

YOU CAN'T PAY THEM ENOUGH: SUBSIDIES, ENVIRONMENTAL LAW, AND SOCIAL NORMS

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This Article addresses the problem of global climate change within the framework of the law and economics approach to social norms, arguing that a shift in social norms, leading to a new "environmental ethic," is essential to reducing greenhouse gas emissions. The author discusses the mechanics of both externally enforced and internalized social norms, showing that both could be valuable for making progress on environmental issues. Because climate change is a large-number, negative pay-off problem, however, effective enforcement of externally enforced norms within a narrow rational choice framework is challenging. As a result, the Article argues that an expanded conception of rational choice is required in order for a theory of internalized norms to be accurate and to aid in the development of climate change policy. Specifically contemplating the effect of subsidies on individuals' emissions, the author notes that, while the role that government and the law can play in norm-creation is not entirely clear, subsidies in general can have a weak (and possibly even negative) effect on social norms pertaining to environmental values, and thus should not be a central tool for addressing climate change.

No important change in ethics was ever accomplished without an internal change in our intellectual emphasis, loyalties, affections and convictions. . . . In our attempt to make conservation easy, we have made it trivial.¹

I. INTRODUCTION

Governments have many tools at their disposal to attempt to change individuals' environmentally harmful behavior. In order to address greenhouse gas ("GHG") emissions from the use of cars, for example, governments could prohibit the use of particular types of cars (such as SUVs), mandate the use of certain emission control technology, or tax certain fuels or emissions. In part because taxes and prohibitions are politically unpopular,² governments also rely on subsidies for environmentally friendly choices (such as the purchase of more fuel efficient cars).³ These subsi-

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¹ ALDO LEOPOLD, *A SAND COUNTY ALMANAC* 246 (Ballentine Books eds., 1970).

² See, e.g., RICHARD POSNER, *CATASTROPHE: RISK AND RESPONSE* 125-27, 163-65 (2004) [hereinafter POSNER, *CATASTROPHE*] (discussing the political difficulties in imposing instruments such as taxes in the context of climate change). Taxes may not be technologically feasible, such as where there are a large number of sources or emissions that are not easily measured for technological reasons. Don Fullerton & Robert D. Mohr, *Suggested Subsidies are Sub-Optimal Unless Combined with an Output Tax* 1 (Nat'l Bureau of Econ. Research, Working Paper No. 8723, 2002), available at <http://www.nber.org/papers/w8723>.

³ See *infra* Part IV.

dies are intended to change the relative cost of the environmentally friendly action and therefore increase the number of individuals engaging in it.

While subsidies may have such a relative price effect, however, they may also have another unintended effect: they may negatively alter individuals' environmental values and make it more difficult to address environmental harms in the long run. Subsidies may have this effect by signaling that care for the environment should be viewed as a price, rather than a responsibility—if someone is willing to pay the price (forego a subsidy for driving a fuel-efficient car), they have no further responsibility.⁴ Further, such subsidies may “crowd out” responsible behavior where, for example, individuals who take an action to obtain satisfaction from helping the environment lose that satisfaction because they now receive payment for it.⁵

The potential impact of subsidies on environmental values is important because some environmentalists argue that existing policy options are insufficient to address global warming. There is a long-standing debate about the relative advantages and disadvantages of different types of instruments, such as the relative efficiency of market-based instruments (e.g., taxes) as opposed to the more traditional command and control approach (e.g., regulations requiring a particular form of pollution control device).⁶ Some environmentalists argue, however, that further progress on current and future environmental concerns such as climate change depends not on such efficiency concerns, but instead on a fundamental shift in values—a new “environmental ethic.”⁷ Such values can affect individuals' environment-affecting actions of both the direct (such as the choice of car or the use of electricity) and indirect (such as in individuals' roles as voters, shareholders or workers) varieties.

Assuming that such a new environmental ethic is required, the difficult question becomes how this shift in values is to occur. Unfortunately, less research has been done on this question than on the relative efficiency of various instruments. Speth, for example, argues that the shift in values may only occur as the result of a crisis that forces individuals to understand

⁴ See *infra* Parts IV.B and IV.C for a detailed discussion of this expressive function of law.

⁵ See *infra* Part IV.C for a discussion of “crowding out” theory.

⁶ See Richard Revesz & Robert Stavins, *Environmental Law and Policy*, in *THE HANDBOOK OF LAW AND ECONOMICS* (A. Mitchell Polinsky & Steven Shavell eds., forthcoming) for an overview of the law and economics literature behind instrument choice.

⁷ See, e.g., JAMES GUSTAVE SPETH, *RED SKY AT MORNING* 192–96 (2004); Michael Shellenberger & Ted Nordhaus, *The Death of Environmentalism: Global Warming Politics in a Post-Environmental World*, *GRIST MAG.* Jan. 13, 2005, at 33–34, available at http://thebreakthrough.org/images/Death_of_Environmentalism.pdf; DAVID R. BOYD, *UNNATURAL LAW: RETHINK-ING CANADIAN ENVIRONMENTAL LAW AND POLICY* 350–51 (2003). See also Michael M'Gonigle & Paula Ramsey, *Greening Environmental Law: From Sectoral Reform to Systemic Reformation*, 14 *J. ENVTL. L. & PRAC.* 333, 342 (2004) (“Amongst environmental lawyers, a broad consensus exists that environmental law has not fulfilled its promise. For many, the field has failed.”).

the value of environmental protection and confront the cost of inaction.⁸ Yet waiting for a crisis that may be irreversible is unattractive. Others, however, argue that the law has a “transformative potential” that government can use to bring about a shift in values.⁹

A large and growing literature focuses on the relationship between law and “social norms.”¹⁰ It examines the extent to which social norms enhance or detract from the effect of law on the behavior of individuals and how social norms influence which laws governments will actually enact. It also attempts to assess the impact of law and government policy on the existence and content of social norms. Examination of both the potential impact of government policy and the appropriate means of developing policy must take this interrelationship of law and norms or values into account.¹¹ If not, policy analysis may lose both its predictive power and its legitimacy.¹² This Article uses the social norms literature, and, in particular, the law and economics literature on social norms, to examine the potential impact of subsidies on the transformation of environmental values. The concept of shifting values is difficult for law and economics, which tends to take values (preferences) as given. Indeed, much of the law and economics literature on social norms remains closely tied to the narrow instrumental reasoning of the rational choice framework. This Article uses this framework but also expands on it to discuss a broader approach to internalized norms or values.

This Article discusses these concerns about law and values in the context of the attempts by governments to address climate change and, in particular, to change individual consumption patterns.¹³ Individual choices contribute significantly to GHG emissions and environmental degradation

⁸ See SPETH, *supra* note 7, at 192–96, 199 (arguing that a fundamental shift in values is required for progress on environmental issues and that it may only come about in response to a crisis—likely due to climate change).

⁹ Lisa Heinzerling, *Pragmatists and Environmentalists*, 113 HARV. L. REV. 1421, 1433 (2000).

¹⁰ See Richard McAdams & Eric Rasmusen, *Norms in Law and Economics*, in THE HANDBOOK OF LAW AND ECONOMICS (A. Mitchell Polinsky & Steven Shavell eds., forthcoming) (providing an overview of the law and social norms literature in law and economics).

¹¹ See, e.g., Holly Doremus, *Shaping the Future: The Dialectic of Law and Environmental Values*, 37 U.C. DAVIS L. REV. 233, 236–41 (2003) (discussing the connection between policies and values in present and future generations).

¹² See Robert E. Scott, *The Limits of Behavioral Theories of Law and Social Norms*, 86 VA. L. REV. 1603, 1647 (2000) (arguing that “a traditional rational choice focus on the incentive effects of legal regulation offers a parsimonious explanation of the interactions among law, norms, and values, though it fails to explain key phenomena that we can observe in the world”).

¹³ Governments also extensively subsidize firms, and such subsidies may have an indirect impact on individual values or preferences through their impact on price and, as discussed below, through the expressive function of such government policy. However, this impact is unlikely to be significantly different from, and likely to be significantly more attenuated than, direct subsidies based on individual choices.

in general.¹⁴ Further, the environmental values that underlie consumption decisions are connected to individuals' political choices.¹⁵ If an individual, for example, values a clean environment, that value may inform both consumption decisions (e.g., whether to buy an SUV) and voting decisions (e.g., whether to vote for a candidate who favors stricter environmental laws). On the other hand, a lack of such values constrains the ability of the government to take action on climate change and its choice of instruments.

More than perhaps any other recent environmental issue, reducing atmospheric GHG concentrations will require an enormous shift in our current patterns of production and consumption. The Kyoto Protocol, under which a range of developed countries agree to reduce emissions of GHGs by specified percentages below 1990 levels,¹⁶ will be insufficient on its own to stem climate change.¹⁷ Even if emissions were reduced to zero immediately, temperatures would continue to increase for centuries.¹⁸ Significant reductions, however, would impose very large economic costs, particularly in the short run.¹⁹ Because of the political unpopularity of deep cuts and the ineffectiveness of many policy mechanisms, some argue that progress on GHG emissions will require either a change in values, a crisis, or both.²⁰

¹⁴ See, e.g., Michael P. Vandenbergh, *From Smokestack to SUV: The Individual as Regulated Entity in the New Era of Environmental Law*, 57 VAND. L. REV. 515 (2004) [hereinafter Vandenbergh, *From Smokestack to SUV*] (arguing that because individuals are significant sources of pollution, regulation must treat them as polluters).

¹⁵ Michael P. Vandenbergh, *Order Without Social Norms: How Personal Norm Activation Can Protect the Environment*, 99 NW. U. L. REV. 1101, 1107 (2005) [hereinafter Vandenbergh, *Order Without Social Norms*].

¹⁶ Kyoto Protocol to the Framework Convention on Climate Change, 37 I.L.M. 22, 1998. Under the Kyoto Protocol, the parties collectively agree to reduce greenhouse gas emissions by five percent below 1990 levels by 2008 to 2012. Individual countries commit to different reductions. For example, Canada has committed to a reduction of six percent below 1990 levels and the UK, France and Germany to eight percent. The Kyoto Protocol does not set targets for developing countries. The U.S. is not a party to the Kyoto Protocol.

¹⁷ POSNER, *CATASTROPHE*, *supra* note 2, at 161 (noting increasing emissions from countries exempted from the Kyoto Protocol's limitations).

¹⁸ See Pierre Friedlingstein & Susan Solomon, *Contributions of Past and Present Human Generations to Committed Warming Caused By Carbon Dioxide*, 102 PROC. NAT'L ACAD. SCI. 10,832, 10,834 (2005) (using a "simplified approach" to estimate that if greenhouse gas emissions were reduced to zero in 2000 temperatures would continue to increase by several tenths of a degree Celsius for another 30 years, and that if emissions rates were constant until 2025 and then cut to zero, temperature would increase by 1.3 degrees Celsius by 2100 and that if emissions were capped at their 2025 levels, temperatures would increase by 2.9 degrees Celsius by 2100). See also CONGRESSIONAL BUDGET OFFICE, *THE ECONOMICS OF CLIMATE CHANGE: A PRIMER*, at 11, 15 (2003), available at <http://www.cbo.gov/ftpdocs/41xx/doc4171/04-25-climatechange.pdf>.

¹⁹ CONGRESSIONAL BUDGET OFFICE, *supra* note 18, at 19. *But see* POSNER, *CATASTROPHE*, *supra* note 2 at 161–63 (arguing that significant short run cost is essential to spurring innovation).

