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Katrina Fischer Kuh

Elisabeth Haub School of Law at Pace University, kkuh@law.pace.edu

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ENERGY AND THE ENVIRONMENT: EMPOWERING CONSUMERS

FOREWORD

*Katrina Fischer Kuh**

At a debate during last year's presidential campaign, both candidates were asked to respond to an Internet question submitted by a seventy-eight year old child of the Depression:

Since World War II, we have never been asked to sacrifice anything to help our country, except the blood of our heroic men and women. As president, what . . . sacrifices will you ask every American to make to help restore the American dream and to get out of the economic morass that we're now in?¹

Then-candidate Barack Obama responded, in part:

[I]t's important to understand that the . . . American people are hungry for the kind of leadership that is going to tackle these problems not just in government, but outside of government. And let's take the example of energy. . . . There is going to be the need for *each and every one of us* to start thinking about how we use energy. . . .

. . . .
[E]ach and every one of us can start thinking about how can we save energy in our homes, in our buildings. And one of the things I

* Associate Professor of Law, Hofstra University School of Law, and Conference Director, Energy & the Environment: Empowering Consumers (Hofstra University School of Law, Mar. 19-20, 2009). I would like to thank the conference sponsors, Hofstra University School of Law, WRM America, and Congdon, Flaherty, O'Callaghan, Reid, Donlon, Travis & Fishlinger, as well as the conference planning committee, the conference participants, and my many colleagues at Hofstra University School of Law—most especially James Hickey and Jeffrey Dodge—who helped to conceptualize and realize this event.

1. Commission on Presidential Debates, Debate Transcript: The Second McCain-Obama Presidential Debate, Belmont University, Nashville, Tennessee (Oct. 7, 2008), *available at* <http://www.debates.org/pages/trans2008c.html>.

want to do is make sure that we're providing incentives so that you can buy a fuel efficient car that's made right here in the United States of America, not in Japan or South Korea, making sure that you are able to weatherize your home or make your business more fuel efficient. And that's going to require effort from *each and every one of us*.²

Now-President Obama's simple observation and exhortation that "each and every one of us" has a role to play as the United States seeks to resolve the growing conflict between our consumption of energy and the negative effects of that consumption, most importantly the emission of greenhouse gases ("GHGs"), presents a complex legal and policy challenge. It is this challenge—how to deploy energy and environmental law and policy to embrace individual consumers and combat climate change—that animated a recent conference at Hofstra University School of Law, *Energy and the Environment: Empowering Consumers*.

Individual consumers and the local governments that serve them³ are at the center of the energy-environment equation. Consumers experience the fruits of energy and environmental policies—whether those policies damage the environment and imperil environmental goods or protect the environment but perhaps impose higher costs on consumers—and are in a unique position to influence energy policy and environmental outcomes through their political, behavioral, and consumption choices. In the United States, the individual and household sector generates, by some estimates, thirty to forty percent of GHG emissions.⁴ And the harms from individual behaviors and consumption with respect to a wide range of environmental media are becoming increasingly clear:

Taking all production inputs into account, the individual consumption of ordinary items can have surprisingly disproportionate environmental

2. *Id.* (emphasis added).

3. Both the terms "consumer" and "consumption" can have complex, nuanced, and field-specific meaning. See Douglas A. Kysar & Michael P. Vandenberg, *Introduction: Climate Change and Consumption*, 38 ENVTL. L. REP. NEWS & ANALYSIS 10,825, 10,829-32 (2008). In organizing *Energy & the Environment: Empowering Consumers*, we anchored these terms broadly to the problem of climate change and thus conceptualized "consumption" primarily as individual energy use and GHG emissions (both direct and indirect, through the purchase of goods and services) and "consumer" primarily as the individual energy user and purchaser of GHG-emitting goods and services. We did, however, expand our focus to local governments as well since much of the individual activity that contributes to climate change is regulated by local jurisdictions pursuant to their police powers. J. Kevin Healy, *Local Initiatives*, in GLOBAL CLIMATE CHANGE AND U.S. LAW 421, 422 (Michael B. Gerrard ed., 2008).

