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Local Promise for Climate Mitigation: An Empirical Assessment

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LOCAL PROMISE FOR CLIMATE MITIGATION: AN EMPIRICAL ASSESSMENT

UMA OUTKA* & RICHARD FEIOCK**

ABSTRACT

This interdisciplinary work contributes empirical grounding to the growing literature in law and public policy on local governments and climate mitigation. Much of the recent scholarship presents an optimistic view of the potential in local climate action. Here, we refine the optimism for local governments' impact with new performance data that probes local progress and capacity for climate governance. Our analysis—based on a new study measuring policy choice, implementation, and influences—reevaluates a number of assumptions undergirding this scholarship and provides direction for targeted investment and research.

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INTRODUCTION

Legal scholarship on climate change has focused largely on prospects for federal policy and questions of federalism—the balance of authority and interrelationship between the federal government and the states.¹ Yet with

¹ See, e.g., Jonathan H. Adler, *Heat Expands All Things: The Proliferation of Greenhouse Gas Regulation Under the Obama Administration*, 34 HARV. J.L. & PUB. POL'Y 421, 450 (2011) (arguing that a shift in federal policy away from attempts at “centralized federal regulation” and toward climate policy efforts should “focus, first and foremost, on spurring and facilitating precisely that type of innovation”); J.B. Ruhl & James Salzman, *Climate Change, Dead Zones, and Massive Problems in the Administrative State: A Guide for Whittling Away*, 98 CALIF. L. REV. 59, 103 (2010) (elaborating in detail on the fact that “[c]limate change, more than any other massive problem, has fueled renewed interest in theories of federalism”); Rachel Rawlins & Robert Paterson, *Sustainable Buildings and Communities: Climate Change and the Case for Federal Standards*, 19 CORNELL J.L. & PUB. POL'Y 335, 361–72 (2010) (discussing potential for climate mitigation through federalized smart growth strategies for land use and transportation); Ann E. Carlson, *Iterative Federalism and Climate Change*, 103 NW. U. L. REV. 1097, 1099 (2009) (presenting a theory of federalism based on “repeated, sustained, and dynamic lawmaking efforts involving both [state and federal] levels of government”); Noah M. Sachs, *Greening Demand: Energy Consumption and U.S. Climate Policy*, 19 DUKE ENVTL. L. & POL'Y F. 295 (2009) (proposing federal policy approaches to reducing energy consumption); Alejandro E. Camacho, *Adapting Governance to Climate Change: Managing Uncertainty Through a Learning Infrastructure*, 59 EMORY L.J. 1 (2009) (focusing on federal agency interaction); Daniel A. Farber, *Climate Change, Federalism, and the Constitution*, 50 ARIZ. L. REV. 879, 879 (2008) (detailing the federalism landscape in climate context and arguing for a “strong presumption of validity for state climate change regulation”); Douglas Kysar & Bernadette A. Meyler, *Like a Nation State*, 55 UCLA L. REV. 1621, 1625 (2008) (discussing constitutional contours of “state-level climate multilateralism”); Benjamin K. Sovacool, *The Best of Both Worlds: Environmental Federalism and the Need for Federal Action on Renewable Energy and Climate Change*, 27 STAN. ENVTL. L.J. 397, 398 (2008) (proposing “a model of interactive federalism where the federal government sets national ‘floors’ for renewable energy deployment and climate change quotas that states then can then exceed”); Robert L. Glicksman, *Balancing Mandate and Discretion in the Institutional Design of Federal Climate Change Policy*, 102 NW. U. L. REV. COLLOQUY 196 (2008) (considering degrees of federal agency discretion on whether and how to address climate change); Robert L. Glicksman & Richard E. Levy, *A Collective Action Perspective on Ceiling Preemption by Federal Environmental Regulation: The Case of Global Climate Change*, 102 NW. U. L. REV. 579 (2008) (theorizing “ceiling” preemption in federal climate policy design).

failed climate bills in Congress² and no progress expected in the near future,³ a growing number of scholars have drawn attention to local governments' response to climate change.⁴ Local governments, these scholars argue, are uniquely positioned to address a range of activities that directly contribute to climate change, from land use to electricity consumption.⁵ Given the scope of the challenge, interest is broadening from questions about which level of government should lead in climate policy, to how the federal, state, and local levels can make the best use of powers at their disposal. As one scholar has put it, we need "all hands on deck."⁶ Around the globe, cities account for nearly seventy percent of the world's energy demand, and generate more than seventy percent of global carbon dioxide ("CO₂") emissions.⁷ The correlation between these figures should not be surprising. CO₂ emissions come mostly from burning fossil fuels for residential, commercial, vehicular, and industrial uses, activities that concentrate in, and emanate emissions from, populated areas—our cities and towns.⁸

² For summaries of failed climate and related bills in Congress, see *Congressional Summaries and Analysis*, CTR. FOR CLIMATE & ENERGY SOLUTIONS (C2ES), <http://www.pewclimate.org/federal/analysis/congress> (last visited Apr. 5, 2012).

³ See, e.g., Lauren Morello et. al., *Republicans Gut EPA Climate Rules, Slash Deeply Into Climate Research, Aid and Technology Programs*, N.Y. TIMES (Feb. 14, 2011), <http://www.nytimes.com/cwire/2011/02/14/14climatewire-republicans-gut-epa-climate-rules-slash-deep-87716.html?pagewanted=all> (describing the turn against climate policies in the current Congress); *Debate in Congress*, CTR. FOR CLIMATE & ENERGY SOLUTIONS (C2ES), <http://www.pewclimate.org/federal/congress> (last visited Apr. 5, 2012) (listing climate-related bills filed in the 112th Congress but noting unlikelihood of significant progress this term).

⁴ See *infra* Part I.

⁵ See *infra* Part I.

⁶ See Katherine A. Trisolini, *All Hands on Deck: Local Governments and the Potential for Bidirectional Climate Change Regulation*, 62 STAN. L. REV. 669 (2010); see also Craig Anthony Arnold, *Fourth-Generation Environmental Law: Integrationist and Multimodal*, 35 WM. & MARY ENVTL. L. & POL'Y REV. 771, 837–884 (2011) (highlighting multimodal responses by local governments to climate change, land use, and water issues).

⁷ ICLEI—LOCAL GOV'TS FOR SUSTAINABILITY, *CITIES IN A POST-2012 CLIMATE POLICY FRAMEWORK: CLIMATE FINANCING FOR CITY DEVELOPMENT? VIEWS FROM LOCAL GOVERNMENTS, EXPERTS AND BUSINESSES* 8–9 (2010) (citing the International Energy Agency's World Energy Outlook 2008). *But see* David Dodman, *Blaming Cities for Climate Change? An Analysis of Urban Greenhouse Gas Emissions Inventories*, 21 ENV'T & URBANIZATION 185, 186 (2009) (arguing that focus on cities' emissions "divert[s] attention from the main drivers of greenhouse gas emissions—namely unsustainable consumption, especially in the world's more affluent countries").