²⁰ See, e.g., BOYD, *supra* note 7, at 333; SPETH, *supra* note 7, at 55–71. See also Andrew Green, *Norms, Institutions and the Environment*, 56 U. TORONTO L.J. (forthcoming) (reviewing DAVID BOYD, *UNNATURAL LAW: RETHINKING CANADIAN ENVIRONMENTAL*

Reducing GHG emissions is a particularly difficult issue to address for social norms theorists. Much of the literature on social norms examines norms that arise in the context of close-knit groups or situations where there is a potentially large payoff for individuals.²¹ Individuals deciding whether to take independent actions that reduce GHG emissions, however, face large costs but receive little benefit, given their negligible personal impact on climate change. Further, they do so in a context in which the enforcement of social norms appears relatively weak; it is difficult to monitor and sanction individuals in large, loose-knit groups.²² Social norms or values fostering reduction of GHG emissions seem unlikely to arise or to be effectively enforced in such a context. But individuals do sometimes take action in such situations, the typically cited case being individuals bearing the costs of voting.²³ Thus, there are two questions: (1) what types of norms or values will effectively encourage changes in individual behavior; and (2) how can governments foster the development of such norms?

Part II of this Article discusses the large number, negative pay-off problem underlying climate change, the potential role for social norms or values in addressing this problem and the current strength of environmental values. Part III examines the "rational choice" framework of law and economics and its connection to social norms. It discusses both norms that are externally enforced (such as through reputation) and norms that are internalized. The former fit well with the rational choice framework. The latter require a broadened approach to the understanding of rationality, and this Article draws upon Sen's theory on commitment. In Sen's approach, commitments are not tied to an individual's welfare but are in essence self-imposed constraints on what types of choices an individual can make.²⁴ Part IV builds on this discussion to examine the potential impact of government subsidies on both externally enforced norms and internalized norms. It argues that any such impact is weak and may actually hinder the development of environmental values. Part V concludes by arguing that, if progress on climate change requires new social norms,

LAW AND POLICY (2003) & SEAN COYLE & KAREN MORROW, THE PHILOSOPHICAL FOUNDATIONS OF ENVIRONMENTAL LAW: PROPERTY, RIGHTS AND NATURE (2004)); SEAN COYLE & KAREN MORROW, THE PHILOSOPHICAL FOUNDATIONS OF ENVIRONMENTAL LAW: PROPERTY, RIGHTS AND NATURE 7 (2004); Richard B. Stewart, *A New Generation of Environmental Regulation?*, 29 CAP. U. L. REV. 21, 164 (2001).

²¹ Vandenberg, *Order Without Social Norms*, *supra* note 15, at 1101–02.

²² See Ann E. Carlson, *Recycling Norms*, 89 CAL. L. REV. 1231, 1244–45 (2001) (discussing "large number, small pay-off" situations in which social norms are less likely to arise). See generally Vandenberg, *Order Without Social Norms*, *supra* note 15 (discussing negative pay-off situations in which externalized costs are the products of actions by loose-knit groups, where the individuals do not have a sufficiently large number of repeat interactions or sufficient information exchange to permit effective social sanctions).

²³ Robert Cooter, *Do Good Laws Make Good Citizens? An Economic Analysis of Internalized Norms*, 86 VA. L. REV. 1577, 1578 (2000).

²⁴ AMARTYA SEN, RATIONALITY AND FREEDOM 35–36 (2002) [hereinafter SEN, RATIONALITY AND FREEDOM].

government should not rely on subsidies because of their weak, possibly negative impact on such norms. The discussion does, however, point to a range of questions that require further work. For example, if subsidies are not helpful, can government use other instruments? In particular, research is required in relation to internalized norms and their connection to different instruments and processes. Also, how does government ensure legitimacy of these efforts to change internalized values and externally enforced norms?

II. CLIMATE CHANGE, EXTERNALITIES, AND SOCIAL NORMS

The paradigmatic “new” environmental issue is climate change. The earth’s atmosphere contains a range of gases that allow light from the sun to pass through but trap heat radiating back from the earth. These gases include carbon dioxide, methane, and halocarbons. While GHGs occur naturally, their atmospheric concentrations have increased significantly since the industrial revolution. Human activities such as burning of fossil fuels (in cars or electricity generating plants), industrial activities, and practices such as deforestation are the principal causes of this increase.²⁵

The focus of this Article is on emissions by individuals as opposed to industry. It is, of course, difficult to neatly separate emissions into those two categories.²⁶ Industrial activities depend on consumer demand for products and industrial policy is driven by individual decision making. Changing environmental values will change consumption patterns, in turn affecting industrial emissions. Even excluding this feedback effect, however, in the United States and Canada, individual choices impact approximately one third of the total emissions per capita.²⁷

In economic terms, climate change is a large-group externality problem, because individuals undertaking activities that emit GHGs obtain the benefit of the activity but impose virtually all of the climate-related costs on others.²⁸ This problem is exacerbated by the nature of climate

²⁵ CONGRESSIONAL BUDGET OFFICE, *supra* note 18, at 5, 11–12.

²⁶ See Vandenberg, *From Smokestack to SUV*, *supra* note 14, at 541–84 (attempting to separate out—with particular reference to low-level ozone, mercury, air toxins from mobile sources, pesticides, and petroleum—firm and household/individual action). See also MATTHEW BRAMLEY, THE MEANING AND MEASUREMENT OF BURDEN: REPORT FOR THE NAICC-CC WORKING GROUP ON EMISSION ALLOCATION AND BURDEN SHARING 17–20 (2001), available at http://www.nccp.ca/NCCP/pdf/mmbfinal_report.pdf.

²⁷ See EPA, Global Warming—Emissions, <http://yosemite.epa.gov/oar/globalwarming.nsf/content/EmissionsIndividual.html> (last visited Feb. 16, 2005) (on file with the Harvard Environmental Law Review) (estimating that individuals can affect about thirty-two percent of emissions per capita through choices related to electricity, waste and personal transportation). Similarly, the Canadian government estimates such individual choices account for approximately twenty-eight percent of greenhouse gas emissions in Canada. Government of Canada, Project Green: Moving Forward on Climate Change, http://www.climatechange.gc.ca/kyoto_commitments/c3.asp#s4 (last visited Mar. 18, 2006) (on file with the Harvard Environmental Law Review).

²⁸ See Shi-Ling Hsu, *What Is a Tragedy of the Commons? Overfishing and the Cam-*

change: because climatic changes are felt globally, even though developed countries emit a large proportion of global GHGs, developing countries will suffer many of the most significant impacts. Moreover, because of the persistence of some GHGs, future generations will experience much of the impact of current emissions. Thus, the costs of GHGs are not borne by current neighbors of the emitter or citizens of the emitter's country, but are spread across different regions of the world and future generations.²⁹

There are a range of potential solutions to externality problems. Government could assign property rights, such as transferable quotas in the fisheries context, so that individuals internalize the costs they impose on the environment. However, it is difficult to assign property rights for many of the activities that result in GHG emissions, although some movement has been made in this direction such as for large point sources of emissions.³⁰ Governments can also prohibit or regulate sources of emissions, impose taxes forcing polluters to internalize the environmental harm, or subsidize choices that entail lower GHG emissions. Like markets, however, governments face constraints on their effectiveness, such as information acquisition and processing problems.³¹

Externality problems can also be addressed by changing the social norms or values. As will be discussed more fully in Part III, individuals may change their behavior in accordance with norms or values that guide their actions. It may, for example, be in an individual's self-interest to litter where the cost to the individual of taking garbage to a garbage can exceed the benefit she receives from not throwing that piece of garbage on the ground. Society as a whole, however, is better off if no one litters. Assume for present purposes that a "social norm" is broadly defined as

paign Spending Problem, 69 ALB. L. REV. 75, 81–82 (2005) (making the distinction between large-group externality problems and "true" commons problems).

²⁹ See, e.g., CONGRESSIONAL BUDGET OFFICE, *supra* note 18, at 33–34; William D. Nordhaus, *Reflections on the Economics of Climate Change*, 7 J. ECON. PERSP. 11, 15 & 18 (1993); Friedlingstein & Solomon, *supra* note 18, at 10,835. POSNER, *CATASTROPHE*, *supra* note 2, at 125 (discussing how rich countries impose risks in large measure upon poor countries).

³⁰ See CONGRESSIONAL BUDGET OFFICE, *supra* note 18, at 23–34 (discussing some of the limitations on markets in the area of climate change); Douglas A. Kysar, *Climate Change, Cultural Transformation and Comprehensive Rationality*, 31 B.C. ENVTL. AFF. L. REV. 555, 563–70 (2004) (discussing how scientific uncertainty hinders markets in the area of climate change). In addition, some argue that markets are inappropriate in such contexts because environmental amenities are not commensurable with money and therefore cannot be priced. See FRANK ACKERMAN & LISA HEINZLERING, *PRICELESS* 18 (2004). On the other hand, the European Union has established, and Canada is proposing, an emissions trading scheme for greenhouse gas emissions from certain industries. Gernot Klepper & Sonja Peterson, *Emissions Trading, CDM, JI, and More—The Climate Strategy of the EU* 8–9 (FEEM, Working Paper No. 55.05, Apr. 2005), available at <http://ssrn.com/abstract=703881>.

³¹ Moreover, like individuals, nations as a whole have an incentive to take no or minimal action and free ride on the reductions of other countries. The Kyoto Protocol is one attempt to overcome this aspect of the commons problem across nations. See POSNER, *CATASTROPHE*, *supra* note 2, at 61 (discussing how treaties can help overcome commons problems in the area of fisheries).

some behavioral regularity followed by individuals, whether or not based on a normative obligation or value. It may, then, include simple conventions such as driving on the right-hand side of the road, as well as behavior rooted in "values," such as respect for the environment. A social norm against littering can lead individuals to behave in a manner that overcomes their narrow self-interest and takes into account the social costs of their activity.³²

Before discussing the literature on social norms and their connection to the debate around environmental values, it is interesting to note the evidence that exists about the current strength of environmental values. According to polling data, public concern about the environment varies significantly over time and across countries.³³ For example, there was a strong wave of public concern about the environment in the United States and Canada in the late 1960s and early 1970s, when the basic structure of environmental legislation and administrative institutions was put in place.³⁴ Environmental concern in the United States as expressed in polls has varied since then. While some argue that there has been a generally high level of support for environmental issues in the United States,³⁵ in their controversial essay *The Death of Environmentalism*, Shellenberger and Nordhaus claim that, "for a vast majority of Americans, the environment never makes it into their top ten list of things to worry about."³⁶ In Canada, environmental support has varied with economic concerns. For example, a second wave of environmental concern occurred in Canada at the end of the 1980s followed by a decline in interest in the 1990s as economic issues again became the focus of public. More recently, there was a brief resurgence of environmental concern in 2001.³⁷

³² See, e.g., Richard H. McAdams, *The Origin, Development and Regulation of Norms*, 96 MICH. L. REV. 338, 353–54 (1997); Cass R. Sunstein, *Social Norms and Social Roles*, 96 COLUM. L. REV. 903, 905, 918, 958–59 (1996) [hereinafter Sunstein, *Social Norms*]; McAdams & Rasmusen, *supra* note 10, at 15–17. See also SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 161–62 (setting out four potential motivations for choice and differentiating between "reputation and indirect effects" and "conventional rule following").

³³ Vandenbergh, *Order Without Social Norms*, *supra* note 15, at 1117–18 (reviewing studies of environmental values across countries).

³⁴ See CASS R. SUNSTEIN, *AFTER THE RIGHTS REVOLUTION* 26 (1990); Vandenbergh, *Order Without Social Norms*, *supra* note 15, at 1118 n.72 (noting studies indicating that survey respondents expressed an increased level of support by the end of the 1960s); KATHRYN HARRISON, *PASSING THE BUCK: FEDERALISM AND CANADIAN ENVIRONMENTAL POLICY* 56–62 (1996).

³⁵ Vandenbergh, *Order Without Social Norms*, *supra* note 15, at 1171 n.71.

³⁶ Shellenberger & Nordhaus, *supra* note 7, at 11.

