy and climate change are intrinsically interrelated. Attempting to address one issue without tackling the other risks unraveling our ability to accomplish what we hope to achieve through climate legislation, because we will have addressed only the effects, not the root causes, of the problem. Second, as we move toward an integrated model of environmentalism that sees these issues as they are—tied together—leaving energy out of the equation would be a mistake. Examining energy use is one of the most fundamental ways that we can assess our success in obtaining sustainable development’s “triple bottom line”: Our extraction, processing, and consumption of energy measures our

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9 Obviously neither “renewable” energy sources such as wind and solar, nor “conventional” sources such as nuclear, are carbon-“free,” as the production of and transportation to and from their facilities create some greenhouse gas emissions. Nevertheless, their total emissions are significantly less than fossil fuel-based generation. Nuclear, for instance, has zero carbon emissions during operation, compared to 0.266 metric tons/MWh for coal. Ronald E. Hagen et al., Impact of U.S. Nuclear Generation on Greenhouse Gas Emissions 5 (Nov. 1, 2001), http://tonto.eia.doe.gov/ftproot/nuclear/ghg.pdf.

10 Cf., e.g., Massachusetts v. EPA, 549 U.S. 497, 513 (2007) (noting EPA’s position that “if carbon dioxide were an air pollutant, the only feasible method of reducing tailpipe emissions [from motor vehicles] would be to improve fuel economy”).

environmental footprint; the way in which we utilize energy defines our economic development; and access to energy is essential to social justice. Third, our nation’s energy policy is in desperate need of remodeling. Regardless of how we react to climate change, or how well the reaction works, peak oil production is on the horizon while our demand for energy continues to grow. The effect ultimately will be a transformed energy economy, what at least some have referred to as “the end of oil.” The question thus becomes not just one of how we regulate energy today, but how we will do so tomorrow. A transformed energy economy will demand new tools of regulation, and there is no reason to delay creating and refining those tools when we are already late, and when we can begin now.

The Essay proceeds in three parts. Part I traces the current state of energy policy, where environmental and energy regulation are largely separate and distinct. Part II assesses what a modified, “alternative” energy paradigm might look like, exploring three examples of ways in which we might begin to move energy policy toward sustainability by melding energy and environmental regulation more tightly. Finally, Part III concludes by briefly examining the potential roadblocks in the way of moving to an energy policy that is sustainable.

I. ENERGY POLICY TODAY

Perhaps the foremost account of the United States’ energy policy landscape is Professor Joseph Tomain’s important article, The Dominant Model of United States Energy Policy. The article, through an exposition of over a century of domestic energy law, identifies a paradigm of energy regulation that reduces to five basic aims. Energy policy in the United States, from the conception of domestic energy regulation through today, has focused on: first, assuring abundant supplies of energy; second, maintaining reasonable prices; third, limiting the ability of industry players to exercise market power and set non-competitive prices; fourth, promoting competition among fuels based on price and quality; and fifth, focusing on supporting a very limited number of “conventional” fuels, specifically, “oil, natural gas, coal, hydropower, and nuclear power.”

The contribution of Professor Tomain’s paradigm was not merely acknowledging that short-term prices are the key driver in our domestic energy policy. Any retail gasoline consumer in the past three decades can attest that maintaining abundant energy supplies at low prices is an assumed expectation in this nation. Rather, what was groundbreaking about Professor Tomain’s article was that it refuted the notion that our nation lacks an energy policy by identifying these

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14 Professor Tomain actually identifies six goals, though one, “allow[ing] energy decisionmaking and policymaking to develop within an active federal-state regulatory system,” might be deemed procedural rather than substantive. Id. at 376.
15 Id. at 375–76.
five pillars as *the policy itself*. In periods where the pillars have seemed to fade away, their objectives were simply being met. As political scientist Gary Bryner later put the observation in slightly different terms: “Energy policy-making in the United States is a cyclical enterprise. When energy prices rise rapidly because of limited supplies, energy dominates the political agenda. When supplies are plentiful and prices stable, it fades into the background.”