4. Michael P. Vandenberg et al., *Individual Carbon Emissions: The Low-Hanging Fruit*, 55 UCLA L. REV. 1701, 1710 (2008).

impacts. For instance, the production of one kilogram of beef in the United States requires an estimated 47,000 to 200,000 liters of water. . . . The production of the amount of gold used in a single wedding ring generates approximately three tons of toxic mining waste. The production of one liter of soda, taking raw materials and packaging into account, requires an average of five liters of water. And production of a cotton t-shirt requires nearly four pounds of fossil fuel and one-third of a pound of pesticides.⁵

Yet, traditionally, energy and environmental law and policy have not viewed either individuals or their consumption as a primary target of regulation. Energy law and policy is oriented largely toward ensuring the existence of an adequate supply of energy as opposed to managing demand.⁶ And environmental law and policy targets pollution (as opposed to consumption) and large, industrial sources (as opposed to individuals).⁷

A growing chorus of policymakers, scientists, and (most recently) legal scholars has begun to call for policies that recognize and engage individuals and their consumption as contributors to environmental harms.⁸ While the connection between consumption and the

5. Albert C. Lin, *Virtual Consumption: A Second Life for Earth?*, 2008 BYU L. REV. 47, 53 (citations omitted); see also Michael P. Vandenbergh, *From Smokestack to SUV: The Individual as Regulated Entity in the New Era of Environmental Law*, 57 VAND. L. REV. 515, 541-53, 559-65, 567-77, 579-83 (2004) (explaining how individual behaviors and consumption contribute to a variety of environmental harms).

6. Joseph P. Tomain, *The Dominant Model of United States Energy Policy*, 61 U. COLO. L. REV. 355, 375 (1990).

7. Kysar & Vandenbergh, *supra* note 3, at 10,827 (describing how environmental policy has traditionally deemed "consumption . . . a category beyond questioning"); James Salzman, *Sustainable Consumption and the Law*, 27 ENVTL. L. 1243, 1253-56 (1997) (critiquing the focus of environmental laws on "traditional images of pollution, such as belching smokestacks, pipes pouring out toxic effluents, and barrels of industrial waste" and characterizing "consumption laws" as the "weak sibling of production laws").

8. Most significantly, in April 2008 the Vanderbilt Center for the Study of Religion and Culture, the Vanderbilt Law School Regulatory Program, the Vanderbilt Climate Change Research Network, the Environmental Law Institute, and the American Council for an Energy-Efficient Economy sponsored the *Climate Change and Consumption Conference*. Vanderbilt University, *Climate Change and Consumption: An Interdisciplinary Conference at Vanderbilt University*, Event and Locations, <http://www.vanderbilt.edu/cscc/religion-consumption/index.html> (last visited Oct. 8, 2009); see also Hope M. Babcock, *Assuming Personal Responsibility for Improving the Environment: Moving Toward a New Environmental Norm*, 33 HARV. ENVTL. L. REV. 117, 122-23 (2009); Hope M. Babcock, *Global Climate Change: A Civic Republican Moment for Achieving Broader Changes in Environmental Behavior*, 26 PACE ENVTL. L. REV. 1, 5-6 (2009); John C. Dernbach, *Harnessing Individual Behavior to Address Climate Change: Options for Congress*, 26 VA. ENVTL. L.J. 107, 117-18 (2008); Holly Doremus & W. Michael Hanemann, *Of Babies and Bathwater: Why the Clean Air Act's Cooperative Federalism Framework Is Useful for Addressing*

environment has been recognized since at least the eighteenth century⁹ and calls for individual action to protect the environment are certainly not new,¹⁰ a number of recent developments are catalyzing interest in targeting individuals and their consumption as a much more significant component of energy and environmental law and policy.

First, climate change dominates the energy/environment agenda and various attributes of climate change compel a focus on individual behaviors and consumption. As a practical matter, to reduce GHG emissions by the sixty to eighty percent generally recognized as necessary to avoid major climate change harms, it may be necessary to reduce emissions generated by individual behaviors and consumption because there simply are not enough domestic industrial emissions available to enable that volume of emission reduction.¹¹ However, policymakers could attempt to achieve reductions in emissions by changing individual behaviors and reducing consumption in indirect and ad hoc ways¹² that do not necessitate serious meditation on or the express reorientation of policy to capture the contributions of individuals and consumption.¹³ Climate change may nonetheless be spurring a deliberate reorientation of our energy and environmental policies toward