³⁷ HARRISON, *supra* note 34, at 116–20; Anita Krajnc, *Wither Ontario's Environment? Neo-Conservatism and the Decline of the Environment Ministry*, 26 CANADIAN PUB. POL'Y 111, 116, 121–22 (2000). In Canada, for example, a poll by Ipsos-Reid indicates that more Canadians viewed the environment as one of the top three most important issues in 1990 and 2001 as opposed to the mid-1990s or later in the 2000s. It was viewed as one of the top three issues by twenty-four percent of Canadians in 1990, dropped to three percent in 1994, rose again to twenty-three percent in 2001 before falling to between six and nine percent in 2004. IPSOS-REID, *ISSUE WATCH: CANADIANS' NATIONAL POLICY ISSUES AGENDA*

One interpretation of this data is that everyone has a latent “environmental protection” norm—an abstract norm that need only be activated in order for individuals to take action that does not harm the environment.³⁸ This norm, however, appears closely connected to individual welfare (human health and well-being)³⁹ and therefore may not extend to many of the non-anthropocentric ecosystem issues that underlie climate change. Moreover, even where polls show public support for the environment, individuals do not appear to be willing to spend very much to address environmental issues unless they perceive the change to affect them directly and that they will notice a change in their lives.⁴⁰ This result seems to hold across the United States, Canada, and the EU.⁴¹

As a result, concern of the general public appears to be “wide” but “shallow.”⁴² This apparently low level of public support for environmental issues has led environmentalists to call for a shift in environmental values, increasing their importance for the general public. Schellenberger and Nordhaus go so far as to claim that “environmentalism is dead” in its current form.⁴³ They argue that instead of focusing on technical solutions, there is a need to try to build public values around issues like the environment. It does seem clear that a shift in environmental norms would be immensely

11 fig. 2 (June 2005), available at <http://www.ipsos.ca>. But see BOYD, *supra* note 7, at 4 (arguing that Canadians are, according to some opinion polls, “among the most staunchly pro-environment people on the planet”).

³⁸ See, e.g., Vandenberg, *Order Without Social Norms*, *supra* note 15, at 1118–19 (examining data on individual attitudes and arguing that individuals have both an environmental protection norm and a reciprocity norm that, if activated, can make a significant difference in polluting behavior of individuals); Doremus, *supra* note 11, at 255–56 (arguing for the importance of norm activation but recognizing that information alone will not be sufficient). But see Schellenberger & Nordhaus, *supra* note 7, at 11 (“Protecting the environment is indeed supported by a large majority—it’s just not supported very strongly.”).

³⁹ See Vandenberg, *Order Without Social Norms*, *supra* note 15, at 1118.

⁴⁰ See, e.g., Joni Hersch & W. Kip Viscusi, *Paying for Climate Change Policies in Europe* 17–20 (Harvard Law Sch., John M. Olin Law & Econ. Discussion Paper No. 503) (2005) (examining a Eurobarometer study conducted in 1999 and finding modest support for increased gasoline prices if the increased price brought environmental benefits: individuals were willing to pay more to protect the environment if they were more worried about the environment; willingness to pay also varied positively with income, risk perception, information, age, and education).

⁴¹ See *id.* at 17–21 (discussing surveys in the EU). Similarly, a study of Los Angeles-area residents found that it took a large change in climate to generate even a modest change in individuals’ willingness to pay. See also Richard A. Berk & Robert G. Fovell, *Public Perceptions of Climate Change: A “Willingness to Pay” Assessment*, 41 CLIMATIC CHANGE 413, 413–46 (1999) (examining a sample of Los Angeles residents, focusing on climate change as it may be experienced locally); Michael Marzolini, *Polling Alone: Canadian Values and Liberalism*, 8–9 (2002) available at <http://www.pollara.ca/Library/Reports/newliberalism-feb203.pdf> (finding that, while the levels of support for the environment are at times high in Canada and Canadians tend to say they are concerned about the environment, there is not a high level of involvement by Canadians in environmental or human rights groups).

⁴² See, e.g., Schellenberger & Nordhaus, *supra* note 7, at 9 (noting that, for climate change, “while public support [in the United States] for action on global warming is wide it is also frighteningly shallow”).

⁴³ *Id.* at 10.

helpful in addressing climate change given the shallow nature of existing values. However, what is less clear is the role government policy and law can and should play in this shift. The next Part examines the social norms literature and how it relates to these issues around the feasibility of the creation of new environmental values.

III. SOCIAL NORMS AND THE ENVIRONMENT

A. Choice vs. Preferences

A central difficulty in discussing “social norms” is to define what is meant by the term. It is useful first to step back and consider some models of how individuals make choices. Law and economics, for example, uses a “rational choice” framework, within which an individual chooses among various options based on their relative costs and benefits and on the individual’s preferences. These preferences are taken to be given and stable and, as discussed below, may be specific (a preference for blue cars) or general (a preference for making healthy choices). In law and economics’ most basic form, individuals are taken to be self-interested and self-centered maximizers: they aim to maximize their own utility (welfare), which is unaffected either by the interests of others or by moral issues such as fairness.⁴⁴

This narrow formulation of individual choice, however, obscures the important differences between the choice made by the individual and her preferences. Choice refers to the individual’s decision to purchase a good or take an action. The preference is the underlying motivation for that choice.⁴⁵ Economists link choices and preferences through “revealed preference”—individuals reveal their true preferences through the choices they make. Individuals, however, do not always choose what would appear to be in their self-interest, narrowly defined. Sen uses the example that a person may choose an apple, rather than a pear, from a bowl of fruit despite the fact that she prefers pears to apples. This may happen when, for example, there is only one pear in the bowl and there are other people who will subsequently be choosing fruit.⁴⁶ Moreover, a person may choose an

⁴⁴ SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 30, 213 (arguing that rational choice theory had focused on three types of privateness of individuals: (i) self-centered welfare (an individual’s welfare depends on their own consumption); (ii) self-welfare goal (the individual’s goal is to maximize their own welfare); and (iii) self-goal choice (an individual’s choices are guided by meeting their own goals)). See also Scott, *supra* note 12, at 1613–18; Carlson, *supra* note 22, at 1237.

⁴⁵ See Sunstein, *Social Norms*, *supra* note 32, at 931–39. See also SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 161–62 (discussing the different usages of the term “preference”).

⁴⁶ See SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 178–80 (noting the distinction between choices and preferences and arguing that factors such as menu dependence (the choice of the pear depends on whether there is one or many pears) and chooser dependence (that I am choosing the option for someone else) mean that simple “revealed

option that she wishes she had not chosen. For example, she may choose to eat at McDonald's (and have a preference for eating there) but may wish that she did not have this preference.⁴⁷ This incongruity can also be seen where there is a difference between people's apparent preferences for taking environmentally responsible action and their consumption choices that are environmentally harmful.

Part of the explanation for this incongruity may lie in the distinction between first order and second order preferences. First order preferences are preferences for specific goods or amenities (such as preferences for apples or for a particular type of car). Second order preferences, or meta-preferences, on the other hand, are deeper—they are preferences *about* preferences. Thus, for example, the second order preference for being healthy drives a range of first order preferences, such as the preference for not smoking.⁴⁸ Environmental groups advocating a change in environmental values appear to focus on creating or enhancing second order preferences in favor of the environment. The hope is that such a change in underlying preferences will then change consumption choices. It is not enough for people to choose to drive more fuel efficient vehicles, though that is important. They must also make similar choices in other contexts, such as buying appliances that use less energy, living closer to where they work, and better insulating their homes. A change in second order preferences may drive these choices.

Unfortunately, much of the discussion around preferences and meta-preferences is vague. Economists have taken the term "preference" to refer to a variety of different aspects of an individual's inclinations, including her tastes, her values, or her mental satisfaction.⁴⁹ These various definitions cannot be entirely separated from one another, but the distinctions need to be clarified in order to understand the issues around behavioral norms.⁵⁰ For example, an individual's choices and first order preferences may sometimes accord with and sometimes conflict with these meta-preferences. To return to the McDonald's example, the choice, and first order preference, to eat at McDonald's may conflict with a meta-preference to lead a healthy lifestyle. Moreover, an individual's meta-preferences may themselves not

preference" may be violated in certain circumstances).

⁴⁷ Sunstein, *Social Norms*, *supra* note 32, at 937–38.

⁴⁸ SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 17–18; Cooter, *supra* note 23, at 1595–96.

⁴⁹ SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 303.

⁵⁰ See Sunstein, *Social Norms*, *supra* note 32, at 938–39 (arguing that "preference" is vague and needs to be replaced with a broader categorization of motivation); SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 303–05; Elizabeth Anderson, *Unstrapping the Straightjacket of "Preference": A Comment on Amartya Sen's Contributions to Philosophy and Economics*, 17 *ECON. & PHIL.* 21, 24 (2001); Samuel Bowles, *Endogenous Preferences: The Cultural Consequences of Markets and Other Economic Institutions*, 36 *J. ECON. LIT.* 75, 79 (1998) ("The term 'preferences' for these heterogeneous reasons for behavior is perhaps too narrow, and runs the risk of falsely suggesting that a single model of action is sufficient.").

be complete and may change over time either in substance or strength.⁵¹ In order to account for these conflicts, gaps, and changes, it is useful to think through the separate aspects of why an individual may choose a particular option.

There are a number of reasons why choices may differ from the decisions predicted by the narrow version of rational choice theory. For example, imperfect information or limits on rationality may hamper individuals' ability to satisfy their preferences.⁵² Part IV discusses some of the implications of information constraints and "bounded rationality." But, as Sen notes, there are reasons beyond informational constraints or bounded rationality that may lead an individual to take such apparently inconsistent or irrational actions.⁵³ First, an individual may make a decision that does not appear to accord with her own narrow self-interest because of reputational factors.⁵⁴ Such an approach fits comfortably within a (broadened) rational choice framework. The impetus for taking action in the rational choice framework comes from net costs and benefits. These include all the typical monetary and non-monetary costs, such as the price of the good, the taste for the good, or the physical exertion necessary to acquire the good. In the social norms literature, they also encompass benefits or sanctions bestowed by the community. These may include the granting or withholding of esteem or the offering or withdrawal of transactional opportunities because of conformity or lack thereof with a convention.⁵⁵

Second, the individual may have a taste for satisfying the preferences of others, whether or not the others bestow esteem on the individual for making the choice. Similarly, she may have a taste for ensuring that the process

⁵¹ See SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 616–18 (describing meta-preferences and individuals' choice of preferences).

⁵² While economists have long focused on informational concerns, examination of limitations on an individual's rationality is more recent. It has led to an increasingly large body of literature on behavioral law and economics, focusing, for example, on the heuristics used by individuals to act in the face of uncertainty or risk and on the difficulty individuals have in making decisions related to very low probability events such as catastrophic climate change. See, e.g., Christine M. Jolls et al., *A Behavioral Approach to Law and Economics*, in BEHAVIORAL LAW AND ECONOMICS 11 (Cass R. Sunstein ed., 2000); SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 26–33.

⁵³ See SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 161–62 (noting that there are several different explanations for the divergence of choices and preferences. He uses slightly different categories than are used in this Article. In the context of the importance of processes for choice, he argues that there may be a divergence because of (i) reputation and indirect effects; (ii) social commitment and moral imperatives; (iii) direct welfare effects (which appear to include esteem); and (iv) conventional rule-following). See also McAdams & Rasmusen, *supra* note 10, at 19–21.

⁵⁴ See Sunstein, *Social Norms*, *supra* note 32, at 916; SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 161; McAdams & Rasmusen, *supra* note 10, at 12–13.