What, then, has this dominant model wrought? A rather static image—an energy policy paradigm that is as ineluctable as its construct. For nearly sixty years—from 1949 through today—domestic energy consumption has barely changed. In 1949, roughly 90 percent of energy use in the United States came from fossil fuels and nuclear power. In 2006, the percentage from these same sources was virtually identical. And in the years in between, only once did the total dip below 90 percent, and the dip was miniscule. By the same token, we drew only about 9 percent of our energy from renewable sources during this period, and only about 4 percent or less was from renewable sources other than hydroelectricity. Given that we have for all intents and purposes abandoned the era of major dam building in this nation, these trends are stark indeed.

Moreover, because the way in which we consume energy largely determines society’s environmental impact, the fact that our energy policy has created such a stagnant pattern of increasing energy consumption is an indictment of American environmental policy itself. There is a reason why not one of Professor Tomain’s five pillars mentions energy’s effect on the world’s ecosystems. Another way of thinking about the dominant paradigm of energy regulation is this: energy regulation and environmental regulation historically have been distinct. The two existed in separate spheres. Energy regulators focused on economics. Environmental regulators concentrated on pollution, risk, and land use. And, as Kipling might have observed, “never the twain shall meet.”

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18 Id.
19 See id.
20 See id.
Today, this distinction has been blurred to a degree, but the degree is small. Take a concrete example, a coal-fired power plant. Even in our modern administrative state and the intensive regulation that comes with it, the regulatory oversight that a typical coal plant undergoes is multifarious—but not necessarily overlapping, much less intertwined. Energy regulation of the plant will derive from traditional principles of public utility or necessity law, and antitrust. Federal regulators, chiefly at the FERC, and state regulators, chiefly at the pertinent state public utilities commission, will regulate issues concerning economics and price, such as: (1) the rates at which the power plant can sell its energy on the wholesale market, and then the price at which that power may be sold at retail to you and me, (2) the procurement of this electricity by the utilities that go on to make the retail sales to the public, namely, whether such purchases and investments are “prudent,” and (3) the siting of the plant in the first instance, typically focusing on its public necessity or, in other words, whether it is necessary to help provide a reliable, abundant supply of energy.

The environmental regulators with purview over the same power plant likewise will be active in imposing admittedly intrusive measures on the facility’s operation, but these measures will have far less to do with economics and competition, and far more with abating ecological and public harm to the natural and human environment. Modern environmental law can be sliced many ways, but one is to see environmental laws as falling into four primary categories, virtually all of which would apply to our hypothetical coal plant here: the air and water pollution the facility creates would be subject to laws such as the Clean Air Act\(^23\) and the Clean Water Act\(^24\) that limit pollution discharges. Any hazardous substances created by the plant would require proper disposal or cleanup under statutes such as the Resource Conservation and Recovery Act\(^25\) and Superfund, or CERCLA.\(^26\) If the plant requires access to federal land, as facilities in the West often do, those land uses will be subject to federal oversight under a “multiple-use,

sustained-yield” natural resource management framework. And, the approval of these permits are likely to trigger environmental process statutes such as the National Environmental Policy Act, requiring the federal agencies involved to study the environmental impacts of allowing the facility to go forward.

The image that thus emerges is no longer the century-old version where energy and environmental regulation do not blend at all, but instead, one step down the evolutionary progression. If the old construct was energy and environmental regulation in separate spheres, the modern version is not much different. The separate worlds of energy and environmental policy remain; it is simply that they are now bridged by environmental laws that, tangentially, influence how we consume energy. This is not a different system of energy regulation. It is one with another overlay of law by a separate set of regulators—hardly a revolution.

Figure 2: The Extant “Energy and Environment” Regulatory Paradigm

So where is the regulatory revolution? A logical conclusion might be that if the cultural, political, and legal transformation that gave birth to modern environmentalism did not extend to modern energy regulation, then where the change must be—where an “alternative” law for energy must reside—is in the field of alternative “energy.” This would not be an unreasonable deduction. But it would be wrong.

Despite decades of rhetoric in favor of transforming our energy economy, the current frame of alternative energy regulation is itself simply not that far off from traditional energy law. Alternative energy has its own dominant policy paradigm. It too is characterized by a recurring pattern: First, we declare an emergency and politicians, policymakers, scientists, and economists pronounce the old system of regulating energy—the system that results in 90 percent of energy supplies coming from fossil fuels and nuclear power—as unsustainable. Second, these realizations,

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or re-realizations, of the extant system as broken are followed by heightened calls for change. Third, funding and research, but not mandates or measures with real teeth, for alternative energy paradigms increase, with the aim of ultimately, someday, attempting to tap the promise of renewable and other alternate energies. Finally, as with conventional fuels, we select a few alternative technologies for special political and legal treatment.