⁸ *Id.*; see also ENVTL. PROT. AGENCY, *INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990–2009*, ES-4 tbl.ES-2 (2011) (showing fossil fuel combustion to be by far the

These and related statistics underlie the theoretical premise that local governments have significant collective potential to mitigate climate change.⁹ In support of this premise, much of the scholarship has emphasized anecdotal successes and promising initiatives, such as the U.S. Conference of Mayors Climate Protection Agreement.¹⁰ While this activity is certainly encouraging, it tells us little about the critical *collective* component of the premise. There are over 39,000 local governments across the fifty states.¹¹ Mayors in 1055 of those local governments have signed the Agreement.¹² And as local government law scholar Patricia Salkin has noted, “green legislation at the local level” is still new enough that “no significant benchmarking data exists to evaluate their effectiveness.”¹³

largest source of CO₂ emissions in the United States), *available at* <http://epa.gov/climatechange/emissions/usinventoryreport.html>; U.S. GLOBAL CHANGE RESEARCH PROGRAM, GLOBAL CLIMATE CHANGE IMPACTS IN THE UNITED STATES 53 (2009) (energy production and use results in eighty-seven percent of greenhouse gas emissions in the United States), *available at* <http://www.globalchange.gov/usimpacts>.

⁹ Research suggests that cities will, in turn, endure the brunt of the impacts of climate change as well. *See, e.g.*, U.S. GLOBAL CHANGE RESEARCH PROGRAM, *supra* note 8, at 99–106 (highlighting effects of climate change on United States cities); MARK DORFMAN & MICHELLE MEHTA, NATURAL RES. DEF. COUNCIL, THIRSTY FOR ANSWERS: PREPARING FOR THE WATER-RELATED IMPACTS OF CLIMATE CHANGE IN AMERICAN CITIES (2011), *available at* <http://www.nrdc.org/water/thirstyforanswers.asp>.

¹⁰ MAYORS CLIMATE PROT. CTR., U.S. CONFERENCE OF MAYORS CLIMATE PROTECTION AGREEMENT, <http://www.usmayors.org/climateprotection/agreement.htm> (last visited Apr. 5, 2012). Attention to the Mayors Climate Protection Agreement in the legal scholarship is evidenced by discussion or mention in over seventy law review articles to date. Anecdotal examples of local initiatives abound. *See, e.g.*, ICLEI—Local Gov'ts for Sustainability, *Success Stories*, LOCAL ACTION BLOG, *available at* <http://www.icleiusa.org/blog/topics/success%20stories> (last visited Apr. 5, 2012) (ongoing account of recent successful initiatives by local governments across the United States); MAYORS CLIMATE PROT. CTR., TAKING LOCAL ACTION: MAYORS CLIMATE PROTECTION BEST PRACTICES (2009) (highlighting top local environmental and sustainability programs), *available at* <http://www.usmayors.org/climateprotection/bestpractices.htm>; Heike Schroeder & Harriet Bulkeley, *Global Cities and the Governance of Climate Change: What is the Role of Law in Cities?*, 36 *FORDHAM URB. L.J.* 313 (2009) (examining climate change policies in London and Los Angeles); Hari M. Osofsky & Janet Koven Levit, *The Scale of Networks?: Local Climate Change Coalitions*, 8 *CHI. J. INT'L L.* 409 (2008) (examining climate policies in Seattle and Tulsa).

¹¹ U.S. CENSUS BUREAU, LOCAL GOVERNMENTS AND PUBLIC SCHOOL SYSTEMS BY TYPE AND STATE: 2007, *available at* <http://www.census.gov/govs/cog/GovOrgTab03ss.html> (last revised Oct. 24, 2011).

¹² *See List of Participating Mayors*, MAYORS CLIMATE PROT. CTR., <http://www.usmayors.org/climateprotection/list.asp> (last visited Apr. 5, 2012).

¹³ Patricia E. Salkin, *New York Climate Change Report Card: Improvement Needed for More Effective Leadership and Overall Coordination with Local Government*, 80 *U. COLO. L. REV.* 921, 931 (2009).

This Article advances the literature by offering empirical work that refines the *optimism* for local governments' collective impact with *data* that probes local progress and capacity for climate governance. To lay the groundwork for this discussion, we first engage the key arguments for local governments' role in climate mitigation in recent legal and policy scholarship. We then present evidence relating to these arguments based on results from a new study, Energy Sustainable Florida Communities ("ESFC").¹⁴ This study represents the first of its kind to measure not just the spectrum of local policy choice, but also influences on choice and approaches to implementation.¹⁵ The study was administered in 2010 via survey questionnaires sent to planners in each of the 327 cities of Florida with a population of 1000 or more residents. Responses were received from 165 cities (50.46%). In the final section, we set out the research findings and our analysis, and close by considering both theoretical and empirical questions that should be further explored.

I. THEORIZING THE ROLE OF LOCAL GOVERNMENTS IN CLIMATE MITIGATION

Given the limited geographic reach of local regulation, the "unprecedented" local engagement with the global problem of climate change is widely considered both "perplexing" and encouraging.¹⁶ Environmental regulation at the local level is not a new phenomenon, but historically it served as a "first-line of defense" for local environmental harms.¹⁷ Federal environmental law emerged in the 1970s to respond to pervasive environmental problems that state and local governments were ill-equipped to address.¹⁸ As concern over climate change has grown, however, there is

¹⁴ The survey instrument was developed and administered by co-author Richard Feiock. The survey and data will be permanently archived at Florida State University's DeVoe L. Moore Center for the Study of Critical Issues in Economic Policy and Government, Program in Local Governance. See *Program in Local Governance*, FLA. STATE UNIV., <http://localgov.fsu.edu/> (last visited Mar. 25, 2012).

¹⁵ A relevant but narrower survey on local sustainability policy choice was conducted in 2010 by the International City/County Management Association ("ICMA"). See INT'L CITY/COUNTY MGMT. ASS'N, ICMA 2010 SUSTAINABILITY SURVEY RESULTS (2010), available at http://icma.org/en/icma/knowledge_network/documents/kn/Document/301646/ICMA_2010_Sustainability_Survey_Results.

¹⁶ Victor B. Flatt, *Act Locally, Affect Globally: How Changing Social Norms to Influence the Private Sector Shows a Path to Using Local Government to Control Environmental Harms*, 35 B.C. ENVTL. AFF. L. REV. 455, 459 (2008).

¹⁷ *Id.* at 457.

¹⁸ *Id.* at 456; see also JAMES SALZMAN & BARTON H. THOMPSON, JR., ENVIRONMENTAL LAW AND POLICY 3–12 (3d ed. 2010) (providing a brief overview of this evolution toward federal environmental law).

evidence of renewed local engagement. Group efforts, including the U.S. Conference of Mayors Climate Protection Agreement, the ICLEI Cities for Climate Protection Initiative, and C40 Cities—Clinton Climate Initiative, demonstrate a growing interest in climate mitigation at the local level.¹⁹ Legal and policy scholars advance four primary overarching claims that support an enhanced local government role in climate policy.

A. *Extent of Existing Local Authority*

The most prevalent claim in the literature is that by extension of the state police power, local governments *already possess* legal authority to “contribute meaningfully to U.S. climate mitigation.”²⁰ Localities do not have to wait, in other words, for federal climate legislation to pass or for states to grant new local authority—this potential contribution is grounded in “their well-accepted domains of power.”²¹ Compared with governmental power at the state and federal level, local control is small—both geographically limited and always subject to state and federal preemption. Katherine Trisolini argues, however, that although local governments may lack power in one realm, they may be uniquely empowered in another.²² Rather than compare cumulative powers available to different levels of government, she asks the question “power with regards to what?”²³ The object of regulation informs the assessment of local governments’ capacity and potential for effectiveness.

Perhaps most important in this context, many scholars highlight that states have delegated primary land use control to local governments.²⁴

¹⁹ For a succinct summary of these initiatives, see PEW CTR. ON GLOBAL CLIMATE CHANGE, CLIMATE CHANGE 101: LOCAL ACTION 3–5 (2011), available at <http://pewclimate.org/docUploads/climate101-local.pdf>.