⁵⁵ McAdams, *supra* note 32, at 355–56 (discussing the role of esteem in the development and enforcement of social norms); ERIC A. POSNER, LAW AND SOCIAL NORMS 18–27 (2000) [hereinafter POSNER, LAW AND SOCIAL NORMS] (discussing the signaling function of social norms). See also McAdams & Rasmusen, *supra* note 10, at 13–14 (discussing the potentially separate role of shame—which is intermediate between guilt and disapproval by others).

under which decisions are made is fair.⁵⁶ Such a view is also not a significant extension of rational choice theory. The individual now takes into account the impact on her of the welfare of other people.⁵⁷ This view may explain a range of behavior that narrow rational choice theory cannot, such as some forms of altruistic behavior. It does not, however, move the analysis away from the focus on self-interest, because it continues to assume that each individual bases choices on the implications for her own welfare; that is, the individual is still maximizing her own welfare but now that welfare includes implications for others.⁵⁸ This “taste” may take the form of a “warm glow,” a private benefit from contributing to public goods.⁵⁹

Alternatively, since the “warm glow” model provides no account of or scope for moral reasoning, other models of behavior have been built around the assumption that people want to see themselves as socially responsible. They make decisions in part based on external factors (such as costs and benefits), but also in part on their self-image, which results from comparing their actual actions with a “morally ideal” action.⁶⁰

This self-perception explanation of the divergence between choice and preference is closely related to the theory that individuals may be following a norm or rule at least in part because of feelings of guilt when it is not followed and pride when it is followed.⁶¹ Such a theory also fits within the rational choice framework. These feelings of guilt or pride may be viewed as a “tax or subsidy” on action—making it more or less costly (in a broad sense) to take particular actions.⁶² Such an approach remains largely self-interested, because the action is based on the impact on the welfare of the individual.

Finally, and most controversially from the perspective of the rational choice framework, the divergence between choice and preference may occur because of a self-imposed requirement that is neither self-interested nor self-centered. Sen refers to such self-imposed requirements as “commitments” and contrasts them with “sympathy.” Sympathy arises when an individual’s welfare is affected by the welfare of others. Commitment, on the other hand, involves “breaking the tight link between individual welfare

⁵⁶ See SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 30; Jolls et al., *supra* note 52, at 16.

⁵⁷ See SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 30–33 (moving the analysis away from self-centered maximization in Sen’s terms: the individual now cares or gets benefit from decisions which impact the utility of others).

⁵⁸ See *id.* at 35 (referring to the feeling as “sympathy”).

⁵⁹ Kjelle A. Brekke et al., *An Economic Model of Moral Motivation*, 87 J. PUB. ECON. 1967, 1968–69 (2003) (discussing a model of “impure altruism” based on work by Andreoni).

⁶⁰ See *id.* at 1969–70; McAdams & Rasmusen, *supra* note 10, at 12 (discussing the role of guilt and pride).

⁶¹ See Carlson, *supra* note 22, at 1238–39; Cooter, *supra* note 23, at 1600; McAdams & Rasmusen, *supra* note 10, at 12, 19–20.

⁶² See Sunstein, *Social Norms*, *supra* note 32, at 941–44; McAdams & Rasmusen, *supra* note 10, at 12 (arguing that guilt is a non-material form of disutility from action and pride is a non-material form of utility).

(with or without sympathy) and the choice of action (e.g. acting to help remove some misery even though one personally does not suffer from it).⁶³

A commitment is a form of self-imposed constraint on action that limits the options available to an individual. Individuals choose the best option, but within a choice set constrained by the commitment.⁶⁴ Take for example an individual who would never even consider buying an SUV because it would violate her environmental principles. Unlike another person, who may not buy a SUV to avoid feelings of guilt or to obtain a “warm glow” or personal benefit, her environmental principles act as a constraint on her opportunity set, thus eliminating the SUV from the possible options. Sen argues that such a self-imposed constraint is substantively different from broadening the definition of what an individual is attempting to maximize to include the welfare of other people or the environment, but is technically equivalent to such a broadening of the maximand. This difference may have implications for policy and institutional analysis.⁶⁵ Sen uses the example of Japanese workers who apparently work themselves to death. He argues that such action may be viewed as maximizing some form of welfare but appears better to accord with the individual acting within a constraint on his possible options. Such a constraint or commitment involves concerns for other values or rules (such as rules about work) “over and above” the extent they enter into an individual’s utility function.⁶⁶

⁶³ SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 214 (citing AMARTYA K. SEN, CHOICE, WELFARE AND MEASUREMENT 7–8 (1982)).

⁶⁴ *See id.* at 35; Anderson, *supra* note 50, at 22–23.

⁶⁵ *See* SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 189–91 (noting that an individual may restrict the options in an opportunity set because of a self-imposed constraint and then make a choice that maximizes within that (restricted) set. Alternatively, the individual may be viewed as choosing within the full (unrestricted) opportunity set but as maximizing a preference that includes the impact of the action on others. Sen argues that these can be formally (technically) but not substantively equivalent). *But see* Louis Kaplow & Steven Shavell, *Any Non-Welfarist Method of Policy Assessment Violates the Pareto Principle*, 109 J. POL. ECON. 281, 282, 285 (2001); STEVEN SHAVELL, FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW 610 (2004) (arguing in the welfare economics context for viewing preferences (and the social welfare function) as broadly as possible to include everything an individual may care about (including fairness and concern for others) and that providing independent weight to notions of morality will in some cases lead everyone to be worse off when these notions of morality are followed).

⁶⁶ SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 177. *Cf.* Phillip Petit, *Constructing Sen on Commitment*, 21 ECON. & PHIL. 15, 19–21 (2005) (arguing that Sen has two manners in which commitment can act as a motivator: (i) goal modification (such as an individual modifying her goals to take account of the impact of the action on others); and (ii) goal displacement (following the goals of others rather than oneself). Petit argues that the former approach fits well within the rational choice framework while the latter does not make sense as an individual can only ever act in accordance with her own goals (even where she takes another’s goals on as her own)). Other commentators agree with Sen’s criticism of rational choice theory as being limited by its assumption that an individual only follows his own goals. However, they limit his extension of rational choice theory to incorporation of goals that are aimed at (or derive from) collective or shared goals. These shared goals arise, and gain normative force, from identity within a group. *See, e.g.*, Anderson, *supra* note 50, at 30; Hans Bernhard Schmid, *Beyond Self-Goal Choice: Amartya Sen’s Analysis of the*

The process through which these commitments form is not clear. Sen ties their formation to deliberation both within one's self and with a larger group.⁶⁷ Anderson has expanded upon this notion, linking it to debate within a group setting its joint strategy:⁶⁸ the individual would thus both acquire commitments from the group by adopting their shared commitments and at the same time, in engaging in debate within the group, help to develop these commitments because groups form their shared commitments through deliberation.

There are then three principal reasons (apart from information and rationality concerns) for the divergence of choice and preferences: reputation, a taste for some broader principle (such as protecting the environment) and commitment. An individual's choice may appear to diverge from her narrow self interest for one of these reasons or a combination of a number of them. Moreover, all of the reasons for choice may interact, such as where a social norm impacts an individual's taste for a particular food and therefore the costs and benefits an individual perceives from eating that food.⁶⁹ Before discussing the importance of the difference between externally enforced and internally enforced norms,⁷⁰ it is important to recognize the distinction between "conventions" and "social norms." One approach to social norms examines any "behavioral regularities," whether or not they are accompanied by any underlying moral or normative attitudes.⁷¹ Such behavioral regularities may include driving on the right hand side of the road or using a particular form of paper as monetary currency.⁷² They only involve an individual perceiving that the benefits of following the

Structure of Commitment and the Role of Shared Desires, 21 *ECON. & PHIL.* 51, 58–59 (2005).

⁶⁷ SEN, *RATIONALITY AND FREEDOM*, *supra* note 24, at 36; Amartya Sen, *Why We Should Preserve the Spotted Owl*, 26 *LONDON REV. BOOKS* 10 (2004) [hereinafter Sen, *Why We Should Preserve the Spotted Owl*], available at http://www.lrb.co.uk/v26/n03/sen_01_.html.

⁶⁸ Anderson, *supra* note 50, at 28.

⁶⁹ For example, Sunstein argues that instead of discussing preferences, it may be more useful to think of choices as being a function of three elements: (i) the intrinsic value of the various options; (ii) the reputational impact of choosing a particular option (for example, the esteem of or shaming by third parties such as neighbors); and (iii) the impact on the individual's self-conception. Sunstein notes that social norms in the broad sense impact all three of these elements. Sunstein, *Social Norms*, *supra* note 32, at 916. *See also* Cooter, *supra* note 23, at 1583–85 (making a similar distinction).

⁷⁰ *See* Carlson, *supra* note 22, at 1239; Cooter, *supra* note 23, at 1589–91 (discussing the difference between norms that are internalized (which people are willing to pay to obey, regardless of the net cost) and those that are not internalized (which require a negative net cost for people to obey)); Doremus, *supra* note 11, at 244–53 (distinguishing between "direct" environmental values (attitudes based on caring for the environment) and "indirect" environmental values (attitudes that are consistent with caring for the environment but are based on other reasons, such as reputation or on concern for future generations)).

⁷¹ McAdams & Rasmusen, *supra* note 10, at 3. *See also* SEN, *RATIONALITY AND FREEDOM*, *supra* note 24, at 162 (including conventional rule-following as a motivator for choice).

⁷² Richard H. McAdams, *Conventions and Norms: Philosophical Aspects*, in 4 *INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL & BEHAVIORAL SCIENCES* 2735, 2735 (N. J. Smelser & P. B. Baltes eds., 2001).

rule exceed the cost.⁷³ Following McAdams and Rasmusen, however, this Article uses the term “conventions” for behavioral regularities not accompanied by normative attitudes and the term “social norm” for “behavioral regularities supported at least in part by normative attitudes.”⁷⁴

B. Externally Enforced Norms vs. Internalized Norms

A central distinction exists within the category of social norms between those that are internalized by the individual and those that are not. The source of the enforcement or incentive in the case of reputation or esteem is external to the individual. That is, the enforcement of the norm arises from the actions of other people. On the other hand, the motivation in the other two reasons for divergence of choice and preferences (feelings of guilt or pride or commitment) is internal for the individual.

It is important to separate internalized social norms from externally enforced norms, because the shift in norms or values that some environmental groups argue is necessary is likely tied to an internal normative attitude toward the environment.⁷⁵ As noted above, it may, for example, be in an individual’s self-interest (narrowly defined) to litter, but in society’s interest that no one litter. A social norm of not littering, if enforced through informal external sanctions such as shaming, can lead individuals to behave in a manner that takes into account the social costs of the activity (that is, to throw out their garbage).

External incentives such as esteem or potential future transactions, however, are less likely to change behavior in the large-group, negative payoff contexts that characterize many environmental problems, such as climate change.⁷⁶ For example, individuals in such contexts may not have information about who is littering (they cannot be watching all people all the time) or may be unable to sanction the violator effectively (for example where there are too few repeat-interactions between individuals to allow for effective sanctioning).

It may be particularly hard for third parties to monitor and sanction behavior related to an issue like climate change, which requires individuals to take a broad range of largely non-observable actions (from using the car less to insulating homes). It is much harder to monitor and collectively sanction such activities than it is to sanction littering, which involves a distinct, relatively observable act. Further, large groups may suffer from

⁷³ Some conventions, however, may become social norms over time where individuals internalize the behavior and form a normative attitude toward it. See McAdams & Rasmusen, *supra* note 10, at 4. Some behavioral regularities therefore may be mixed, with some people following them for normative reasons and some merely for instrumental reasons.

⁷⁴ *Id.* at 3. See also Scott, *supra* note 12, at 1610.

⁷⁵ See, e.g., SPETH, *supra* note 7, at 191–201, 227–28.