Although this cycle has repeated again and again over the past decades, the full sweep of its play does not receive nearly enough attention. The cycle is plain. The political observations that our current system of energy regulation is broken and that something must be done to fix it reach back at least to Richard Nixon and continue uninterrupted from there.

This is what President Nixon said in 1974: “We will break the back of the energy crisis; we will lay the foundation for our future capacity to meet America’s energy needs from America’s own resources.”29 Four years later, in President Carter’s administration, Congress followed Nixon’s remarks with a statement just as forceful. “The United States of America is faced with a finite and diminishing resource base of native fossil fuels, and as a consequence must develop as quickly as possible a diversified, pluralistic national energy capability and posture.”30

More recently, President Clinton, pointing to the threat of global warming, likewise exhorted the need for regulatory change: “We have become increasingly aware in recent decades that our sources of energy are finite. . . . The long-term health of our Nation and of our world require that we continually reexamine the ways we produce and consume energy.”31 And, in what many regarded as one of the most surprising statements of his tenure, President George W. Bush, in the 2006 State of the Union Address, famously declared, “America is addicted to oil.”32

It is not as though our government has not taken action on these fighting words; it has. But it has failed to overcome a repeated return to mere funding as the dominant “alternative” energy policy paradigm would predict—and even that funding has been rather meager.

Take, for instance, 1979. In that year, the federal government spent more on renewable energy research and development than at any point before or since.33 Still, the funding was barely equivalent to what we spent on fossil fuel research and development the same year, and was less than 40 percent of what we spent on fossil fuels and nuclear combined.34

This pattern of funding has only continued. In 2008, the most recent year for which complete data is available, the federal government did not spend on

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29 Address on the State of the Union Delivered Before a Joint Session of the Congress, 25 PUB. PAPERS 47, 49 (Jan. 30, 1974).
33 See KELLY SIMS GALLAGHER, DOE BUDGET AUTHORITY FOR ENERGY RESEARCH, DEVELOPMENT, AND DEMONSTRATION DATABASE FACT SHEET (June 2008), http://belfercenter.ksg.harvard.edu/files/FederalEnergyTechRDSpending19782009request_6_4_2008F.xls.
34 See id.
renewables and hydrogen research even half of what it allocated in 1979. And as recently as 2006, spending on renewables and hydrogen research and development remained less than 40 percent of federal spending on fossil fuel and nuclear research.

Taking the numbers cumulatively over time, our nation’s lackluster commitment to renewables and energy conservation research becomes even more apparent. Certainly, one might rightly make the point that funding on fossil fuels and nuclear energy is critical because not only has this historical funding emphasis helped spur significant improvements in those areas, but also, such sources are the core energies that fuel our society. Nevertheless, at some point, a deliberate weight on the already prevailing becomes self-perpetuating prophecy; symbolism transmutes to reality. In that context, the message our nation has sent year after year on energy could not be clearer. From 1948 through 2006, the federal government spent nearly $105 billion on fossil fuel and nuclear research and development but barely $26.3 billion on renewables and efficiency—a margin of four to one.

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35 See id.
36 See id.
37 Carol Werner, Environmental and Energy Study Institute, Subsidies: Historic, Current and the Skewing of Market Signals 2 (July 29, 2005), http://www.eesi.org/files/energy_subsidies_072905.PDF. From 1978 through 2006, the ratio of total spending on fossil fuel and nuclear research to that on renewables was almost 3 to 1. See GALLAGHER, supra note 33.
To put our emphasis, or lack of emphasis, on energy in perspective, consider just one other example of comparative federal spending: the military. From 1996 through 2005, military spending dwarfed energy funding by a ratio of almost 340 to 1.\textsuperscript{38} Or, put perhaps more pointedly, the ratio of federal money spent on research for renewables, efficiency, nuclear, and fossil fuels combined compared to military spending over this time period is roughly equivalent to the ratio of Delaware’s land area to that of Texas.\textsuperscript{39}

From this vantage, the criticisms of the dominant, economic-centric approach to energy regulation as crippled by an inability to see past the short-term appear increasingly prescient. If the result of the dominant energy policy paradigm is a stagnant pattern of energy consumption and bankrupt overtures of change, claims that our alternative energy policies are somehow meaningful ring hollow indeed. Wendell Berry was right. What we have done thus far on alternative energy is not real action. It is not truly policy at all.