²⁰ Trisolini, *supra* note 6, at 677. The Tenth Amendment provides that “The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.” See U.S. CONST. amend. X; see also David J. Barron, *A Localist Critique of New Federalism*, 51 DUKE L.J. 377, 393 (2001) (“The formal regime of supreme state legislative authority notwithstanding, it is widely perceived that, under state law, local governments enjoy a great degree of what is termed local autonomy under state law.”).

²¹ Trisolini, *supra* note 6, at 677.

²² *Id.*

²³ Katherine A. Trisolini, *What Local Climate Change Plans Can Teach Us About City Power*, 36 FORDHAM URB. L.J. 863, 864 (2009).

²⁴ See, e.g., Craig Anthony Arnold, *The Structure of the Land Use Regulatory System in the United States*, 22 J. LAND USE & ENVTL. L. 441, 446–47 (2007) (describing the land

It is well-documented that land use patterns and transportation are closely linked, and that greenhouse gas emissions from transportation stem primarily from personal vehicles.²⁵ John Nolon and Patricia Salkin, among others, argue that existing land use authority provides local governments with the present ability to guide growth in ways that can curb vehicle emissions through compact, transit-oriented development, attention to urban form, and bicycle and pedestrian amenities.²⁶ Local land use authority is also important to the expansion of renewable energy nationwide. Renewable energy is a critical element of climate mitigation—burning fossil fuels for electricity is the single highest source of greenhouse gas emissions.²⁷ Localities are often criticized for using land use powers to impede renewable energy development, but those same powers can be

use regulatory system in the United States as “a system of ‘regulatory patches’ that are located . . . primarily at the local level of governance and decision making, but operate in the shadows of: a) the super-dominance of private control of land, and b) overlays of federal and state land use regulations”); John R. Nolon, *Historical Overview of the American Land Use System: A Diagnostic Approach to Evaluating Governmental Land Use Control*, 26 PACE ENVTL. L. REV. 821, 821–22 (2006) (discussing derivation of local land use authority); Daniel R. Mandelker, *Fred Bosselman’s Legacy to Land Use Reform*, 17 J. LAND USE & ENVTL. L. 11, 11 (2001) (“Historically, states are enablers. They authorize local governments to plan and regulate land use, but do not usually tell them how to do it.”).

²⁵ See, e.g., URBAN LAND INST., *GROWING COOLER: THE EVIDENCE ON URBAN DEVELOPMENT AND CLIMATE CHANGE* (2007), available at <http://www.smartgrowthamerica.org/growing-cooler> (documenting link between land use patterns and greenhouse gas emissions from transportation); DEP’T OF TRANSP. CTR. FOR CLIMATE CHANGE & ENVTL. FORECASTING, *GREENHOUSE GAS REDUCTION THROUGH STATE AND LOCAL TRANSPORTATION PLANNING* (2003), available at <http://climate.dot.gov/documents/reduction.pdf> (providing case studies of planning efforts to reduce greenhouse gases).

²⁶ See, e.g., John Nolon, *The Land Use Stabilization Wedge Strategy: Shifting Ground to Mitigate Climate Change*, 34 WM. & MARY ENVTL. L. & POL’Y REV. 1, 23–24 (2009) (highlighting that five of Robert Socolow’s fifteen climate stabilization wedges are within local government land use authority and laying out steps for local implementation); Patricia E. Salkin, *Sustainability and Land Use Planning: Greening State and Local Land Use Plans and Regulations to Address Climate Change Challenges and Preserve Resources for Future Generations*, 34 WM. & MARY ENVTL. L. & POL’Y REV. 121, 134–35, 153–54 (2009); see also Arnold, *supra* note 6 (discussing examples of localities using existing authority); Alice Kaswan, *Climate Change, Consumption, and Cities*, 36 FORDHAM URB. L.J. 253, 258–66, 280–84 (2009) (discussing land use and transportation under cities’ control); Judi Brawer & Matthew Vespa, *Thinking Globally, Acting Locally: The Role of Local Government in Minimizing Greenhouse Gas Emissions from New Development*, 44 IDAHO L. REV. 589, 597–605 (2008) (discussing local land use authority in connection with transportation and energy consumption). But see Eric Fruits, *Compact Development and Greenhouse Gas Emissions: A Review of Recent Research*, 5 CTR. FOR REAL ESTATE Q.J. 2, 3 (2011) (questioning emissions reduction claims for compact land development strategies).

²⁷ See U.S. GLOBAL CHANGE RESEARCH PROGRAM, *supra* note 8, at 53.

used to plan for and guide facilities to appropriate locations for large-scale projects and avoid unnecessary siting conflicts.²⁸ It is local regulation that dictates the ease or difficulty that greets residents or businesses that incorporate renewable energy into existing structures.²⁹

A second area of existing local authority is implementing and enforcing building codes—the legal mechanism for addressing energy use in the built environment.³⁰ Energy consumed in buildings, from heating and air conditioning to lighting, results in roughly forty percent of CO₂ emissions in the United States.³¹ A number of scholars have noted that

²⁸ See, e.g., Patricia Salkin, *Facility Siting and Permitting*, in THE LAW OF CLEAN ENERGY: EFFICIENCY AND RENEWABLES 95 (Michael B. Gerrard ed., 2011) (providing overview of federal, state, and local law relevant to energy facility siting and permitting applications); Uma Outka, *The Renewable Energy Footprint*, 30 STAN. ENVTL. L.J. 241, 244 (2011) (addressing siting in context of energy sprawl); Hannah Wiseman, *Expanding Regional Renewable Governance*, 35 HARV. ENVTL. L. REV. 477, 482–84 (2011) (exploring prospects for regional siting approaches); Uma Outka, *Siting Renewable Energy: Land Use and Regulatory Context*, 37 ECOLOGY L.Q. 1041 (2010) (considering state land use law with focus on Florida); Nolon, *supra* note 26, at 47–54 (discussing local role in wind facility siting and on-site solar panels).

²⁹ See DAMIEN PITT, NETWORK FOR NEW ENERGY CHOICES, TAKING THE RED TAPE OUT OF GREEN POWER: HOW TO OVERCOME PERMITTING OBSTACLES TO SMALL-SCALE DISTRIBUTED RENEWABLE ENERGY 15–29 (2008) (offering detailed discussion of local permitting barriers to distributed on-site power); COLLEEN MCCANN KETTLES, FLA. SOLAR ENERGY RESEARCH & EDUC., A COMPREHENSIVE REVIEW OF SOLAR ACCESS LAW IN THE UNITED STATES iii, 1, 5 (2008); Garrick B. Pursley & Hannah J. Wiseman, *Local Energy*, 60 EMORY L.J. 877 (2011) (highlighting untapped potential for local energy infrastructure in meeting energy demand and enhancing grid security); Sara C. Bronin, *Modern Lights*, 80 U. COLO. L. REV. 881 (2009) (discussing barriers to rooftop solar energy); Troy A. Rule, *Shadows on the Cathedral: Solar Access Laws in a Different Light*, 2010 U. ILL. L. REV. 851 (2010) (analyzing state laws protecting solar access); Edna Sussman, *Reshaping Municipal and County Laws to Foster Green Building, Energy Efficiency, and Renewable Energy*, 16 N.Y.U. ENVTL. L.J. 1, 20–31 (2008) (discussing wind and solar energy).