⁷⁶ See Vandenberg, *Order Without Social Norms*, *supra* note 15, at 1105; Carlson, *supra* note 22, at 1235.

“second order” collective action problems—where individuals do not enforce a social norm because they expect others to do so and they wish to free-ride off their efforts.⁷⁷ As a result, if the action required by the norm imposes a cost on the individual she will not follow an externally enforced norm under the narrow rational choice framework due to the lack of effective enforcement.

Internalized norms gain importance because of the difficulties of externally enforced norms in large-number, negative pay-off contexts. Monitoring, for example, is easier (since compliance with the norm is monitored by the individual herself) than for externally enforced norms (monitored by third parties).⁷⁸ The notion of “internalized” norms is closely tied to the view that if an individual feels guilt or shame from a choice, it affects how she views herself.⁷⁹ This view of internalization, however, does not capture an important difference underlying the reasons for choices. Feelings of guilt or pride are tied into the cost-benefit calculus and the choice of action will depend, for example, on the level (cost) of guilt as compared to the other costs and benefits of the action. Commitment, on the other hand, is a side constraint, limiting permissible action and therefore not tied to the necessity of sanctioning either internally or externally. Sen argues that commitment cannot be reduced merely to a feeling of guilt at not complying with the underlying rule. The motivation from bad feelings may be too small in many cases to account for the costs incurred in observing certain rules.⁸⁰

Norms may therefore be important for making progress on environmental issues such as climate change. Change in consumer behavior may come not only from relative price changes, but also from the impact of norms (and in particular internalized norms). One difficulty, however, in building a theory around internalization is that any such theory may be non-falsifiable.⁸¹ Any choice not related to relative price or to reputation may be attributed to a taste or a commitment. It may be difficult to sepa-

⁷⁷ See McAdams, *supra* note 32, at 352–54.

⁷⁸ See McAdams & Rasmusen, *supra* note 10, at 6. The costs of monitoring will depend on the nature of the act and the information available to third parties and the individual. Some actions will be transparent and easily observable to third parties, while others may be more hidden making it more difficult for a third party to monitor. There may also be cases, however, where the costs to the individual of gaining information about whether her act comports with a norm are higher than for some third parties.

⁷⁹ See, e.g., Sunstein, *supra* note 32, at 916 (arguing that choices may be partially driven by their impact on an individual’s self-conception).

⁸⁰ SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 35. The impact of such “commitments,” however, is also unknown. For example, altruism alone is, according to economic theory, insufficient to explain levels of private charity. See James Andreoni, *Privately Provided Public Goods in a Large Economy: The Limits of Altruism*, 35 J. PUB. ECON. 57, 58, 71 (1988) (using economic theory to show that under the traditional view of altruism (as unconnected to an individual’s utility), as the population grows, free-riding dominates and the proportion of the population giving to charity falls to zero as does the average contribution).

⁸¹ Scott, *supra* note 12, at 1635.

rate out the influences of any internalized value or commitment in a manner that is testable. Such a concern does not mean internalized norms should be abandoned. Understanding choice and the impact of legal and policy change requires both working through rational choice theory and considering the limitations on this framework. A fuller theory of “rational” behavior is important for describing how choices are made but it may also be important in making predictions from the theory more accurate.⁸² For example, as will be seen in the next Part, it will aid in discussing the possibility and desirability of using subsidies to influence people’s attitudes toward the environment and ultimately their choices across different options that may affect climate change. The difficulty will be in incorporating greater consideration of the context of choice as greater context can make prediction more difficult.⁸³

IV. CLIMATE CHANGE, SUBSIDIES, AND NORMS

As noted above, climate change may be particularly difficult to address through norms because it is a large-group, negative pay-off problem. This Part uses the discussion of externally enforced norms and internalized norms to examine whether government may be able to change environmental norms thereby influencing choices that affect climate change. The government has a range of ways it may be able to change behavior, but the connection between such actions and social norms is less clear. This Part discusses one type of policy—subsidies to encourage behavior that results in lower GHG emissions. It first describes current government efforts to change individual behavior through subsidies and the direct effect of such subsidies on choices. It then examines how subsidies may affect both externally enforced norms and internalized norms.

A. *Subsidies, Relative Prices, and Bounded Rationality*

As noted in Part II, governments can use a broad range of instruments to change individuals’ behavior, including by providing information or altering incentives through either carrots (subsidies) or sticks (regulations and taxes). These incentives are not directly targeted at individuals’ pref-

⁸² See Amartya Sen, *Why Exactly Is Commitment Important for Rationality?*, 21 *ECON. & PHIL.* 5 (2005) [hereinafter Sen, *Why Is Commitment Important?*] (describing two functions of examining rationality: (i) to explain what is rational choice; and (ii) to predict what individuals will do assuming choice is rational. He argues that the latter cannot be undertaken effectively without a clearer view of the former. Moreover, Sen attempts to incorporate these concerns within a general maximization framework both in theoretical and applied work). See also Amartya Sen, *Reply*, 17 *ECON. & PHIL.* 51, 57–59 (2001); Cooter, *supra* note 23, at 1579.

⁸³ See Scott, *supra* note 12, at 1637; Doremus, *supra* note 11, at 265–67; Vandenbergh, *Order Without Social Norms*, *supra* note 15, at 1126–29; McAdams and Rasmusen, *supra* note 10, at 32–34.

erences for any particular good, but at changing the opportunity set facing individuals—that is, the relative costs and/or benefits of different options.⁸⁴ Economists generally view taxes or economic instruments like marketable pollution permits as the most effective and efficient instruments at addressing climate change. Such instruments, however, may not be politically or technically feasible and, as a result, governments have been more willing to rely on instruments such as subsidies, which come at a lower political cost.⁸⁵

Typically, governments provide subsidies, either in the form of grants or tax exemptions for individuals taking action which reduces GHG emissions. For example, some governments provide rebates on expenditures on insulating homes, purchasing energy efficient appliances, or installing residential solar heating systems. They may also subsidize the purchase of more fuel efficient vehicles or vehicles using alternative sources of energy such as hybrid engines or fuel cells.⁸⁶ Subsidies change the relative cost of a particular option. For example, a subsidy for an energy-efficient dish washer changes its costs relative to inefficient dishwashers, which under traditional rational choice theory makes it more likely that a person will buy it regardless of her underlying preference for saving energy or the environment.⁸⁷ The resulting shift in choices, given the current set of preferences, can benefit the environment by reducing the levels of GHGs entering the atmosphere.⁸⁸

There are a number of concerns, however, about such use of subsidies. First, effective action on climate change would require substantial changes in choices, because reducing the stock of GHGs in the atmosphere would require even larger reductions in emissions than contemplated in the Kyoto Protocol.⁸⁹ Such substantial changes would require large subsidies. Not only would government need to raise taxes to fund these sub-

⁸⁴ Scott, *supra* note 12, at 1613; Christine Jolls & Cass R. Sunstein, *Debiasing Through Law* 9 (Univ. Chicago Law Sch., John M. Olin Law & Econ. Working Paper No. 225, 2005).

⁸⁵ Andrew Green, *Trade Rules and Climate Change Subsidies*, 5–11 (paper presented at the American Law and Economics Association meetings, Dec. 2005) (on file with the Harvard Environmental Law Review).

⁸⁶ For a brief description of proposed U.S. programs, see, e.g., White House Press Secretary, Executive Office of the President, *Climate Change Fact Sheet* (May 2005), available at <http://www.state.gov/goes/rls/fs/46741.htm>. See also Government of Canada, *The One-Tonne Challenge*, <http://www.climatechange.gc.ca/onetonne> (including Canadian federal and provincial government initiatives as well as private sector initiatives, such as demand side management) (last visited Feb. 16, 2006) (on file with the Harvard Environmental Law Review).

⁸⁷ See Cooter, *supra* note 23, at 1586–87 (discussing the impact of cost on individuals' willingness to undertake civic acts).

⁸⁸ There may, however, be a “rebound effect” where consumers use the energy efficient appliances more (run the dishwasher more often) possibly leading to an increase in energy use. See Bruce Yandle & Stuart Buck, *Bootleggers, Baptists and the Global Warming Battle*, 26 HARV. ENVTL. L. REV. 177, 209 (2002).

⁸⁹ Bruce Parly, *The Kyoto Protocol: Bad News for the Global Environment*, 14 J. ENVTL. L. & PRAC. 27, 28 (2004).

sidies (or make up for revenue foregone through tax exemptions), but there is a deadweight loss to the economy of these higher taxes: that is, loss to economic growth because individuals react negatively to higher taxes. The high direct and deadweight loss cost of subsidies may make them politically unacceptable on a sufficiently large scale to address climate change, let alone other environmental issues.

Second, as is the case with taxes,⁹⁰ the government needs a considerable amount of information in order to be able to use subsidies to effectively impact consumption decisions in this manner. It must have information about the relative advantages and disadvantages of different products or choices and the level of incentive required to induce individuals to make the desired choice. The potential for government error is high, and the stakes are high, as subsidy programs influence production and research and development. By inappropriately “picking winners,” government can stunt innovation in particular products and freeze out development of new, possibly cleaner alternatives.⁹¹

Third, even if the government can allocate funds optimally, there remains a risk of rent-seeking. Public choice theories posit the existence of a market for political decisions wherein legislative or regulatory officials providing policy or regulation in exchange for some benefit such as campaign financing, future jobs or votes. Concentrated interests, such as industry, tend to have more resources and derive greater benefit from legislative action than the general public, which may face collective action problems in organizing to influence political decisions. As a result, in many cases, concentrated interests will have more influence and will be able to shift legislative or regulatory action in their favor.⁹² The attempt by such interests to obtain benefits (or “rents”) above what they would optimally receive is termed “rent-seeking.”

Some instruments may be more open to rent-seeking than others. For example, Ackerman and Stewart argue that marketable pollution permit programs increase democratic debate about the true objectives of environmental policy and are therefore less open to rent-seeking than other instruments such as regulation.⁹³ There is some evidence, however, that this democratic benefit did not occur during the creation of a sulfur dioxide

⁹⁰ See generally David Duff, *Tax Policy and Global Warming*, 51 CAN. TAX J. 2063 (2003); POSNER, *CATASTROPHE*, *supra* note 2, at 156–65.

⁹¹ The impact on innovation is one of the reasons economists prefer broad-based taxes (such as an emissions tax) to address climate change. They raise the relative cost of the polluting activity and therefore provide incentives for individuals to seek new technology or new methods which emit fewer greenhouse gases and therefore reduce the tax paid. Duff, *supra* note 90, at 2095; POSNER, *CATASTROPHE*, *supra* note 2, at 157.

⁹² See generally Revesz & Stavins, *supra* note 6; Nathaniel O. Keohane et al., *The Choice of Regulatory Instruments in Environmental Policy*, 22 HARV. ENVTL. L. REV. 313 (1998) (discussing public choice theory and environmental policy).

⁹³ Bruce A. Ackerman & Richard B. Stewart, Comment, *Reforming Environmental Law*, 37 STAN. L. REV. 1333, 1352–55 (1985).