II. ENERGY POLICY TOMORROW

How do we break free from the current mold of energy and environmental law as disconnected concepts, when in actuality their subjects of regulation could not be more entangled? How do we transform energy policy from what it is today to what it can be, what it should be, tomorrow?

Amory Lovins once wrote that “America’s energy future is choice, not fate.”40 There are two paths. As we stand now on the cusp of this critical mass, the collective acceptance that our society is going to act somehow to combat climate change, we can do what we have always done, or we can do something much different.

The old way would be to acknowledge that climate change is a problem, that it is caused by the emission of greenhouse gases, and to therefore resolve to reduce emissions and move on to the next disaster. This is the kind of crisis-based, end-of-the-pipe solution the nation’s mainstream environmental movement long has embraced.41 It would be like building another bridge between the two worlds of energy and environmental regulation, and nothing more.

But a new way, the better way, would be to look more broadly, to acknowledge climate change not simply as a result of greenhouse emissions, but as a result of the energy choices we make, of the way we build our societies, of our failure to combine our regulation of climate change with our regulation of energy—and then to correct these failures. This would be a different vision altogether. It would require not simply responding to the crisis, not simply attempting to patch up the negative effects of the problem, but to fundamentally alter the conditions that gave rise to the crisis in the first place, to address root causes. It would not be the building of just another bridge between the worlds of energy and environmental regulation, but a melding of them.

In many ways, this is precisely what the increasingly numerous and vociferous calls for sustainable development speak to—bringing the spheres of economic and environmental regulation together. Sustainable development differs from traditional mainstream environmentalism in that it rightly eschews the false dichotomy that society must choose between environmental protection and economic progress. Rather, sustainable development recognizes that both the environment and the economy are essential, that the long-term protection of one demands the long-term nurturing of the other, and that for society to maintain stability, social justice also must be included in this trio of policy ends. As

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43 See supra note 11 and accompanying text.
Professor J.B. Ruhl has so aptly observed, “[t]he objective of sustainable development . . . is to achieve a social framework in which economy, environment, and equity all are sustainable in perpetuity over all geographic scales. . . . It is not sufficient merely to strike a balance between economy, environment, and equity that brings the three into harmony for the moment; rather, we must continue to seek solutions to that three-way balance over time and through different geographies.”44

Clearly, using climate change to bring energy and environmental law into greater congruence fits well with sustainable development’s objective of maximizing both environmental protection and economic development. Climate change is one of the most serious environmental problems of the modern day; responding quickly and forcefully to it is critical to the world, to society, to survival. By the same token, embedding within energy policy aims of not just economics but environmental protection is the only way to begin addressing both the deleterious effects of climate change and the consumption patterns giving rise to it in the first place.45 From the perspective of sustainability, then, the question is not whether we should use climate change to spur a transformation in energy and environmental policy that bring the two closer together, but how.

An important place to start, at least from the energy side of the equation, would be to transform the existing dominant paradigm of energy regulation to a new, modified, “alternative” model that would replace the old—a model that would begin the convergence of energy policy with environmental law. The model would rest on these new pillars:

1. Assure sustainable supplies of energy;
2. Maintain reasonable prices, based on real and internalized costs;
3. Harness the power of archetype firms to overhaul our energy structure and begin cultural change;
4. Promote a deliberate move to renewable energy sources, based on hard science, not politics; and
5. Support competition among fuels.

The pillars of the new model are critical, because they seek long-term sustainability rather than focusing myopically on short-term effects, but they are also cautious. They are cautious because they would not sharply disrupt the structure of the extant energy system, which itself is the very foundation of our economy; instead, they should help to ease a smooth transition away from the old structure to a new one. Thus, the new model, like the old, aims at providing