Global Warming, 50 ARIZ. L. REV. 799, 814-16 (2008); Andrew Green, *Self Control, Individual Choice, and Climate Change*, 26 VA. ENVTL. L.J. 77, 91-101 (2008); Albert C. Lin, *Evangelizing Climate Change*, 17 N.Y.U. ENVTL. L.J. 1135, 1146-49 (2009); Michael P. Vandenbergh & Anne C. Steinemann, *The Carbon-Neutral Individual*, 82 N.Y.U. L. REV. 1673, 1729-33 (2007); Michael P. Vandenbergh, *supra* note 5, at 598-602, 604-05, 608; Vandenbergh et al., *supra* note 4, at 1721-23; Michael P. Vandenbergh, *Order Without Social Norms: How Personal Norm Activation Can Protect the Environment*, 99 NW. U. L. REV. 1101, 1103-04 (2005); Michael P. Vandenbergh, *Taking Individual Behavior Seriously*, 31 ADMIN. & REG. L. NEWS 2, 4 (2005).

9. Salzman, *supra* note 7, at 1249. And, more recently, concern about the environmental impacts of consumption drove the adoption of the sustainable development principles in Agenda 21 at the 1992 Earth Summit. *Id.* at 1251.

10. Perhaps two of the most well-known exhortations to individuals to take care of the environment date back to 1944 and 1970—the Forest Service debuted Smokey Bear in 1944 (“Only you can prevent forest fires.”) and Woodsy Owl (“Give a hoot—don’t pollute!”) in 1970. U.S. DEP’T OF AGRIC., FOREST SERV., TODAY’S CHALLENGES AND OPPORTUNITIES: KIDS IN THE WOODS (2008), available at <http://www.fs.fed.us/emphasis/products/kids-facts.pdf>.

11. Kysar & Vandenbergh, *supra* note 3, at 10,828 (“If policymakers focus principally on reducing emissions from domestic industrial facilities, rather than the emissions from consumption by all sectors and by all major emitting countries, they will miss a large share of the total emissions.”).

12. For example, relying on market forces to cause individuals to consume less when higher energy prices raise home energy costs and the price of consumer goods and services and/or imposing energy efficiency requirements on select product lines as part of a package of climate change mitigation policies.

13. Kysar & Vandenbergh, *supra* note 3, at 10,828 (“In the absence of explicit discussion of growth in demand for energy and other forms of consumption, however, laws and policies [implicitly limiting consumption] appear almost schizophrenic.”).

individuals and consumption because climate change presents a circumstance of unique (1) individual culpability (that may weaken historic objections to reducing consumption and government interference in “personal” decisions); and (2) individual control (over consumption, behavioral, and policy choices directly relevant to climate change mitigation).

Environmental laws that directly constrain individual (as opposed to industrial or corporate) behavior are few in number, tend to be controversial, and face daunting enforcement obstacles.¹⁴ And consumption has long been so closely equated with economic growth and liberty that the reduction or direction of consumption has been largely off limits as a policy matter.¹⁵ However, individual behaviors and consumption directly emit or indirectly (but through obvious mechanisms) contribute to climate change by causing the emission of GHGs and there is increasingly widespread awareness of the individual’s contribution to climate change.¹⁶ No individual (particularly in the United States) has clean hands when it comes to climate change—we are all polluters (fact) and we are all culpable (a judgment, but one with traction for the reasons described below).¹⁷

14. The continuing controversy and difficulty in enforcing section 404 of the Clean Water Act (prohibiting individuals from filling wetlands on private land), and section 9 of the Endangered Species Act (prohibiting individuals from “taking” endangered species) are good examples. Backlash against enforcement of early Federal Implementation Plans (“FIPs”) under the Clean Air Act is another. See ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 511 (5th ed. 2006) (“EPA had some disastrous early experiences with FIPs, including several instances in which it wrote FIPs that included significant land use and transportation controls, such as vehicle inspection and maintenance programs, bus and carpool lanes, parking fees, and, in the case of a FIP covering the South Coast Air Basin in California (which includes Los Angeles), severe gas rationing. State and public reaction to these plans was intensely hostile, and in 1974 Congress stripped EPA of any authority to include land use and transportation controls in a FIP.”).

15. See Lin, *supra* note 5, at 59-60 (describing the centrality of consumption in American culture and observing that for conventional economists and free market advocates, “the ability to make consumption choices in the marketplace is a pivotal freedom enjoyed by citizens in a democratic society”). Policies encouraging energy efficiency do not necessarily contradict this generalization. Preventing energy waste (don’t idle your car) does not directly assail consumption in the same manner as, for example, suggesting that fewer Americans should own cars.