(SO₂) trading system in the United States; the debate around the system was not about ultimate ends but the distribution of permits.⁹⁴ Economists tend to view subsidies with particular suspicion as being open to rent-seeking because the costs of subsidies may be hidden and spread across large, diffuse groups of taxpayers.⁹⁵

So far these concerns about relying on subsidies to address climate change have been discussed assuming individuals have perfect information and rationality such that they can correctly choose options according to their costs and benefits. Governments may also use subsidies to offset informational constraints or problems of “bounded rationality.”⁹⁶ Individuals make choices which they believe satisfy existing second order preferences, such as for environmental protection or inter-generational equity. But because they do not have sufficient information about these choices (such as about the impact or level of the GHG emissions from their actions), individuals’ choices may in fact be at odds with these second order preferences.⁹⁷ Similarly, individuals have difficulty dealing with low probability outcomes and tend to disregard them in making decisions. For example, individuals may not be able properly to evaluate the very low probability of a catastrophic climate shift (as opposed to a gradual one) resulting from a build-up of GHGs in the atmosphere.⁹⁸

Government may have a role where individuals make such mistakes. It could provide information to overcome the informational constraint (such as on the actual environmental impact of a particular choice like buying an SUV), though possibly not the difficulties related to bounded rationality: if individuals cannot process the information, more information is not helpful.⁹⁹ Government could also attempt to use law to reduce the impact of bounded rationality by, for example, setting default rules that allow choice but aid in fostering a welfare-enhancing choice or allowing cooling off periods for individuals to re-think potentially rash decisions.¹⁰⁰

⁹⁴ Lisa Heinzerling, *Selling Pollution, Forcing Democracy*, 14 STAN. ENVTL. L.J. 300, 336 (1995).

⁹⁵ See, e.g., Yandle & Buck, *supra* note 88, at 207–11.

⁹⁶ See Jolls et al., *supra* note 52, at 14–15; Colin Camerer et al., *Regulation for Conservatives: Behavioral Economics and the Case for “Asymmetrical Paternalism,”* 151 U. PA. L. REV. 1211, 1214–18 (2003) (describing bounded rationality); Cass R. Sunstein & Richard H. Thaler, *Libertarian Paternalism Is Not an Oxymoron*, 70 U. CHI. L. REV. 1159, 1167–70 (2003); Jolls & Sunstein, *supra* note 84.

⁹⁷ See Vandenbergh, *Order Without Social Norms*, *supra* note 15, at 1117–19 (arguing that individuals in the U.S. already have an “environmental protection” norm and a “reciprocity” norm but that they lack sufficient information about the impacts of their choices on the environment to “activate” these norms).

⁹⁸ See POSNER, *CATASTROPHE*, *supra* note 2, at 118–19 (arguing that individuals are incapable of making decisions based on small probability risks).

⁹⁹ See Vandenbergh, *Order Without Social Norms*, *supra* note 15, at 1123–24 (arguing that government should provide information in order to activate existing “environmental protection” and “reciprocity” norms).

¹⁰⁰ Jolls & Sunstein, *supra* note 84, at 2 (referring to such government action as “debiassing through law”).

More importantly for the purposes of this Article, governments may also use taxes or subsidies to influence choices.¹⁰¹ One result of subsidizing (or taxing) may be to offset mistakes in the cost-benefit calculations individuals make in order to direct them toward more appropriate choices.¹⁰² Although this role of government may be more intrusive on individual autonomy than the mere provision of information or default rules,¹⁰³ there may be a further benefit to both subsidies and taxes. Where individuals make decisions on incomplete information, they may take cues from the actions of others. They may assume because one person or a few people take certain actions that they also should take the action, even though they do not have complete information about the risks pertaining to the action. If an individual does not have complete information about the risks of climate change, she may mimic the actions of others who she believes have more information. If sufficiently large numbers of individuals behave this way, there may be large-scale shifts in behavior, which Sunstein labels “informational cascades.”¹⁰⁴ Thus where a subsidy causes some individuals to purchase hybrid vehicles, others may come to believe that purchasing such vehicles will aid in addressing climate change. Subsidies therefore have the potential to bring about significant change without having to change everyone’s choices directly.

While the relative price effect of subsidies may have some impact directly on choices, its impact is narrow. For example, subsidies for “green” cars may induce more people to buy them by changing the opportunity set pertaining to cars. Once people begin to use these cars, they may come to recognize the benefits (such as lower fuel costs), or begin to identify with the choice of “green” cars, thus adjusting their first order preferences. The same effect on first order preferences seems true for informational cascades. Individuals may be able to identify the individual choices made by others (such as purchasing “green” cars). The connection to second order preferences (broader self-conceptions or internalization of environmental norms), however, seems more tenuous. It is not clear that the outcome of a decision to purchase a “green” car, or even the creation of a first order preference for such vehicles, will generate other choices connected to improvement of the environment. The connection seems neither direct nor necessary. Inducing individuals to drive energy-efficient cars may lead them to prefer such cars and even to prefer other energy-efficient goods, but it

¹⁰¹ From the perspective of the rational consumer, subsidies are just negative taxes and may have similar effects. The distinction between them, however, is important for a variety of reasons, such as the generally greater political feasibility of using subsidies.

¹⁰² See POSNER, *CATASTROPHE*, *supra* note 2, at 6, 163–65 (arguing for emissions taxes in part because of the difficulty individuals have in making choices about very low probability events).

¹⁰³ Jolls & Sunstein, *supra* note 84, at 2–4, 29–32

¹⁰⁴ CASS SUNSTEIN, *RISK AND REASON* 37, 86–87, 90 (2002). See also Bowles, *supra* note 50, at 83 (referring to cascading behavior as an element of “conformist transmission”); McAdams & Rasmusen, *supra* note 10, at 11.

will not necessarily lead them to make other environmentally sensitive life-style decisions or to value the environment itself.

Subsidies are therefore likely to have two principal effects within the narrow rational choice framework. First, subsidies change the relative price of the subsidized activity, thereby altering individuals' opportunity sets. Individuals will be more likely to take the subsidized choice (e.g., purchasing the "green" car). Whether or not they actually take that choice will depend upon the relative costs and benefits of all comparable choices. Unfortunately, as noted above, this relative price effect is unlikely, on its own, to address climate change. Second, a subsidy may lead to an "informational cascade," overcoming information constraints and potentially bounded rationality. Such an effect remains within the rational choice framework, although it broadens the framework to allow individuals to make mistakes about satisfying their preferences (including their second order preferences). As noted above, however, information cascades based around subsidies for particular products or choices are only weakly related to underlying norms concerning the environment.

B. Subsidies and Externally Enforced Norms

A further potential role for subsidies arises when the rational choice framework is broadened to allow norms to change. Unfortunately, as mentioned in Part III, climate change as a large-number, negative pay-off problem is less amenable to solution through externally enforced norms. Can government play a role through law and policy in fostering change of or strengthening norms or values? Many law and social norms scholars argue that law may play a role in changing individuals' behavior, and possibly their preferences, through its expressive function.¹⁰⁵ This expressive function arises because a society's laws arguably embody its norms or at least the dominant view of its people. By enacting a certain regulation, such as a littering ban or a requirement to pick up after one's dog, a government may be able to use law's expressive function to change behavior even without applying any resources to enforcing that law.¹⁰⁶

There is a narrow, rational choice view of this expressive function of law. The law may merely provide information that allows individuals to update their probabilities of external sanction.¹⁰⁷ Absent a law about littering, individuals have certain estimates of the probability of being sanctioned by others (such as by loss of esteem) if caught littering. They may update these estimates (and increase them in this case) following the enactment of a law against littering. They may believe that others in society

¹⁰⁵ See, e.g., McAdams & Rasmusen, *supra* note 10.

¹⁰⁶ See McAdams, *supra* note 32, at 397-400.

¹⁰⁷ See Scott, *supra* note 12, at 1617; Cooter, *supra* note 23, at 1601; McAdams & Rasmusen, *supra* note 10, at 10.

will be more likely to sanction them when they litter as they are violating a law. Further, the potential sanctioners obtain information about whether others will support their decision to sanction the non-complying individual; the law provides information about the consensus in the community, which the third party uses to update her probabilities that others will take her side.¹⁰⁸ On this view, therefore, the law changes behavior, not by changing preferences or social meaning, but by informing citizens of the consensus in the community and thereby leading them to update their estimations of the probability of sanction.

Such updating, however, is not really what many theorists have in mind in discussing the expressive function of law. Instead, the expressive function of law is argued to affect the actual social norm itself.¹⁰⁹ The law expresses society's view of the act and individuals consequently change their values or preferences. For example, the law against littering not only impacts an individual's estimates of the probability of sanctions, but also increases third party enforcement through sanctions (such as esteem or transactions) by expressing the consensus around the rule. According to McAdams, such a change or modification may occur where the law publicizes a consensus and non-compliance with the norm can be monitored and sanctioned by third parties (in such a manner that the individual loses esteem from non-compliance).¹¹⁰ Individuals seeking esteem follow the consensus expressed in the law. The law may also provide further information about choices, such as about legislators' view of the damage from a particular action. For example, where individuals are uncertain about the impacts of climate change, they may update their beliefs because of information provided by laws addressing climate change.¹¹¹

An additional factor may bolster the effect of externally enforced norms. As with "informational cascades," Sunstein argues that there may "reputational" cascades.¹¹² A reputational cascade arises where an individual adjusts his expression of opinion about an issue not because he necessarily holds the new opinion but because he is afraid of the social or reputational consequences of taking an opposing view. Such a cascade can amplify the impact of externally enforced norms by increasing the appearance of a widespread consensus.

¹⁰⁸ Scott, *supra* note 12, at 1626.

¹⁰⁹ See McAdams & Rasmusen, *supra* note 10, at 16–17 (surveying the literature on the impact of law on social norms).

¹¹⁰ See McAdams, *supra* note 32, at 402–03; McAdams & Rasmusen, *supra* note 10, at 12–13 (discussing the incentive role of esteem and disapproval); Scott, *supra* note 12, at 1626.

¹¹¹ See Dhammika Dharmapala & Richard H. McAdams, *The Condorcet Jury Theorem and the Expressive Function of Law: A Theory of Informative Law*, 5 AM. L. & ECON. REV. 1, 8 (2003) (arguing that this aspect of the expressive function of the law does not require legislators to have greater expertise than average citizens but instead results from the aggregation or pooling effect of the legislative process).

¹¹² SUNSTEIN, *supra* note 104, at 87–88.

The manner in which the expressive function of law works to transform norms is not clearly understood.¹¹³ In part it works through a law (such as a ban on smoking) expressing a level of societal esteem or disapproval attached to an action or choice. This level is related to the ability of law to change the social meaning of the activity.¹¹⁴ It may, for example, change the meaning of purchasing an SUV from one of status to one of imposing costs on others and harming the environment.

Moreover, the regulatory effect comes not just from the deviation from the choice seemingly sanctioned by the law but from the meaning of the deviation.¹¹⁵ The meaning of a deviation may, for example, depend on whether the law expresses itself as a price or a sanction for taking a certain action.¹¹⁶ A law expresses a price if an individual can take the action and pay a fine without any further internal or external sanction. For example, Scott argues that a parking ticket is a price, not a moral sanction.¹¹⁷ If an individual parks illegally, she gets a ticket. There is in general no further moral consequence to this choice.¹¹⁸ Conversely, a law expresses itself as a sanction if paying the penalty carries with it a moral aspect, such as where there is a fine for parking in a handicap spot.¹¹⁹ It is not sufficient to decide to take the action and pay the fine in such a case. There is something wrong about the action which cannot be overcome by the payment.

It is the moral aspect of the sanction that connects the law with the externally enforced norm. Prohibitions, such as a ban on littering, are framed more as a sanction, signaling that society strongly disapproves of the activity. This disapproval activates either updating of probabilities of sanctions or the changing of norms by individuals. This expressive function of law may arise because the prohibitions signal a societal consensus about the activity.¹²⁰

A subsidy, on the other hand, does not signal that anything is “wrong” *per se*. It is expressed more as a price, like a parking ticket. A subsidy is a cost you bear (that is, the benefit foregone) if you wish to make the choice; if you pay, then the choice is acceptable socially. Subsidies seem less likely to lead to significant updating or changes in norms. The consensus expressed is not that the behavior must change but that it would be nice if it did. It gives some information but is weaker than prohibitions or regulations in expressing society’s disapproval of the act.

¹¹³ Scott, *supra* note 12, at 1647.

¹¹⁴ Lawrence Lessig, *The New Chicago School*, 27 J. LEGAL STUD. 661, 681 (1998).