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45 There are also, of course, strong social justice arguments for responding to climate change and, by extension, therefore combining environmental and energy policy. Cf., e.g., Paula Abrams, Population Control and Sustainability: It’s the Same Old Song But with a Different Meaning, 27 ENVTL. L. 1111 (1997); Daniel A. Farber, The Case for Climate Compensation: Justice for Climate Change Victims in a Complex World, 2008 UTAH L. REV. 377; Alice Kaswan, Environmental Justice and Domestic Climate Change Policy, 38 ENVTL. L. REP. NEWS & ANALYSIS 10287 (2008); Rebecca Tsosie, Indigenous People and Environmental Justice: The Impact of Climate Change, 78 U. COLO. L. REV. 1625 (2007).
sufficient supplies of energy, but it qualifies that the supplies must not mortgage the future for the benefit of the present. The new model, like the old, recognizes that price matters, but seeks to have prices reflect the true cost of consumption. The new model, like the old, sees an important role for dominant energy firms, but re-characterizes the purpose of regulation not simply as demarcating the boundaries of competition but also as using those firms as agents of change. Also, the new model, like the old, acknowledges the need for competition, but rather than limiting that (imperfect) competition to a narrow list of conventional fuels, the new model seeks to reformulate competition to include both (real, holistic) price signals and a scientifically-based assessment of fuels’ actual environmental impacts—a reformulation that necessarily will push toward increased use of renewable fuels.

How quickly, and how far, our society might be willing to trend in this direction is unclear, but there is encouraging early news that we appear at least willing to try. Interestingly, the news thus far has not come from the federal level, but from a growing chorus—a chorus of states.46 Three examples illustrate the possibility of these beginning steps.

Perhaps most encouraging is the adoption of renewable portfolio standards (“RPS”). A renewable portfolio standard is a simple but ingenious idea. It is a requirement that any entity selling electricity, typically at the retail level, must acquire a certain percentage of its power from renewable fuels. The requirements thus far vary widely, from Massachusetts’ mandate of 4 percent renewables,47 for instance, to Connecticut’s of 27 percent.48 Timing also varies by state, as does coverage, but the idea has caught fire. As of October 2008, nearly 60 percent of states—twenty-seven plus the District of Columbia—have adopted RPS mandates.49 That so many states already have acted in this way is telling. It is indicative of a broader recognition that we must see climate change as both an environmental and an energy problem, and that having made this recognition, the political will to act remains. For an effective RPS does not just help reduce greenhouse gas emissions by eliminating a portion of power that otherwise would

49 North Carolina Solar Center, North Carolina State University, Renewables Portfolio Standards, http://www.dsireusa.org/documents/SummaryMaps/RPS_Map.ppt (last visited Oct. 10, 2008). By the same date, six other states had adopted what might be characterized as renewable portfolio “goals.” Id.
have contributed to climate change; by creating a market for renewables, it also begins pushing us down the road to a more sustainable energy future.

Another promising example of marrying energy and environmental policy is the nascent trend of demand decoupling. The idea is that increased efficiency is itself an energy resource, and by many calculations, one of the cheapest available.\(^50\) Utilities, however, have strong disincentives to encourage efficiency, because greater sales typically equate with greater revenues, and thus, greater investor returns.\(^51\) But if we break that link, if we allow utilities to recover their expected revenues even when conservation drives down their sales, we may be able to unleash the power of efficiency. Even more important, we may also be able to harness utilities—some of the biggest players in the energy arena—to help spur change. The end game of any successful environmental transformation in this country will have to focus on creating a culture of sustainability, and big corporate players should not be left out of that process.\(^52\) Indeed, one might argue that not only should we decouple profits from demand, but we should go a step further. We should begin using ratemaking as an incentive to encourage conservation and environmentalism, perhaps ultimately tying rates entirely to both a utility’s scorecard on conservation and environmental achievement as well as the traditional concepts of price minimization and reliability of service.

A final example of how we may combine energy and environmental law and policy is through the very regulation of greenhouse gases—not regulation that simply seeks to limit emissions but regulation that also targets the root causes of those emissions themselves. For instance, California, joined by more than a dozen other states, recently attempted this approach.\(^53\) These states sought to regulate greenhouse gas emissions from motor vehicles in such a way that, in all likelihood, it would have demanded cars to become more fuel efficient.\(^54\) Whether these states will be able to impose these requirements is now tied up in litigation,\(^55\) but the concept is precisely the type of energy-and-environmental law we need going forward: laws that recognize that the environment in which we live and the energy that we use are inextricably bound up together.

These are but a few examples of the panoply of measures that a new, dominant model of energy regulation will demand. Effectively addressing climate change alone will require a complete transformation of both our energy infrastructure and


\(^{51}\) E.g., id. at 112–13.

\(^{52}\) Laura Fabrick, *Sustainable Development: A Call to Arms*, 38 URB. LAW. 555, 558 (2006).