³⁰ See Sara C. Bronin, *The Quiet Revolution Revived: Sustainable Design, Land Use Regulation, and the States*, 93 MINN. L. REV. 231, 266–68 (2008) (explaining that building codes, like land use, have been the province of states, and that states have largely delegated their authority to local governments); see also Alexandra B. Klass, *State Standards for Nationwide Products Revisited: Federalism, Green Building Codes, and Appliance Efficiency Standards*, 34 HARV. ENVTL. L. REV. 335, 338 (2009) (highlighting “split of authority” over building efficiency—states—and efficiency of appliances within buildings—typically federal); J.B. Ruhl, *Cities, Green Construction, and the Endangered Species Act*, 27 VA. ENVTL. L.J. 147, 150 (2009) (contrasting the policy disconnect between the law applicable to cities’ building projects based on their geographic footprints versus their ecological footprints).

³¹ ENVTL. PROT. AGENCY, *supra* note 8, at ES-10 (combining residential and commercial sectors).

LEED certification, for example, a building rating system developed by the U.S. Green Building Council, is beginning to be incorporated into some local codes to enhance building performance.³² Even where statewide building codes are in effect, local governments remain critical of enforcement of energy standards in residential and commercial buildings.³³

In addition to general reservoirs of local authority, some scholars have pointed to the potential in local government proprietary powers.³⁴ Local governments have significant property holdings but also control municipal street lighting and vehicle fleets for both governmental and public use. In addition to basic government operations, municipalities in the United States frequently operate power plants and waste management facilities in a proprietary manner. With over fifteen percent of electric power in the United States generated by publicly owned utilities, many local governments control the ways in which they meet local energy demand.³⁵ Data indicate that a growing number of municipalities are purchasing or producing renewable energy to reduce greenhouse gas emissions.³⁶ Local governments' traditional and proprietary control over waste management³⁷

³² See Sarah B. Schindler, *Following Industry's LEED®: Municipal Adoption of Private Green Building Standards*, 62 FLA. L. REV. 285 (2010); Nolon, *supra* note 26, at 41–43; Brawer & Vespa, *supra* note 26, at 603–05.

³³ Nolon, *supra* note 26, at 41–43; see also Sussman, *supra* note 29, at 5–23.

³⁴ See, e.g., Trisolini, *supra* note 23, at 874–77; see also Michael Burger, "It's Not Easy Being Green": Local Initiatives, Preemption Problems, and the Market Participant Exception, 78 U. CINN. L. REV. 835 (2010) (discussing local government proprietary roles and the related market participant exception).

³⁵ According to the American Public Power Association, "Public power is a collection of more than 2,000 community-owned electric utilities, serving more than 46 million people or about 14 percent of the nation's electricity consumers." *About Public Power*, AM. PUB. POWER ASS'N, available at <http://www.publicpower.org/aboutpublic/index.cfm?ItemNumber=429&navItemNumber=20955> (last visited Apr. 5, 2012); see also AM. PUB. POWER ASS'N, PUBLIC POWER FACT SHEET: SHINING A LIGHT ON PUBLIC SERVICE (2010), available at <http://www.publicpower.org/files/PDFs/PPFactSheet.pdf>.

³⁶ See, e.g., *Green Power Communities*, ENVTL. PROT. AGENCY GREEN POWER PARTNERSHIP, <http://www.epa.gov/greenpower/communities/index.htm> (last visited Apr. 5, 2012) (documenting "towns, villages, cities, counties, or tribal governments in which the local government, businesses, and residents collectively buy green power in amounts that meet or exceed EPA's Green Power Community purchase requirements"); see also Schroeder & Bulkeley, *supra* note 10, at 331–59 (providing detailed examples of London and Los Angeles, where "[p]roviding decentralized and renewable energy infrastructures and services has been central in both cities"); Sussman, *supra* note 29, at 24–26 (discussing local authority to increase renewable energy capacity).

³⁷ See, e.g., *United Haulers Ass'n v. Oneida-Herkimer Solid Waste Mgmt. Auth.*, 550 U.S. 330, 346 (2007) (referring to solid waste management as "a typical and traditional concern of local government").

positions many to generate electricity and reduce greenhouse gas emissions by capturing methane at municipal landfills.³⁸

B. Ability to Influence Behavior

A number of scholars argue that local governments are positioned to influence individual behavior that contributes to climate change. Jim Salzman was among the first to advance the claim that personal consumption is a source of environmental harm over which the law exerts weak influence at best.³⁹ Law approaches consumption haphazardly, he has argued, in ways that influence patterns but not *levels* of consumption.⁴⁰ Others have carried these concerns forward into the climate change context, emphasizing that local governments' "powers, responsibilities, and their proximity to residents place them in a unique relationship with their constituents."⁴¹ From this position, Katrina Fischer Kuh argues that mandates to address individual behavior "may prove more feasible at the local level" because two primary objections to individual mandates—that they are "uncomfortably intrusive and difficult to enforce"—are less persuasive when considered at the local level.⁴² In contrast to state and federal governments, the impact of local regulation and services is already direct and often quite personal.⁴³ This, Kuh argues, positions local government

³⁸ See Steven Ferrey, *Converting Brownfield Environmental Negatives into Energy Positives*, 34 B.C. ENVTL. AFF. L. REV. 417 (2007) (focusing on methane capture landfills); James A. Kushner, *Brownfield Redevelopment Strategies in the United States*, 22 GA. ST. U. L. REV. 857 (2006) (discussing government influence on investment for brownfield redevelopment); Trisolini, *supra* note 23, at 883–86 (discussing means of "implementing emissions reductions by managing waste").

³⁹ James Salzman, *Sustainable Consumption and the Law*, 27 ENVTL. L. 1243 (1997) (reviewing treatment of consumption issues in law and highlighting failings); see also Hope M. Babcock, *Assuming Personal Responsibility for Improving the Environment: Moving Toward a New Environmental Norm*, 33 HARV. ENVTL. L. REV. 117 (2009) (also discussing barriers to influencing individual behavior in law).

⁴⁰ Salzman, *supra* note 39, at 1267; see also Noah Sachs, *Greening Demand Energy Consumption and U.S. Climate Policy*, 19 DUKE ENVTL. L. & POL'Y F. 295 (2009) (proposing federal policy approaches to reducing energy consumption).

⁴¹ Trisolini, *supra* note 23, at 886; see also Matthew J. Parlow, *Progressive Policy-Making on the Local Level: Rethinking Traditional Notions of Federalism*, 17 TEMP. POL. & CIV. RTS. L. REV. 371, 373 (2008) ("[L]ocal governments can be viewed as perhaps the most critical level of government in terms of responding—through regulation, goods, or services—to the needs and wants of its constituents.").

⁴² Katrina Fisher Kuh, *Capturing Individual Harms*, 35 HARV. ENVTL. L. REV. 155, 198 (2011).

⁴³ Trisolini, *supra* note 23, at 886.

to overcome the barrier to enforcement—the infrastructure for such contact is already in place.⁴⁴ Local governments can also capitalize on familiarity with local norms to use law to influence behavior with “local tailoring”—“less intrusive ‘time, place, and manner’ restrictions that channel behavior while preserving some individual choice.”⁴⁵ In this vein, Michael Vandenberg identifies as “low-hanging fruit” seven individual behavioral changes that, in aggregate, could significantly reduce greenhouse gas emissions.⁴⁶ While federal, state and local levels can all play a part in promoting behavior modifications, individual changes may be most readily approached locally. The “low-hanging fruit” captured by anti-idling laws, for example, which projections indicate could save millions of tons of CO₂, are only enforceable at the local level.⁴⁷

For many of the same reasons cited for individual behavior, some argue local governments are also well-positioned to influence corporate behavior. According to Catherine LaCroix, localities can use their regulatory power to “internalize climate change priorities among their corporate residents, particularly those companies that might not immediately come to mind as greenhouse gas emitters.”⁴⁸ It is often in a firm’s economic best interest to maintain relations with the local community in which they operate and to respond to and engage local needs and goals.⁴⁹ Victor Flatt expands on these ideas to assert that local governments’ influence on social norms in turn affects the private sector, with unique potential in local governments’ public-private partnerships.⁵⁰ This influence derives

⁴⁴ Kuh, *supra* note 42, at 201.