¹¹⁵ *See id.* at 681 n.72 (tying this notion to McAdams, *supra* note 32).

¹¹⁶ *See* Scott, *supra* note 12, at 1619–20.

¹¹⁷ *Id.*

¹¹⁸ *Id.*

¹¹⁹ *See id.* (arguing that such a fine is amplified by a norm of respect for the disabled).

¹²⁰ McAdams, *supra* note 32, at 402–03.

C. Subsidies and Internalized Norms

Subsidies may therefore only weakly (if at all) create or activate externally enforced norms. They may still, however, play a role in fostering internalized norms—norms either enforced by feelings of guilt or pride, backed by a “taste” (and therefore connected to an individual’s welfare) or created through a commitment (a self-imposed constraint not connected to welfare).¹²¹ But little work has been done in the law and norms literature on the connection between law or policy and internalized norms. One view of internalization closely tied to the rational choice framework is that individuals change their behavior to comply with norms in order to build a reputation as cooperators.¹²² The individual presumably hopes that those who interact with her will take adherence to norms as a signal that she is a cooperator and therefore will be more likely to enter into transactions (economic and non-economic) with her. The state can signal new norms through its laws (such as a ban on littering) and individuals, in order to appear to be cooperators, will comply with the law even without enforcement. The individual’s internal norms change as she strives for good character.¹²³ Further, if individuals have an internalized second order preference for obedience to law, they may also internalize the particular requirements of a specific law.¹²⁴

Internalization may also occur not because of future transactional opportunities but as a result of individuals seeking esteem. Law signals a consensus and, if others can monitor and sanction non-compliance, individuals will change their beliefs about a choice. They internalize the new consensus because they are striving for esteem. This internalization is slightly different from the updating of probabilities, or changes in externally enforced norms, discussed in the last section. The underlying values or norms of the individual change, not just her estimate of the risk of sanction, or her experience of external sanction.¹²⁵ Such an approach to internalization is also closely related to instrumental decision-making and the rational choice framework.

Relatedly, a law may not only lead to an internalization of a norm but may displace or “crowd out” an existing norm.¹²⁶ If an individual obtains intrinsic benefits from an act, or possibly sees acting from altruism as part of her self-conception, paying her for taking the act may remove this benefit

¹²¹ See *supra*, Part III.B on the enforcement of internalized norms.

¹²² Cooter, *supra* note 23, at 1581 (arguing that internalization occurs as a result of “pareto self-improvement” in which individuals change their norms to build a cooperative reputation).

¹²³ *Id.* at 1581, 1595, 1601. See also POSNER, LAW AND SOCIAL NORMS, *supra* note 55 (discussing the impact of following norms on transactional opportunities).

¹²⁴ Cooter, *supra* note 23, at 1600.

¹²⁵ Scott, *supra* note 12, at 1619–20.

¹²⁶ Bruno S. Frey & Reto Jegen, *Motivation Crowding Theory*, 15 J. ECON. SURVS. 589, 590–91 (2001).

or reduce the impact of the act on her self-conception.¹²⁷ The result is that a law or policy designed to offer a price incentive, such as a subsidy, can have two effects: the standard relative price effect and a “crowding out” effect on intrinsic or moral motivations. This impact is closely tied to the view of internalized norms as a “taste” for the particular action.

Perhaps more importantly, subsidies and other such policies also have an impact on commitment. While the approaches to internalization discussed above partly explain the connection between subsidies and norms, they fail adequately to capture the importance of social responsibility. Central to the connection between climate change policy and commitment may be a sense of social responsibility. For example, for individuals actually to reduce their consumption of products that produce GHGs, they may need to alter their view of their responsibilities as citizens.¹²⁸ This concept of social responsibilities is tied to individuals’ identification with a group.¹²⁹ An individual may develop specific commitments (in the sense of constraints on a choice set) because she identifies with a particular group, and adopts its rules or shared goals. Individuals not only receive these rules or goals from the group but also can be part of developing these commitments through discussion within the group. For example, if the shared goals relate to responsibility for or protection of the environment, such as a goal of reducing GHG emissions, they may act as a constraint on the individual’s choice set. But if the individual does not identify with a particular group with such shared environmental goals, or if the group has a shared goal of individual choice or autonomy in making choices that may have consequences for climate change, the individual may not be subject to any commitment. She will then follow standard utility maximization.

The degree or strength of internalization, whether based on instrumental factors or commitment, that a law or policy causes, depends on whether the law or policy signals a price or sanction. If the measure is framed as a fine or sanction, it signals more strongly that the act is considered morally wrong; the rule or shared goal of the group is that the act should not take place. This shared goal may be internalized as a commitment—that is, as a constraint on choices to be followed regardless of the impact on the individual’s welfare. In this sense, it is different from and potentially stronger than guilt, which is tied directly to welfare.¹³⁰ A sanction also provides a strong basis for an individual who follows the rule to be seen as a cooperator or worthy of esteem. Unfortunately, subsidies signal a price, not a sanction. It is generally not thought a moral failing if an individual does not take an action which could provide her with savings. A

¹²⁷ *Id.* at 592. See also Bruno S. Frey & Felix Oberholzer-Gee, *The Cost of Price Incentives: An Empirical Analysis of Motivation Crowding-Out*, 87 AM. ECON. REV. 746, 753 (1997).

¹²⁸ Sen, *Why We Should Preserve the Spotted Owl*, *supra* note 67, at 11.

¹²⁹ Anderson, *supra* note 50, at 28; Schmid, *supra* note 66, at 57–60.

¹³⁰ See SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 35.

subsidy does provide a signal to individuals about societal values, but a considerably weaker signal than that sent by a regulation or prohibition.

There is some empirical work supporting a connection between an instrument and values. For example, a study by Gneezy and Rustichini found that the introduction of a fine on parents arriving late to pick up their children from daycare actually increased the number of late-comers.¹³¹ They argue that the fine became a price that parents were willing to pay for late arrival. Arriving on time was no longer a question of courtesy or responsibility, but a question of willingness to pay. Empirical studies in both psychology and economics in such disparate areas as incentives for work and the siting of nuclear waste facilities also provide support for the potential for such a crowding out effect of instruments.¹³² A variation on this "crowding out" model views individuals' actions as based in part on the costs and benefits of the action but also on the individual's self-image. Working through an economic model incorporating these moral sentiments, Brekke et al. argue that a fee for non-participation in a public good may lead individuals to undertake less effort toward the supply of the public good than would be the case without the fee. This effect depends in part on the individual actors' view of the size of the fee. If the fee appears to cover the cost of providing the public good, individuals may reduce their effort to supply the public good as they see the government as responsible for its provision. In such cases, "the fee gives moral justification for not showing up"—individuals believe the government can provide the public good without them and do not obtain the same self-image benefit from their effort.¹³³ If they see the fee as merely symbolic, effort will not decline as individuals retain responsibility (and moral obligation) to provide the public good.¹³⁴ The shared goals of the group thus affect perceived individual responsibility.

In addition to the level of the subsidy, the form the subsidy takes has an important impact on an individual's commitment. In examining the norm around recycling, Carlson, for example, concluded that esteem was influential in promoting recycling. She found, however, that the biggest impact on the level of recycling came from reducing the cost (i.e., inconvenience) of recycling rather than attempting to change individuals' preferences or work through signaling or esteem.¹³⁵ This result points to the importance of how the government action is framed. If the subsidy is pro-

¹³¹ Uri Gneezy & Aldo Rustichini, *A Fine Is a Price*, 29 J. LEGAL STUD. 1, 15–16 (2000).

¹³² See Frey & Jegen, *supra* note 126, at 596–606 (surveying the empirical studies related to crowding out). See also Frey & Oberholzer-Gee, *supra* note 127, at 753 (finding that offering compensation for local siting of a nuclear waste facility lowered the level of acceptance among nearby residents as compared to levels when no compensation was offered).

¹³³ Brekke et al., *supra* note 59, at 1978.

¹³⁴ *Id.* at 1977–78, 1980 (basing their conclusions in part on survey data regarding recycling behavior and voluntary community work).

¹³⁵ Carlson, *supra* note 22, at 1296.

vided as a price reduction or rebate, it may be perceived as a payment for taking the action. The choice would then be framed in the language of a price rather than an obligation or responsibility. On the other hand, if the money were spent on making environmentally friendly choices easier (such as providing curbside recycling or at home audits for GHG emissions), it may not reframe what is perceived as a responsibility as a price. The individual may be more willing to take the action (because the cost is lower) without the impact on values. It may also connect to external enforcement, as such policies may activate third party enforcement to the extent that individuals are seen as disrespecting others by not incurring a trivial cost to take the action.¹³⁶

V. INSTITUTIONS, INSTRUMENTS, AND SOCIAL NORMS

Addressing climate change seems to require significant change in individuals' values in order to alter their choices both as consumers and as citizens. Governments have been relying on subsidies as a significant element in their climate change policies. Subsidies have a relative price effect which in general increases the choice of the subsidized option. This effect can be strong, particularly if it creates an informational cascade that leads to a large-scale swing in behavior. But the relative price effect of subsidies seems unlikely to significantly reduce the emissions of GHGs. Given the size of the changes required, the magnitude of the subsidies may be both economically and politically infeasible. Further, any cascades seem most likely to occur around choices of individual behavior (first order preferences) rather than deeper, second order preferences such as for environmental protection.

Beyond the relative price effect, however, subsidies may impact norms. Unfortunately, while they may impact externally enforced norms, they are unlikely to do so strongly. Individuals perceive less of a "right" to sanction another, either through esteem or transactional opportunities, where the other person fails to take an action that is subsidized than where the action is prohibited. There may be cases where there is a connection, such as where a blue box program is subsidized and there appears no great reason not to take an action that harms others, but the impact seems weak.¹³⁷

Subsidies may also affect internally enforced norms or commitments. They provide information to the public about products or activities that

¹³⁶ *Id.* (arguing that rather than norm management, governments can do most to increase recycling by reducing the costs to individuals of complying with a norm of recycling (such as by providing curbside pick up)).

¹³⁷ Subsidies may allow individuals to obtain some esteem for taking the subsidized action. However, individuals tend to be more sensitive to losses than to gains (this tendency is termed "loss aversion"). See Cass R. Sunstein, *Introduction*, in *BEHAVIORAL LAW AND ECONOMICS* (Cass R. Sunstein ed., 2000) 1, 5–6. As a result, even if such a positive esteem effect exists, it may be weaker than the negative impact on esteem of failing to comply with regulations or prohibitions.

the government believes are tied to climate change. In this way, they aid individuals in acquiring information to further their existing preferences or norms or values about the environment.¹³⁸ Subsidies, however, have a crowding out effect—either simply offsetting existing motivations or changing an individual's commitment to a particular behavior. As Doremus notes, “paying people for environmentally responsible behavior may erode the societal desire to conserve.”¹³⁹

Thus, there is a paradox at the core of the use of subsidies by government. Governments may not be able to pay people enough to act in their own long-term best interests. For example, there may not be enough money or political will to use the relative price effect to make significant progress on climate change. Further, any attempt to pay individuals to act in their own best interests may actually reduce their willingness to act to preserve the environment in which they and their children will live. It may reduce the impact of externally or internally enforced norms or commitment. Such impacts are context dependant but must be taken into account if real environmental change is to occur.