\(^{53}\) California State Motor Vehicle Pollution Control Standards; Notice of Decision Denying a Waiver of Clean Air Act Preemption for California’s 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles, 73 Fed. Reg. 12,156 (Mar. 6, 2008).

\(^{54}\) \*See* Press Release, United States Environmental Protection Agency, America Receives a National Solution for Vehicle Greenhouse Gas Emissions (Dec. 19, 2007), http://yosemite.epa.gov/opa/admpress.nsf/dofcfc6618525a9eb8b5257359003fb69d41b4663d8d3807c5852573b600b014e5!OpenDocument (citing recently enacted legislation increasing national fuel economy standards as one reason for denial of California’s petition).

\(^{55}\) Complaint, California v. EPA, No. 08-1178 (D.C. Cir. Nov. 8, 2007).
our energy preferences, but truly melding environmental and energy policy together will necessitate going even further. Ultimately, if we are to achieve sustainability, and if our energy and environmental policy are to strive toward that objective, our culture must change as well.

III. TOWARD SUSTAINABILITY?

Culture—it is perhaps the dirtiest word in the environmentalist’s lexicon. It is amorphous; it is fluid; it is, when struck directly enough by command and control regulation, the thing most likely to incite backlash to the efforts of ecological protection. True, there is an obvious feedback loop, a give-and-take, between culture and the law, each influencing the other in turns both subtle and clear. But the crux of the tragedy of the commons, our propensity to pollute and consume without regard for each other, is not simply the cold economic incentive to maximize individual short-term gains by externalizing costs. It is that we view this short-sightedness as acceptable. And it is acceptable because it reflects our cumulative societal values—culture.

So, when we ask the question of whether the crisis of climate change can, or will, propel us to a new form of energy regulation—a form of regulation aimed at long-term sustainability—we necessarily are also asking another: Can, or will, the climate change crisis propel us to change our culture?

Certainly the risk that culture will not change, or that it may change too slowly, raises a possibly daunting roadblock in the way of transforming energy and environmental policy, but it is not the only one. One way to think about how to address environmental problems, as Amy and Todd Wildermuth explain, is that we may do so through three primary avenues: cultural change, cooperative change using existing businesses and large organizations, and conservation science and technological change.56 Or, as James Salzman has aptly summarized, if the equation that represents our impact on the environment is $I=PAT$ (where $I$ is impact, $P$ is population, $A$ is affluence or consumption, and $T$ is technology or the environmental impact per unit of consumption),57 achieving sustainability “depends upon both population and consumption.”58 The problem, however, rests in this latter observation. All three scholars agree that in order to address sustainability and climate change, all options must be pursued. We must tackle all three elements of the $I=PAT$ equation, and we must do so using all of the avenues of attack available. But population and consumption largely come back to culture, and making even useful legislative and policy changes is no small, or easy, task: There are other roadblocks as well.

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One is inertia. In a society where McMansions are the rage and there is even resistance to the look and “feel” of energy efficient lights, stemming the tide may be difficult enough, never mind turning it.

Another is complexity. We have already built a substantial, intricate system of environmental and energy law. Passing any legislation is difficult enough. Overhauling two separate, piecemeal systems to become holistic and interrelated, even in multiple steps, would far surpass the amount of political capital typically required for much smaller legislative changes.

Yet another roadblock is the risk of backtracking. Often, even when it appears that a policy window may be opening, advocates in favor of incremental movements forward resist all modifications based on the fear that making any change will open Pandora’s Box, with an end result that the move will not be forward, but back.

Finally, there is the roadblock of tangibility. It is no secret that “[d]iscussions of sustainable development tend to be philosophical and not grounded in detail,” in part because the concept of sustainability is somewhat difficult to define, in part because sustainable development demands long-term maximization of multiple objectives all at once. As a result, the very multidisciplinary breadth that makes sustainability so necessary may also be its Achilles’ heel.

Out of context, these roadblocks may appear somewhat ethereal, but put the context back around them and they become real indeed. Consider again the simple example of the coal-fired power plant: If proposed legislation sought to combine energy and environmental policy by regulating the rates it could charge based on the plant’s total environmental footprint (discounted by its positive economic and social impacts), what hurdles would arise?