⁴⁵ *Id.* at 200; see also Katrina Fisher Kuh, *Using Local Knowledge to Shrink the Individual Carbon Footprint*, 37 HOFSTRA L. REV. 923 (2009).

⁴⁶ Michael P. Vandenberg et al., *Individual Carbon Emissions: The Low-Hanging Fruit*, 55 UCLA L. REV. 1701, 1758 (2008) (arguing that individual behavior “easily could be incorporated into federal, state, and local responses to climate change” in “less time and at lower cost than many of the other measures currently under consideration”).

⁴⁷ *Id.* at 1730. For a summary of anti-idling laws across the United States, see ENVTL. PROT. AGENCY, COMPILATION OF STATE, COUNTY, AND LOCAL ANTI-IDLING REGULATIONS (2006), available at <http://www.epa.gov/region8/air/rmcdc/pdf/CompilationofStateIdlingRegulations.pdf>.

⁴⁸ Catherine J. LaCroix, *SEPs, Climate Change, and Corporate Responsibility: The Contribution of Local Government*, 58 CASE W. RES. L. REV. 1289, 1291 (2008); see also Sussman, *supra* note 29 (arguing that municipalities “are in the best position to educate and inspire local providers of services that impact GHG emissions and to influence the institutions and people in their community”).

⁴⁹ Larry E. Ribstein, *Accountability and Responsibility in Corporate Governance*, 81 NOTRE DAME L. REV. 1431, 1457–58 (2006).

⁵⁰ Flatt, *supra* note 16, at 460 (arguing that local governments create social norms that affect corporate behavior beyond traditional incentives).

from the effect of social norms on individual corporate actors who do business within local networks, conform to local culture, and are personally invested in local reputation.⁵¹ That influence may be enhanced in the context of public-private partnerships, which Flatt argues are most effective at the local level, addressing concerns ranging from policing to education to waste and water management.⁵²

C. *Capacity for Experimentation*

Recent scholarship underscores local governments' capacity for policy innovation and experimentation, in a vein similar to the "laboratories of democracy" concept more typically applied to states.⁵³ Adelman and Engel argue for limiting federal preemption in the climate context because "[s]tate and local government actions . . . collectively generate a diversity of policy options."⁵⁴ Focusing on localities more directly, Matthew Parlow claims that "local governments may prove even more fruitful agents for social change and policy innovation than the state or federal levels of government."⁵⁵ Indeed, Brian Galle and Joseph Leahy observe how "the opportunity for greater experimentation in decentralized government has generally been presented in the legal literature as an unalloyed point in favor of federalism."⁵⁶ According to Scott Burris, even accounting for more critical views, the latent potential for innovation in "localism" is widely acknowledged in current scholarship across disciplines "as promising, important and imperfect."⁵⁷ Leaving aside the broader theoretical questions

⁵¹ *Id.* at 466–68.

⁵² Scott Burris et al., *Changes in Governance: A Cross-Disciplinary Review of Current Scholarship*, 41 AKRON L. REV. 1, 48 (2008).

⁵³ This concept derives from a now-famous statement by Justice Louis Brandeis, that "[i]t is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country." *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting). For discussion of the development of this concept in law, see Erwin Chemerinsky, *The Assumptions of Federalism*, 58 STAN. L. REV. 1763 (2006).

⁵⁴ David E. Adelman & Kirsten H. Engel, *Adaptive Federalism: The Case Against Reallocating Environmental Regulatory Authority*, 92 MINN. L. REV. 1796, 1849 (2008) (arguing for limited federal preemption in the climate context).

⁵⁵ Parlow, *supra* note 41, at 371.

⁵⁶ Brian Galle & Joseph Leahy, *Laboratories of Democracy? Policy Innovation in Decentralized Governments*, 58 EMORY L.J. 1333, 1336–37 (2009) (noting how legal scholars have tended to minimize arguments critical of this view, such as expressed in Susan Rose-Ackerman, *Risk Taking and Reelection: Does Federalism Promote Innovation?* 9 J. LEGAL STUD. 593, 594 (1980)).

⁵⁷ Burris et al., *supra* note 52, at 65.

of whether the “laboratory” function is desirable, there is general agreement that both state and local governments have been engaged in climate policy experimentation.⁵⁸

D. *“Bottom-up” Influence on Law and Policy at State, Federal, and International Level*

A number of scholars, like Kirsten Engel, who are skeptical about local mitigation potential nonetheless recognize local efforts as significant in their “capacity to trigger regulation by others [more] than in the absolute amount of greenhouse gases these initiatives actually succeed in reducing.”⁵⁹ Others claim that “[s]tate and local programs can facilitate compliance with a federal program by reducing the overall cost of a given level of nationwide emissions reduction.”⁶⁰ However effective each may be from one to the next, state and local government initiatives can inform federal and international law just as readily with their successes as their failures.⁶¹ Exploring this potential in depth, Hari Osofsky has argued that it is through localized “bottom-up lawmaking” that “practices and behaviors are externalized as law” which ultimately shapes “transnational climate change regulation.”⁶² According to Cinnamon Carlarne, variability across jurisdictions is precisely how state and local governments lay the foundation for a comprehensive regulatory framework for climate change.⁶³

Social science research mirrors these four areas of focus in the legal scholarship: existing local authority, ability to influence behavior,

⁵⁸ See, e.g., Kirsten Engel, *State and Local Climate Change Initiatives: What Is Motivating State and Local Governments to Address a Global Problem and What Does This Say About Federalism and Environmental Law?*, 38 URB. LAW. 1015 (2006) (acknowledging and theorizing state and local experiments); Robert McKinstry, Jr., *Laboratories for Local Solutions for Global Problems: State, Local and Private Leadership in Developing Strategies to Mitigate the Causes and Effects of Climate Change*, 12 PENN ST. ENVTL. L. REV. 15 (2004) (noting that federal inaction has “moved the locus of the response from the federal government to state and local governments and the private sector”).

⁵⁹ Engel, *supra* note 58, at 1028.

⁶⁰ Jared Snyder & Jonathan Binder, *The Changing Climate of Cooperative Federalism: The Dynamic Role of the States in a National Strategy to Combat Climate Change*, 27 UCLA J. ENVTL. L. & POL’Y 231, 251 (2009).

⁶¹ See, e.g., Nicholas Lutsey & Daniel Sperling, *America’s Bottom-up Climate Change Mitigation Policy*, 36 ENERGY POL’Y 673, 674 (2007); Parlow, *supra* note 41, at 385.

⁶² Osofsky & Levit, *supra* note 10, at 428–29.