It is difficult to know which type of motivation is at work in each case—whether an action is driven by relative prices, reputational factors, commitment, some form of a benefit/guilt mechanism, or a combination of these factors. The risk is that anything that cannot be explained by an obvious relative price effect will be attributed to a norm. As noted above, however, some empirical work supports these effects on behavior. It will be important to develop the role of these motivations further in order to make more accurate predictions about the impact of instrument choice and to understand the role of environmental values in individual choice.¹⁴⁰

Governments should not rely significantly on subsidies to affect social norms as they have a weak and possibly negative impact (although, as noted in Part IV.C, if properly framed the “crowding out” effect may be reduced). The discussion of subsidies does, however, raise a number of related questions that require further work. First, although subsidies in general are not helpful, is there a potential role for other instruments such as taxes or prohibitions in changing norms? As we have seen, any attempt to determine the appropriate government policy must examine not only the direct impact of a potential government policy on behavior given current preferences, but also the potential impact on these preferences.¹⁴¹

¹³⁸ See Vandenberg, *Order Without Social Norms*, *supra* note 15, at 1123–24 (discussing the role of information in activating existing norms).

¹³⁹ Doremus, *supra* note 11, at 328.

¹⁴⁰ See Scott, *supra* note 12, at 1647; Lessig, *supra* note 114, at 686–87; Doremus, *supra* note 11, at 241, 267–68; Bowles, *supra* note 50, at 90–91. See also Sen, *Why Is Commitment Important?*, *supra* note 82, at 9 (arguing that a fuller theory of rationality is required in order to make predictions about actual behavior).

¹⁴¹ See Lessig, *supra* note 114, at 662–72 (arguing that law is only one of four constraints on behavior, along with markets, norms, and architecture (meaning broader environmental features) and that the effectiveness of each must be examined (including the impact

This broader analytical framework raises such questions as what the trade-off is for taxes between the relative price effect and the impact on norms. Judge Richard Posner argues, for example, that in the context of climate change, emissions taxes are the most efficient instrument since they overcome the limitations of individuals in dealing with low probability events such as catastrophic shifts in climate. Moreover, being broadly based, emission taxes tend to spur innovation without either the “picking winners” problem of narrowly targeted subsidies or the revenue-raising problem of large scale, broad subsidies.¹⁴² Taxes can also affect norms and values. Taxes, like subsidies, seem to express concerns about climate change as a price rather than a sanction or responsibility. How does the impact on norms affect the desirability of pollution taxes? One can raise the same questions about regulations or prohibitions, such as a ban on SUVs.¹⁴³ Assessing instrument choice in terms of their impact on norms requires examining the impact of norms on the effectiveness of the instrument. Moreover, the benefits obtained by the norm should exceed the costs of creating, monitoring, and enforcing the norm, and the costs to any particular party from the norm.¹⁴⁴

Second, and relatedly, can governments even take action to create norms that some may wish to govern individuals’ choices that do not yet exist?¹⁴⁵ Must individuals have experienced a change in values before the law can change or is there the possibility of a leading role for law? Precisely how norms arise and the role of government in the evolution of norms are not clear.¹⁴⁶ Some norms may develop through an evolutionary process such as where altruism fosters survival of a group.¹⁴⁷ Further, conven-

of using each on the other constraints)). Similarly, Coase argued for a broad approach to economic problems that considered “the total effect of [social] arrangements in all spheres of life.” Ronald Coase, *The Problem of Social Cost*, 2 J. L. & ECON. 1, 43 (1960).

¹⁴² See POSNER, CATASTROPHE, *supra* note 2, at 159–60.

¹⁴³ See generally McAdams & Rasmusen, *supra* note 10 (surveying the literature on social norms and the law).

¹⁴⁴ See Louis Kaplow & Steven Shavell, *Moral Rules and Moral Sentiments: Toward a Theory of an Optimal Moral System* 29–44 (Harvard Law & Econ. Discussion Paper No. 342) (2001) (pointing out that the extent to which guilt and pride should be used to change behavior is limited, as guilt and pride are costly to induce in individuals, people are able to feel and react to such feelings only so often, and they tend to be broader and less differentiated than law). See also Geoffrey P. Miller, *Norms and Interests*, 32 HOFSTRA L. REV. 637, 669 (2003). Kaplow and Shavell argue that any attempt to include such principles as fairness (and presumably other commitments in Sen’s terms) apart from the extent to which people have a “preference” or taste for fairness will under certain conditions lead to everyone being worse off. See, e.g., Kaplow & Shavell, *supra* note 65, at 284–85. However, this is not necessarily a negative provided that the decision maker recognizes the trade-off. See McAdams & Rasmusen *supra* note 10, at 20.

¹⁴⁵ See Scott, *supra* note 12, at 1627 (arguing that in order to contend that laws change norms, it is first necessary to have a baseline and to know “whether the law precedes or merely follows the creation of the norm.”) (emphasis omitted).

¹⁴⁶ As Bowles notes, *supra* note 50, at 80 “[w]e know surprisingly little about how we come to have the preferences we do.”

¹⁴⁷ See McAdams and Rasmusen, *supra* note 10, at 14 (discussing the literature on connection between biology and norms). See also Elizabeth Pennisi, *How Did Cooperative Behavior*

tions or behavior that are not normative may become normative over time when individuals come to view the expected behavior as the correct behavior.¹⁴⁸ Such norms may persist because even where they are not focused on satisfying an individual's immediate goals, in the long run they actually produce better results in terms of those goals than "relentless maximization according to one's goals."¹⁴⁹

Using a rational choice framework, Ellickson argues that norms are the product "of the purposive actions of discrete individuals, especially those who are particularly suited to providing the new rule and those who are particularly eager to have it adopted."¹⁵⁰ He posits a market for social norms in which norms are supplied by change agents—norm entrepreneurs, self-motivated leaders and opinion leaders. There is, however, a range of concerns with this model. For example, there is no guarantee within this model that social norms will develop in a beneficial direction. Norms that are inefficient (or not socially beneficial) could develop where, for example, some of the costs of one group obeying the norm are externalized onto others.¹⁵¹ A rational choice approach to the development of norms may also neglect important contextual characteristics of norms.¹⁵²

A further criticism is that the rational choice framework neglects the role of deliberation in the creation of norms or values—both in the form

Evolve?, 309 SCIENCE 93 (July 2005); SHAVELL, *supra* note 65, at 605–07.

¹⁴⁸ McAdams and Rasmusen use the example of driving on the right hand side of the road. While in itself there is nothing normative about this convention, it may become a norm where individuals come to view individuals who violate it (by driving on the left) as immoral. McAdams & Rasmusen, *supra* note 10, at 4.

¹⁴⁹ SEN, RATIONALITY AND FREEDOM, *supra* note 23, at 217.

¹⁵⁰ Robert Ellickson, *The Market for Social Norms*, 3 AM. L. & ECON. REV. 1, 2 (2001).

¹⁵¹ See *id.* at 34–35 (arguing that, for example, if individuals are competing for status and cannot agree on limits, norms of conspicuous consumption may develop that are wasteful and inefficient). See also Miller, *supra* note 144, at 645–55 (applying public choice theory to the development of norms and arguing that groups may attempt to foster norms that further their own interests at the expense of other groups (for example, industrial lobbies promoting consumption around holidays, occupational lobbies such as for lawyers and broad-based movements seeking to promote their own status or views of welfare or ideology)); McAdams, *supra* note 31, at 412–24.

¹⁵² For criticisms of the rational choice approach to social norms, see Douglas Litowitz, *A Critical Take on Shasta County and the "New Chicago School"*, 15 YALE J. L. & HUMAN. 295, 309 (2003) (arguing that the rational choice approach places "too much faith in methodological individualism and a kind of naïve positivism that insists on 'science' and 'verification' while underestimating the impact of race, class, gender, ideology, and irrational human emotions"). See also Jeffrey J. Rachlinski, *The Limits of Social Norms*, 74 CHI.-KENT L. REV. 1537, 1540–43 (2000). In important respects, however, the rational choice approach can take account of context, including issues such as race, class, and gender. For example, it can be broadened to encompass the role of interest groups and the context of choices in the creation and stability of norms. See, e.g., Miller, *supra* note 144, at 645–55 (discussing the role of interest groups in the creation of norms). See also ALBERT HIRSCHMAN, *SHIFTING INVOLVEMENTS: PRIVATE INTEREST AND PUBLIC ACTION* 62–91 (1982) (discussing large scale shifts in individuals' focus on public or private concerns based on a theory of disappointment).

of self-scrutiny of one's own values and choices,¹⁵³ and deliberation within a group that may affect the resulting values and norms of the group.¹⁵⁴ Through such deliberation, a group may set shared goals and therefore provide a basis for commitment by members of that group.¹⁵⁵

Government may be able to lead by creating processes and institutions, as well as using instruments, that promote inclusive deliberation. Fostering debate on instruments to address climate change may lead to shared goals around climate change and therefore shift norms. It will be important to examine the complex overlap between the effectiveness of the process at reaching a result, the degree of public participation and deliberation and the efficiency of the instrument that is ultimately chosen. The nature of this overlap requires further work.

Finally, even if these positive questions can be answered, there remains a further normative question: should government attempt to change norms? Aside from issues of government's actual capability to do so (such as due to information constraints and rent-seeking), governmental efforts to alter norms may excessively intrude on individual autonomy. Using information to attempt to "activate" existing norms or even to "de-bias" individuals does not seem particularly intrusive of autonomy. Purposeful norm or value management, however, seems more intrusive, inducing individuals to act on internalized norms without thought.¹⁵⁶

But it is not quite this simple. As noted before, these new norms may work to overcome existing inefficient or welfare-reducing norms which themselves potentially limit autonomy.¹⁵⁷ Government processes for making decisions, including incorporating different interests, plays a role in the creation of values but also in the legitimacy of government's attempts at revising norms. Deliberation helps create shared goals and values and may promote internalization of these shared goals as commitments. It may also, however, build confidence and trust in, and legitimacy of, the decisions made by government to the extent it treats individuals as part of the

¹⁵³ SEN, RATIONALITY AND FREEDOM, *supra* note 24, at 36.

¹⁵⁴ *Id.* at 287.

¹⁵⁵ See Sen, *Why We Should Preserve the Spotted Owl*, *supra* note 67 (arguing that citizens should be involved in environmental policy through discussion). This view of deliberation connects with a view of commitment as relating to shared goals that arise from identity with a group. For example, Schmid argues that such shared goals give rise to individuals' goals aimed at fulfilling these goals (the goals of individuals he terms "contributive" goals) as well as a normative force behind fulfilling these contributive goals. Schmid, *supra* note 66, at 60–62. He notes that in some cases, however, individuals can choose not to follow these contributive goals. The question is how such identity and the corresponding normative forces arise? It may be in part through deliberation or discussion within the group. See *id.* See also Anderson, *supra* note 50, at 28 (arguing that the group would set its joint strategy by discussing the policies and reasons for action).

¹⁵⁶ See Lessig, *supra* note 114, at 687 (discussing Posner's view of law and norms and the impact of each on freedom).

¹⁵⁷ See Sunstein, *Social Norms*, *supra* note 32, at 917–19 (discussing the autonomy and welfare-reducing nature of some norms).

process, as “agents whose freedoms matter, not just as patients”¹⁵⁸ Further empirical work is therefore needed to better understand the important link between government processes, instrument choice, and norms.

A shift in social norms is central to reducing greenhouse gas emissions. Such a shift is necessary to alter individuals’ choices both as consumers and as citizens. Unfortunately, the role government and law can and should play in shifting norms (and in particular, internally enforced norms) is not entirely clear. What does seem clear is that one policy, providing subsidies, has only a weak and potentially negative impact on this shift. Current climate change policies taking the easy route of paying people to alter their choices, therefore, either fails to significantly advance, or even retards, the “internal change in our intellectual emphasis, loyalties, affections, and commitments” necessary to actually make progress on climate change.¹⁵⁹

¹⁵⁸ Sen, *Why We Should Preserve the Spotted Owl*, *supra* note 67 (arguing that deliberation has instrumental value but also that social participation is something to be valued in and of itself).

¹⁵⁹ *Leopold*, *supra* note 1, at 246.