16. A growing number of individual carbon footprint calculators aim to illustrate the individual’s contribution to climate change with ever greater clarity. Indeed, even the term “carbon footprint” is indexed to the individual (foot). See, e.g., Berkeley Inst. of the Env’t, CoolClimate Carbon Footprint Calculator, <http://coolclimate.berkeley.edu/> (last visited Oct. 2, 2009).

17. See Kirsten H. Engel, *Harmonizing Regulatory and Litigation Approaches to Climate Change Mitigation: Incorporating Tradable Emissions Offsets into Common Law Remedies*, 155 U. PA. L. REV. 1563, 1592 (2007). Engel suggests that individual GHG emitters (“[o]rdinary homeowners”) might be considered liable for contributing to a public nuisance under tort law but

Putting aside arguments as to whether present day Americans can be considered culpable as a matter of corrective justice with respect to climate change,¹⁸ culpability—“meriting condemnation or blame especially as wrong or harmful”¹⁹—nonetheless seems an appropriate characterization in light of the comparative levels of per capita consumption (and related GHG emissions) in the United States. The now decade-old debate about the relative responsibilities of different countries for reducing GHG emissions (as well as GHG emissions data submitted by numerous countries, including the United States, pursuant to the United Nations Framework Convention on Climate Change)²⁰ highlights the extent to which individuals in the United States consume and emit at disproportionately high levels. The United States citizen’s Sasquatch-sized carbon footprint of approximately twenty metric tons of carbon dioxide dwarfs the Thumbelina-like footprint, a mere one metric ton, of the average Indian citizen.²¹ Further, even absent the piggish light cast by these international comparisons, it takes only the briefest amount of navel gazing about consumption in the United States to develop the sense that something is awry. Although consumption has become so central to American life as to be characterized as “*the religion of the late twentieth century*,”²² a range of problems—obesity, executive compensation, consumer debt, and climate change—may be weakening consumption’s exalted status, thereby making it more feasible to situate consumption as a target of regulation.

Individuals also control consumption, behavioral, and (indirectly) policy choices that are directly relevant to climate change mitigation.

observes that “[i]t is highly unlikely that state attorneys general will be suing private homeowners for effectuating climate change.” *Id.*

18. The debate usually proceeds as follows: Present day Americans are not directly responsible for historic U.S. emissions, do not have the knowledge necessary to make their carbon consumption “wrongful,” and may not be capable of avoiding carbon consumption that is woven into society’s fabric, but on the other hand Americans emit disproportionately high levels of GHGs and have arguably benefited from historic U.S. emissions. Compare Eric A. Posner & Cass R. Sunstein, *Climate Change Justice*, 96 GEO. L.J. 1565, 1593 (2008), with PETER SINGER, ONE WORLD: THE ETHICS OF GLOBALIZATION 39 (2002), and Stephen M. Gardiner, *Ethics and Global Climate Change*, 114 ETHICS 555, 578-83 (2004).

19. Merriam-Webster OnLine, Culpable, <http://www.merriam-webster.com/dictionary/culpability> (last visited Oct. 2, 2009).

20. United Nations Framework Convention on Climate Change art. 4(1)(a), May 9, 1992, 1771 U.N.T.S. 107.

21. Figures from 2006 obtained from the ENERGY INFO. ADMIN., WORLD PER CAPITA CARBON DIOXIDE EMISSIONS FROM THE CONSUMPTION AND FLARING OF FOSSIL FUEL 1980-2006 (2008), <http://www.eia.doe.gov/environment.html> (follow “Per Capita Emissions” hyperlink).

22. Lin, *supra* note 5, at 58 (quoting STEVEN MILES, CONSUMERISM AS A WAY OF LIFE 1 (1998)).

Indeed, even the age-old banquet hall question—chicken or beef?—has consequence because beef production generates roughly thirteen times the GHGs of producing chicken.²³ This control remains relevant regardless of whether policy efforts to influence individual consumption/behavior rely on voluntary compliance (a public information campaign to reduce motor vehicle idling) or impose mandates (enforcement of anti-idling laws). Policies that aim to induce voluntary behavioral/consumption choices rely directly on the choices of individual consumers and policies that mandate compliance rely on public support sufficient to generate political will adequate for enactment and enforcement. This is especially so in the context of climate change where climate mitigation measures directed at individual behavior and consumption are likely to have (sometimes uncomfortable) lifestyle impacts, thus making them ripe for public opposition and backlash.²⁴ In short, climate change presents a circumstance of individual culpability—individual because everyone’s everyday actions emit GHGs, culpability because of a growing sense that consumption is disproportionate, excessive, and harmful—and individual control (both directly and indirectly through political will) that supports a new policy focus on individuals and consumption.