⁶³ Cinnamon Carlarne, *Notes From a Climate Change Pressure-Cooker: Sub-Federal Attempts at Transformation Meet National Resistance in the USA*, 40 CONN L. REV. 1351, 1381 (2008).

capacity for experimentation, and potential for bottom-up reform. The planning literature, for example, has focused on zoning and land use control as critical instruments for climate protection.⁶⁴ Public administration studies highlight the challenges inherent in attempting to adjust citizen behavior,⁶⁵ while urban studies and political science literature has focused on decentralized governance and intergovernmental competition at the local level as drivers of climate innovation.⁶⁶ These claims in the current scholarship coalesce in optimism about the impact local governments can have in climate mitigation: with existing legal authority, local governments can take actions that are cumulatively significant, and which in turn, through the variability of experimentation, influence climate policy at the federal and international levels of governance. The goal of the ESFC study was to learn more about not just what local governments *can* do but what they *will* and *why*. Local governments may have sufficient legal authority to advance climate mitigation goals, but how widespread can we expect local climate action to be? What makes a local government more or less likely to exercise legal authority to this end? Can we separate rhetoric from progress? The research presented here allows us to evaluate more closely whether the cross-disciplinary assertion of collective local potential bears out practically as well as theoretically.

Part II describes the research methodology, and Part III presents findings and analysis.

II. RESEARCH INSTRUMENT: “ENERGY SUSTAINABLE FLORIDA COMMUNITIES”

This section describes the “Energy Sustainable Florida Communities” research instrument, its design and administration, and identifies factors that make the data revealing beyond Florida state borders.

⁶⁴ See, e.g., Zhenghong Tang et al., *Moving from Agenda to Action: Evaluating Local Climate Change Action Plans*, 53 J. ENVTL. PLANNING & MGMT. 44 (2010); Edgar Ramirez de la Cruz, *Local Political Institutions and Smart Growth: An Empirical Study of the Politics of Compact Development*, 45 URB. AFF. REV. 218 (2009); Mark Lubell et al., *City Adoption of Environmentally Sustainable Policies in California's Central Valley*, 75 J. AM. PLANNING ASS'N 293 (2009).

⁶⁵ See, e.g., Richard C. Feiock & Jungah Bae, *Politics, Institutions, and Entrepreneurship: City Decisions Leading to Inventoried Greenhouse Gas Emissions*, 2 CARBON MGMT. 443 (2011).

⁶⁶ See, e.g., Elaine B. Sharp et al., *Understanding Local Adoption and Implementation of Climate Change Mitigation Policy*, 47 URB. AFF. REV. 433 (2011); Rachel M. Krause, *Policy Innovation, Intergovernmental Relations, and the Adoption of Climate Protection Initiatives by U.S. Cities*, 33 J. URB. AFF. 45 (2010); Lutsey & Sperling, *supra* note 61.

A. *Research Design, Administration, and Response*

The ESFC instrument was developed to measure two things. First, it explores the existing capacity and progress among Florida local governments to promote sustainable energy for climate mitigation. This is considered in terms of the level of adoption of green innovations, policies, and practices fostering energy efficiency, conservation, and renewable energy. Second, it investigates the influence that community political, economic, and environmental conditions have on local governments' adoption of these practices.

The instrument was administered in survey form to all 327 municipalities across Florida with a population exceeding 1000 residents in 2009. The survey was directed to the chief planning officer of each government. The validity and reliability of the survey instrument was established through pretesting with planners in other states and former municipal planners in Florida. Several focus groups of local planners were conducted and the instrument was pre-reviewed by academics and other professionals. The survey data was collected in three mailings from February through June of 2010. Completed questionnaires were returned from 165 jurisdictions producing a response rate of 50.5%.

B. *Florida as a Setting for Analysis*

For purposes of measuring the issues addressed by this research, we think Florida is a useful proxy for a number of reasons.

First, Florida's political context as a "purple" state has kept state-level policy on climate issues in flux.⁶⁷ Although certain areas of the state tend to vote consistently along party lines, there is no consistent political leaning in Florida as a whole.⁶⁸ Then-Democratic candidate Barack Obama took Florida in the 2008 presidential election, for example, but the 2010 gubernatorial election went to the Tea Party-favored Republican Rick Scott,

⁶⁷ This term was popularized during the 2008 presidential election by the political website Sayfie Review which established a social networking site by that name, referring to the fact that Florida does not typically lean decidedly Republican or Democrat as a state. See SAYFIE REV., <http://www.sayfiereview.com> (last visited Apr. 5, 2012); PURPLE FLA., <http://www.purpleflorida.ning.com> (last visited Apr. 5, 2012).

⁶⁸ See, e.g., Mary Ellen Klas, *Florida Starts Lengthy, Contested Process to Redraw State's Political Maps*, TAMPA BAY TIMES (June 17, 2011), <http://www.tampabay.com/news/politics/elections/florida-starts-lengthy-contested-process-to-redraw-states-political-maps/1176022> (discussing the state's voting trends and the political implications of redistricting legislative and congressional districts).

and the Florida Legislature is—and has been for some time—predominately Republican.⁶⁹ One sees this conflicted political context reflected in the state's regulatory posture toward renewable energy—the use of solar, wind, geothermal, and bioenergy to produce electricity in ways that avoid generating the greenhouse gases that are changing the climate.⁷⁰ Although Florida is among the majority of states that has developed a Climate Action Plan⁷¹—one that sets out fifty policy recommendations including development of a cap-and-trade program⁷²—few of the goals articulated in the Action Plan have made their way into law.⁷³ In 2008, for example, the Florida Legislature called on the Public Service Commission to develop a renewable portfolio standard (“RPS”) that would require a specified percentage of the electricity produced within the state to derive from renewable resources.⁷⁴ When the measure was put before the Legislature for ratification, it passed, but has never practically gone into effect.⁷⁵ This leaves Florida among the minority of states without such an RPS—as of this writing, twenty-nine states have such mandates, while another eight have RPS goals.⁷⁶ With this push-and-pull policy environment at the state level, local politics guide local policymaking without consistent or coherent

⁶⁹ Of the forty 2010–2012 Senators, twenty-eight members are Republican. *See 2010–2012 Senators by Last Name*, FLA. SENATE, <http://www.flsenate.gov/Senators/> (last visited Apr. 5, 2012). Similarly, eighty-one of 120 current members of the Florida House of Representatives are Republican. *See Representatives of the Florida House*, FLA. HOUSE OF REPRESENTATIVES, <http://myfloridahouse.gov/Sections/Representatives/representatives.aspx> (last visited Mar. 25, 2012).

⁷⁰ For a general overview of renewable energy resources, see *Learning About Renewable Energy*, NAT'L RENEWABLE ENERGY LAB. (NREL), http://www.nrel.gov/learning/re_basics.html (last visited Apr. 5, 2012).

⁷¹ *See Climate Action Plans*, CTR. FOR CLIMATE & ENERGY SOLUTIONS (C2ES), http://www.pewclimate.org/what_s_being_done/in_the_states/action_plan_map.cfm (last visited Apr. 5, 2012) (showing states with plans in place or in progress).

⁷² *See GOVERNOR'S ACTION TEAM ON ENERGY & CLIMATE CHANGE, STATE OF FLA., FLORIDA ACTION TEAM FINAL REPORT (2008)*, available at <http://www.flclimatechange.us>. The Climate Action Plan was developed at the direction of former governor Charlie Crist. *Id.* at 8. Governor Rick Scott does not believe that climate change is occurring or is connected to human activity. *See Craig Pittman, Scott, Sink on Polar Ends of Green Spectrum*, MIAMI HERALD, Oct 25, 2010, at A1.

⁷³ For more on this, see Outka, *supra* note 28.

⁷⁴ 2008 Fla. Laws ch. 2008-227 (H.B. 7135).

⁷⁵ *See State and Local Climate and Energy Program: Florida*, ENVTL. PROT. AGENCY, <http://www.epa.gov/statelocalclimate/state/tracking/individual/fl.html> (last visited Apr. 5, 2012).