The first might be the public’s temptation to demand continued “cheap” and abundant electricity, which baseload coal facilities today provide, albeit with clear climate change implications. Likewise, the powerful coal and utility lobbies may complain that given the already massive overregulation of their industry, changing

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See JOHN W. KINGDON, AGENDAS, ALTERNATIVES, AND PUBLIC POLICIES 173–80, 212–13 (1984) (describing so-called “policy windows,” or short-lived periods in which policy and legal change becomes possible, and how such windows open and close).


the rules in the middle of the game would result in profit losses from even greater regulatory inefficiencies. For different reasons, some environmentalists may resist adopting such a broad-ranging legislative reform based on the risk that such a novel approach may fail when other, already tested methods of regulation are available. Further, critics on all sides might lambaste the proposal, no matter how its details read, as, alternately, unduly vague or unlikely to actually achieve sustainability.

Facing these multiple roadblocks standing in the way of addressing climate change, standing in the way of connecting environmental and energy regulation, may seem daunting, but it is important nevertheless. Naysayers may claim that there is no reason to believe anything is different this time around. Climate change is the new environmental buzzword, but in some ways at least, we have been here before. Just as rivers burned, Three Mile Island malfunctioned, and the population bomb exploded in the last rounds of environmental lawmaking, we have heard calls for a cohesive national energy policy in the past. Yet here we are decades later, still regulating energy and energy consumption largely using the same aims and tools as before.

The naysayers, indeed, have a point. We have not answered the call in the past, but that does not mean we should not now. Just as there is a point that energy and environmental law are only incrementally different today, there also is a strong argument that climate change is fundamentally unique. Climate change is not a discrete event or a short-term emergency. It is not limited to affecting the environment in one way. Climate change affects virtually everything.

That climate change’s effects are likely to be so pervasive is reason enough alone to act. As Professor Eric Freyfogle noted in 1994:

Looking back over the past one-third century of environmental laws, it is evident that Congress has stuck close largely to ideas and understandings familiar to its voters, not so much leading the environmental cause as being carried along with it. Try as we might, we cannot piece together Congress’s pronouncements into a coherent moral order, or even into a premeditated vision of ecological well-being. Congress has tried hard to contain pollution as if pollution were an independent problem rather than a symptom of something more deep-seated. It has sought to preserve wild species and wild places, not grasping that the more urgent need is for ecologically healthy landscapes where people live, not places that people must leave untouched. Congress has embraced cost-benefit analysis, as if our past mistakes were matters, not of underlying values and visions, but of simple errors in addition and subtraction. It has repeatedly spoken of human well-being as the primary if not sole policy goal.63

More recently, Professor Amy Wildermuth has argued along the same lines. She contends that because “notions of ecosystem health, biodiversity, and the interconnectedness of the whole have long been discussed in environmental science and literature” but ignored in the legal and policy realm, climate change may provide the impetus for a new brand of interwoven environmental law.64 “[I]n order to get the kind of reductions needed to halt climate change, we will need to make fundamental changes in how we live. . . . [Climate change] provides lawmakers the opportunity to rethink the approach to environmental law.”65

Climate change, then, presents an unparalleled challenge, but also an unparalleled opportunity. Necessarily, this challenge demands seizing on the human capacity to innovate. It demands deploying our institutions and systems to restructure. And it demands transforming the way we think about our society, our lives, ourselves. Because, necessarily, the challenge of climate change demands that we alter a key driver of what makes us who we are—how we regulate energy . . . our energy policy.

Make no mistake. We should have no illusions that such changes will be modest. Modest they are not, but they are necessary.

Three years before Wendell Berry lamented our nation’s lack of a meaningful energy policy, he made another, related observation. He said this: “The problems are our lives. In the ‘developed’ countries, at least, the large problems occur because all of us are living either partly wrong or almost entirely wrong. It was not just the greed of corporate shareholders and the hubris of corporate executives that put the fate of Prince William Sound into one ship; it was also our demand that energy be cheap and plentiful.”66

Can, or will, climate change propel us to transform our energy policy into something more holistic, a policy founded in sustainability? Will climate change propel us to make our culture more sustainable?

Today the answer remains unclear, but looking forward to tomorrow, one thing is plain. Climate change offers the opportunity to change energy regulation in a way we so desperately need. It offers us an opportunity to change who we are, what we demand.

Climate change offers us an opportunity to prove that we are living our lives right.

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65 Id. at 109.