While climate change is likely most important in encouraging a new focus on the individual and consumption, other developments are also likewise contributing. Technological advances simultaneously reveal the environmental harms caused by individual consumption and render tracking (and ultimately regulation) of such impacts feasible. Technology makes it increasingly possible to identify discrete impacts on the environment and, concomitantly, to consider the possibility for law to capture ever smaller (including individual) contributions to environmental harms.²⁵ In the words of one scholar, “[w]e . . . are approaching the day when virtually all emissions will be susceptible to tagging, tracking, and measurement at relatively low cost. . . . It may not be long before emissions sources will be nearly completely mapped, if

23. Nathan Fiala, *The Greenhouse Hamburger*, SCI. AM., Feb. 2009, at 72, 72.

24. The controls on individuals that climate change mitigation might recommend resemble in many ways the controls that were so unpalatable to the public when imposed to control other air pollutants under the Clean Air Act that Congress amended the statute to bar the Environmental Protection Agency from employing them. *See supra* note 14 and accompanying text.

25. Daniel C. Esty, *Environmental Protection in the Information Age*, 79 N.Y.U. L. REV. 115, 156-61 (2004) (identifying Information Age technologies with the potential to aid in data collection, analysis, and dissemination, including nanotechnologies, small-scale sensors, remote sensing from satellites, and environmental regulation).

not fully understood.”²⁶ In the context of climate change, a number of technologies, such as smart meters and transportation monitoring devices, “offer great potential to objectively measure electricity, natural gas, and gasoline consumption.”²⁷ And individual carbon calculators, while not yet standardized or precise, already provide rough estimates of individual carbon footprints and promise greater accuracy and utility going forward.²⁸ Thus, technology also contributes to the growing interest in policies that target individuals and consumption by providing mechanisms for identifying how individual consumption contributes to environmental harm.

A new focus on individuals and consumption as a target for environmental policy is further animated by a growing recognition that it may not be possible to achieve important environmental goals *without* addressing individual behaviors and consumption. With respect to water quality, the Environmental Protection Agency has identified nonpoint source runoff—including runoff from farmers’ fields and homeowners’ pesticide-treated lawns—as “the greatest [remaining] source of water pollution.”²⁹ With respect to endangered species, “[t]he great majority of endangered species are found on private land or adjacent waterways, with a substantial number of them occurring entirely on such land,” and habitat loss (from landscaping, suburban sprawl, highway construction) presents the most significant threat to many species.³⁰ And, as noted above, the harms from individual behaviors and consumption, in particular with respect to the emission of GHGs, are becoming increasingly clear.³¹

26. *Id.* at 157.

27. K. Carrie Armel & Thomas N. Robinson, *Tools for Measuring Individuals’ Climate Behaviors and Greenhouse Gas Impact*, 38 ENVTL. L. REP. 10,847, 10,850 (2008).

28. Christopher M. Jones, Remarks at the Hofstra University School of Law Energy and the Environment Conference: Identifying the Consumer: Who Consumes How Much Energy and Why? (Mar. 19, 2009) (on file with the Hofstra Law Review) (describing the Berkeley Institute of the Environment, CoolClimate Carbon Footprint Calculator, and noting the potential for calculators to provide individual carbon estimates indexed to zip code as well as customized climate action plans that estimate the cost for individuals to conserve carbon).

29. CAROL BROWNER, U.S. ENVTL. PROT. AGENCY, & DAN GLICKMAN, U.S. DEP’T OF AGRIC., CLEAN WATER ACTION PLAN: RESTORING AND PROTECTING AMERICA’S WATER 54 (1998); *see also* Vandenberg, *supra* note 5, at 573-75 (describing the impact of household pesticide use).

30. Cori S. Parobek, Note, *Of Farmers’ Takes and Fishes’ Takings: Fifth Amendment Compensation Claims When the Endangered Species Act and Western Water Rights Collide*, 27 HARV. ENVTL. L. REV. 177, 190 (2003).