⁷⁶ *See RPS Policies*, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE), <http://www.dsireusa.org> (last visited Apr. 5, 2012) (providing a Renewable Portfolio Standard Summary Map).

pressure, incentives, or direction from the state on how or whether to approach climate concerns locally.

A second feature that makes Florida useful as a setting for the study of local government action is the “municipal home rule” guaranteed in the state constitution.⁷⁷ Article VIII, Section 2(b) of the Florida Constitution grants municipalities the “governmental, corporate and proprietary powers” to “exercise any power for municipal purposes except as otherwise provided by law.”⁷⁸ This functions as a reserve of municipal power that mirrors the power of the state unless expressly limited by the legislature.⁷⁹ Most states have granted home rule to local governments, either by constitution or by statute, which makes the contours of Florida municipal legal authority generically comparable across state lines in this regard.⁸⁰

Nonetheless, a related third feature—that both distinguishes Florida from most other states and interacts closely with home rule authority—is the presence and effect of a state-wide land use planning regime. Unlike the vast majority of states (Oregon being a notable exception), Florida since the 1980s has required local governments to adopt comprehensive land use plans subject to state approval, allowing for state review of subsequent changes and creating a procedural structure for public participation in land use decision-making.⁸¹ Each comprehensive plan

⁷⁷ See, e.g., *M & H Profit, Inc. v. City of Panama City*, 28 So. 3d 71, 77 (Fla. Dist. Ct. App. 2009) (citing *Boca Raton v. Gidman*, 440 So. 2d 1277 (Fla. 1983)) (“In adopting article VIII, section 2 of the Florida Constitution, the citizens of this state expressed a desire that municipalities have broad home rule powers to protect the general health, morals, safety, and welfare of the residents of the municipality.”).

⁷⁸ FLA. CONST. art. VIII, § 2(b).

⁷⁹ See, e.g., *Boschen v. City of Clearwater*, 777 So. 2d 958, 963 (Fla. 2001) (emphasizing that “article VIII, section 2, Florida Constitution, has been construed repeatedly as giving municipalities broad home rule powers, providing that municipalities ‘may exercise any power for municipal purposes except as provided by law’”).

⁸⁰ For analysis of Florida home rule, see James R. Wolf & Sarah Harley Bolinder, *The Effectiveness of Home Rule: A Preemption and Conflict Analysis*, 83 FLA. BAR J. 92 (2009). For more general discussions of home rule, see, e.g., Richard Briffault, *Home Rule and Local Political Innovation*, 22 J. L. & POL. 1 (2006) (examining political meaning of home rule and reception of local political innovations in state courts); Joel H. Cowan, *Land Use Planning: Home Rule vs. Regional Impact*, 17 GA. ST. U. L. REV. 1013 (2001) (discussing tension between municipal home rule authority and regional concerns).

⁸¹ Although land use planning was first required in 1975, the landmark 1985 law commonly known as the “Growth Management Act” marked a significant policy change when it reinforced the local planning requirement with state review and approval of local plans. Fla. Stat. § 163.3164 (2010). This law, officially entitled the “Local Government Comprehensive Planning and Land Development Regulation Act,” was renamed and

must address specified aspects of land development ranging from transportation to conservation.⁸² This statutory framework has the advantage of providing a uniform base of legal tools and guidance for local governments that have an interest in climate mitigation (and a host of other goals) via local land use regulation. At the same time, Florida local governments remain decidedly in control of how and in what ways they want to encourage local growth and development, with the state functioning as a “check” on local land use decisions.⁸³ For this reason, local regulation can vary significantly from one Florida municipality to another. Without additional data, it is hard to know whether this variability is on par with what we see in other states—it would make sense if operating from a common baseline of results serves to constrain the range. We think it safe to assume, at least, that with a planning regime in place, the study’s results will not underestimate local government capacity and progress when considered more generally.

A fourth feature of Florida that makes the study broadly useful is the variability of government structure across the state. Florida local governments are characterized by a diversity of political institutions.⁸⁴ The majority of local governments have a council-manager form of government, but almost a third have a mayor-council form.⁸⁵ Within these two government systems there is substantial variation in specific institutional arrangements such as the size of the governing body, whether council members are elected at large or by district, and whether the mayor is elected directly or selected from the council.⁸⁶

significantly revised during the 2011 legislative session. Compare FLA. STAT. § 163.3164 (2010) with FLA. STAT. § 163.3164 (2012). It is now the “Community Planning Act,” but the long-standing “Growth Management Act” was in effect at the time the data was collected for this study. For more information on the “Community Planning Act,” see 2011 Fla. Laws. ch. 2011-139 (H.B. 7207), available at <http://laws.flrules.org/2011/139> (last visited Mar. 25, 2012). For a summary of the changes, see FLA. ASS’N OF COUNTIES, 2011 FAC LEGISLATIVE WRAP-UP SERIES (May 11, 2011), available at <http://www.fl-counties.com/Docs/Legislative%20Division/2011%20FAC%20Legislative%20Wrap-Up%20Series%205%2011%2011.pdf>.

⁸² The comprehensive plan requirement was preserved in the revised law. See 2011 Fla. Laws ch. 2011-139, § 7 (H.B. 7207).

⁸³ State oversight was significantly curtailed in the revised law. See, e.g., *id.*

⁸⁴ See generally Mark Lubell et al., *Local Institutions and the Politics of Urban Growth*, 53 AM. J. POL. SCI. 649 (2009) (discussing the variety of political forms in Florida local and municipal governments).

⁸⁵ See *id.* at 657.

⁸⁶ See *id.*

III. FINDINGS AND ANALYSIS

In our analysis, the following research findings point to a gap between present capacity and progress at the local level and the optimism for collective pin the literature. At the same time, the results confirm the primary claims in part. We organize our discussion of the findings with emphasis on three aspects of local climate action: (1) degree, (2) form, and (3) influences.

A. *Degree of Local Climate Action*

The survey responses generally reveal low levels of concerted climate action and planning among Florida cities. Although over fifty percent of respondents consider energy and climate change issues to be “important” or “very important” in their jurisdiction, the survey results show that the majority of Florida local governments, eighty percent, do not have a formal climate change or energy plan.

Participation in organized climate initiatives is also low. Just over sixteen percent are signatories to the acclaimed Mayors Climate Protection Agreement,⁸⁷ thirteen percent have received the Florida Green Building Coalition (“FGBC”) Green Local Government Designation,⁸⁸ and twelve percent report participating in the ICLEI—Cities for Climate Protection (“CCP”) initiative.⁸⁹ Perhaps surprisingly, there is not a substantial overlap in membership in ICLEI and the Mayors Climate Protection Agreement signatories. This may reflect the fact that ICLEI requires a much more substantial commitment of its members, including a requirement to inventory carbon emissions and achieve specified carbon reductions.⁹⁰ Signing the Mayors Climate Protection Agreement expresses intention but does not require concrete demonstrations of commitment.⁹¹ These

⁸⁷ For complete list of Florida signatories to the Mayors Climate Protection Agreement, see *Cities That Have Signed On*, MAYORS CLIMATE PROT. CTR., <http://www.usmayors.org/climateprotection/cities.asp?state=FL> (last visited Apr. 5, 2012).

⁸⁸ See *FGBC Members*, FLA. GREEN BUILDING COAL., <http://floridagreenbuilding.org/fgbc-members> (last visited Apr. 5, 2012).

⁸⁹ See *Members*, ICLEI—LOCAL GOV'TS FOR SUSTAINABILITY, <http://www.iclei.org/index.php?id=11454> (last visited Apr. 5, 2012).