31. Lin, *supra* note 5, at 53; *see also* Vandenberg, *supra* note 5, at 542-53, 559-65, 567-77, 579-83 (explaining how individual behaviors and consumption contribute to a variety of environmental harms).

Thus, amid a growing sense that it will be difficult (if not impossible) to eke out major new gains from large, industrial sources of pollution, the potential benefits from tempering individual behaviors and consumption assume greater importance.

Yet, even as it becomes increasingly clear that individuals and consumption must be brought into the fold of energy and environmental law and policy, the question of how to do so remains vexing. The conference *Energy and the Environment: Empowering Consumers* brought together legal scholars, attorneys, scientists, philosophers, journalists, sociologists, elected representatives, and agency experts, to engage this question from a variety of perspectives. The conference began by examining how consumers in turn generate, are impacted by, and can be a source for mitigating climate change. Panelists offered testament to the central role of the consumer (for example, each dollar spent results in the emission of approximately one kilogram of carbon dioxide)³² as well as to the nascent state of efforts to mobilize consumer action, citing to survey data showing that most Americans do not know the source of the power that they use.³³ They also identified and explored tensions between competing consumer interests, discussing the role of consumer advocates as utilities consider potentially costly actions to reduce GHG emissions and contrasting the vulnerability of poor and minority communities to climate change harms with the potential for climate change control efforts to impose regressive costs on these same communities.³⁴

Part II of the conference then considered how law and policy can empower and/or constrain consumers to impact energy and environmental outcomes. Panelists contemplated how a wide range of laws—including the Federal Trade Commission Act and insurance, tort, zoning, and securities law—can be applied to or deployed on behalf of individual consumers to support climate change mitigation efforts.³⁵ And panelists examined complex factors—world view, ideology, participation in environmental monitoring projects—that shape

32. Christopher M. Jones, *supra* note 28.

33. Kevin Tuerff, Remarks at the Hofstra University School of Law Energy and the Environment Conference, Identifying the Consumer: Who Consumes How Much Energy and Why? (Mar. 19, 2009) (on file with the Hofstra Law Review).

34. Maxine Burkett, Mark Toney, & Anhthu Hoang, Panel Discussion at the Hofstra University School of Law Energy and the Environment Conference, Consumer Pocketbooks, Energy Policy and Carbon Control (Mar. 19, 2009) (on file with the Hofstra Law Review).

35. Hofstra Univ. Sch. of Law, Conference Program, Energy and the Environment: Empowering Consumers, March 19 & 20, 2009, <http://law.hofstra.edu/pdf/NewsAndEvents/Conferences/EnergyAndTheEnvironment/EnergyAndTheEnvironment-Brochure.pdf>.

individuals' acceptance of climate science and willingness to support climate change mitigation policies and undertake climate change-mitigating action.³⁶

The conference concluded by considering whether individual consumers in the United States have an obligation—moral, ethical, or other—to reduce energy consumption and the emission of GHGs. Panelists recounted the present and future harms from climate change and cited to a range of theories and examples, including reciprocity, the duty to avoid harm to others, and historical accounts of societal altruism, in support of individual action.³⁷ Panelists also debated whether and how various attributes of the climate change problem—harms will be felt most acutely by future generations, past generations have contributed greatly to the existing inventory of GHGs, the possibility for technological advances to offer lower cost remedies in the future—affect the duties of today's consumers.³⁸

This symposium issue of the *Hofstra Law Review* presents a selection of papers from conference participants that, together, illustrate some of the opportunities, challenges, and diverse questions that arise in the effort to deploy energy and environmental law and policy to embrace individual consumers and combat climate change. The symposium issue begins with a collection of short Ideas pieces. In *Climate Change, Causation, and Delayed Harm*, Eric Biber focuses on the political will of consumers to support—in the long-term—climate change mitigation policies.³⁹ Professor Biber identifies attributes of climate change that may make it difficult to sustain public and political support for regulatory measures to mitigate climate change, particularly those with direct and uncomfortable impacts on consumers, and suggests strategies (including public education) to avoid premature, policy-weakening disillusionment.⁴⁰ Leslie Pickering Francis focuses on the personal will and duty of individuals to behave in climate-friendly ways.⁴¹ In *Reciprocity and Environmental Obligations*, she suggests reciprocity as a useful principle to guide individual environmental behavior but identifies behaviors in the United States that contravene reciprocity

36. *Id.*

37. *Id.*

38. *Id.*

39. See generally Eric Biber, *Climate Change, Causation, and Delayed Harm*, 37 HOFSTRA L. REV. 975 (2009).

40. *Id.*

41. See Leslie P. Francis, *Reciprocity and Environmental Obligations*, 37 HOFSTRA L. REV. 1007 (2009).

values with respect to climate change.⁴² Professor Francis posits that a web of existing policies and structures may make it difficult for individuals to recognize the need for and to honor reciprocal values with respect to GHG emissions.⁴³ My own contribution to the symposium issue, *Using Local Knowledge to Shrink the Individual Carbon Footprint*, considers the intersection between individual behavior and law and argues that local governments, because of the community-specific information that they possess, can contribute greatly to efforts to change GHG-intensive individual lifestyles and behaviors.⁴⁴ The symposium issue also includes a number of more substantial Articles. In *Responsible Environmental Behavior, Energy Conservation, and Compact Fluorescent Bulbs: You Can Lead a Horse to Water, But Can You Make it Drink?*, Hope M. Babcock applies her body of theoretical work on the use of social norms to inspire environmentally-friendly action to a specific behavior—the purchase of compact fluorescent bulbs (“CFLs”).⁴⁵ In the course of doing so, she reveals limitations on the power of social norms by demonstrating how structural obstacles can frustrate voluntary, environmentally-friendly consumer behavior (and prevent the purchase of CFLs).⁴⁶ John C. Dernbach and Donald A. Brown develop rationales, grounded in the United Nations Framework Convention on Climate Change and traditional ethical principles, which compel developing countries to reduce their energy consumption.⁴⁷ Significantly, in *The Ethical Responsibility to Reduce Energy Consumption*, Professors Dernbach and Brown apply their ethical analysis to consider both the duties of nation-states and the duties of individuals with respect to climate change and make a persuasive case that individuals, as well as nation-states, have a duty to reduce energy consumption.⁴⁸ Aaron McCright offers a social science analysis of the public’s knowledge of, concern about, and willingness to support policies to mitigate climate change in *The Social Bases of Climate Change Concern, Knowledge, and Policy Support in the U.S. General*

42. *Id.* at Part II.

43. *Id.* at Part III.

44. See Katrina Fischer Kuh, *Idea, Using Local Knowledge to Shrink the Individual Carbon Footprint*, 37 HOFSTRA L. REV. 923 (2009).

45. See Hope M. Babcock, *Responsible Environmental Behavior, Energy Conservation, and Compact Fluorescent Bulbs: You Can Lead a Horse to Water, But Can You Make it Drink?*, 37 HOFSTRA L. REV. 943 (2009).

46. *Id.* at Part III.B.

47. See John C. Dernbach & Donald A. Brown, *The Ethical Responsibility to Reduce Energy Consumption*, 37 HOFSTRA L. REV. 985 (2009).

48. *Id.*

Public.⁴⁹ Professor McCright's analysis identifies a marked political divide amongst the public over climate change.⁵⁰ The existence of this divide suggests that public information campaigns—frequently cited as a mechanism for encouraging environmentally-friendly consumer behaviors—must be carefully crafted to take account of the influence of differing world views and value systems. In *Cooperative Federalism and Wind: A New Framework for Achieving Sustainability*, Patricia Salkin and Ashira Ostrow examine how the preferences of local communities (even those whose members support climate change mitigation) may obstruct the development of renewable energy infrastructure.⁵¹ Professors Salkin and Ostrow document individuals' aesthetic and other objections to wind facilities, illustrate how these objections can frustrate the local siting of wind energy projects, and argue for the adoption of a federal wind siting policy grounded in principles of cooperative federalism and modeled on the Telecommunications Act of 1996.⁵² The works in this symposium issue are a testament both to the importance and the difficulty of the effort to deploy energy and environmental law and policy to embrace individual consumers and combat climate change. They are presented to contribute to the important work of addressing climate change, a worldwide problem the solutions to which can assume a very local and personal dimension.

49. See Aaron M. McCright, *The Social Bases of Climate Change Concern, Knowledge, and Policy Support in the U.S. General Public*, 37 HOFSTRA L. REV. 1017 (2009).

50. *Id.* at 1034-35.

51. See Patricia E. Salkin & Ashira Pelman Ostrow, *Cooperative Federalism and Wind: A New Framework for Achieving Sustainability*, 37 HOFSTRA L. REV. 1049 (2009).

52. See *id.*