⁹⁰ See *Mitigation*, ICLEI—LOCAL GOV'TS FOR SUSTAINABILITY, <http://www.iclei.org/index.php?id=10828> (last visited Apr. 5, 2012) (outlining ICLEI's requirements for the CCP initiative).

⁹¹ Under the Agreement, cities commit to take three actions:

- Strive to meet or beat the Kyoto Protocol targets in their own communities, through actions ranging from anti-sprawl

rates of participation are consistent with the extent to which jurisdictions have worked to reduce “overall energy use by government.”⁹² Table 1 reports approximately seventy-five percent responding that they have done so “somewhat,” while approximately thirteen percent report doing so to “a great extent” and about twelve percent “not at all.”⁹³

TABLE 1: PLANNERS’ ASSESSMENT OF THEIR CITIES’ EFFORTS TO REDUCE OVERALL ENERGY USE BY GOVERNMENT

Extent of Municipal Reduction in Energy Use	Percent
A great extent	13.1%
Somewhat	74.6%
Not at all	12.3%

Where official indicia of local climate action do not exist, most respondents do, nonetheless, regard municipal governments in their county as actively “promoting sustainable energy and climate change planning and innovation” to some degree.⁹⁴ While only sixteen percent reported the municipal level to be “very active,” which is reasonably consistent with the number that have climate plans, over fifty percent responded that local governments in their county are “somewhat active.”⁹⁵ Likewise, responses

land-use policies to urban forest restoration projects to public information campaigns;

- Urge their state governments, and the federal government, to enact policies and programs to meet or beat the greenhouse gas emission reduction target suggested for the United States in the Kyoto Protocol—7% reduction from 1990 levels by 2012; and
- Urge the U.S. Congress to pass the bipartisan greenhouse gas reduction legislation, which would establish a national emission trading system.

MAYORS CLIMATE PROT. CTR., U.S. CONFERENCE OF MAYORS CLIMATE PROTECTION AGREEMENT, *available at* <http://www.usmayors.org/climateprotection/agreement.htm> (last visited Apr. 5, 2012).

⁹² SUSTAINABLE ENERGY & GOVERNANCE CTR., FLA. STATE UNIV., ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS (forthcoming 2012, *will be made available at* <http://seg.fsu.edu>) [hereinafter ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS].

⁹³ *See infra* Table 1.

⁹⁴ ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS *supra* note 92.

⁹⁵ *Id.*

indicate that municipal governments within a single county “work cooperatively” on climate and energy planning.⁹⁶

To an even greater extent, respondents perceive there to be regional cooperation in climate planning. Florida’s eleven Regional Planning Councils⁹⁷ are considered to be “somewhat” (48%) or “very” active (21%).⁹⁸ Their role, however, is primarily to coordinate and facilitate regional planning—they have no legal authority to bind local governments.⁹⁹ RPCs may, for example, coordinate joint planning initiatives or applications for federal grants related to local sustainability efforts.¹⁰⁰

These results indicate more unofficial activity than concrete action in the form of local regulation, formal interlocal agreements, or official policy. This might be explained as consistent with localities waiting for state guidance or being in the early stages of working through whether and how to approach climate issues, or it could suggest that commitment to local climate action is mostly rhetorical. It is difficult to parse this distinction with the data, and localities may well fall somewhere in between. The most revealing responses in this regard were to a question about how local governments would implement the recently enacted House Bill 697, a high-profile law signed in 2008 adding a number of new energy-focused requirements for local comprehensive plans. Pertinent language included the following:

- The *future land use element* must include—
 - “discouragement of urban sprawl;”¹⁰¹
 - “energy-efficient land use patterns accounting for existing and future electric power generation and transmission systems;”¹⁰² and
 - “greenhouse gas reduction strategies.”¹⁰³

⁹⁶ *Id.*

⁹⁷ See Florida Regional Planning Council Act, FLA. STAT. §§ 186.501–513 (2011).

⁹⁸ ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS *supra* note 92.

⁹⁹ See FLA. STAT. § 186.505 (2011) (enumerating RPC powers and duties).

¹⁰⁰ *Id.*

¹⁰¹ 2011 Fla. Laws Ch. 2008-191, § 2.

¹⁰² *Id.*

¹⁰³ *Id.* The Florida Department of Community Affairs promulgated an administrative rule for the implementation of this and related new requirements in that bill, but withdrew the rule following the 2010 gubernatorial election. See Bruce Ritchie, *Agency Withdraws Proposed Growth Rule Changes After Veto Override*, FLORIDA ENVIRONMENTS (Dec. 2, 2010), <http://bruceritchie.blogspot.com/2010/12/agency-withdraws-proposed-growth-rule>

- “The traffic circulation element shall incorporate transportation strategies to address reduction in greenhouse gas emissions from the transportation sector.”¹⁰⁴
- The *conservation element* must include “factors that affect energy conservation.”¹⁰⁵
- The *housing element* must provide “standards, plans and principles” for a range of goals, including—
 - “[e]nergy efficiency in the design and construction of new housing” and
 - “use of renewable energy resources.”¹⁰⁶
- The *transportation element*, required in urbanized areas, must incorporate—
 - “transportation strategies to address reduction in greenhouse gas emissions from the transportation sector.”¹⁰⁷

The specificity of this new language made meeting these requirements no small change—it led almost immediately to a lengthy rule-making process by the state land planning agency.¹⁰⁸ And although the data show that most jurisdictions, fifty-nine percent, expected to revise or add policies to comply with the new requirements, over thirty percent reported that they did *not* intend to make substantive changes and instead would simply identify existing policies to demonstrate compliance.¹⁰⁹ The thirty percent no-change governments catch our attention—it is possible that this group had already adopted such goals in their comprehensive plans and could point to legitimate existing language, and we have not reviewed each of these plans. It seems unlikely, however, and the survey suggests that many of the cities not planning to revise their

.html. All language referring to greenhouse gases was stripped in the 2011 revisions, but what is of interest here is how local governments responded to the substance of the requirements at the time of the survey administration, when the requirements were not only in effect, but the subject of rule-making by the state land planning agency. *See, e.g.,* Uma Outka, *The Energy-Land Use Nexus*, J. LAND USE & ENVTL. L. (forthcoming 2012).

¹⁰⁴ 2011 Fla. Laws Ch. 2008-191, § 2(b).

¹⁰⁵ *Id.* § 2(d).

¹⁰⁶ *Id.* § 2(f).

¹⁰⁷ *Id.* § 2(b).

¹⁰⁸ *See supra* note 103.

¹⁰⁹ ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS *supra* note 92.

plan are not leaders in this area. For example, in a separate question, the survey asked if the development review process accounts for “future electric power generation and transmission systems”—one of HB 697’s additions.¹¹⁰ Although the percent indicating yes is higher for cities not revising their plan, eighty percent of these cities do not include future electric power generation and transmission in their review process.¹¹¹ The no-change responses more likely indicate a high degree of vagueness—and corresponding lack of force—in local regulatory language.

Although local action across the sample was fairly low, the data indicate upward trends that could lead to more robust results in the future if the trends continue. For example, among respondents whose jurisdictions report “use of renewable energy sources,” more than half started this use since 2008.¹¹² The same time frame holds true for jurisdictions that have added energy elements to their comprehensive plans, adopted formal climate or energy plans, rebates or tax credits for renewable or energy efficiency devices, and alternative fuel or hybrid vehicles in the local government fleet.¹¹³ The timing of local government participation in nationwide initiatives follows the same trend—three-quarters of those that participate began doing so in the last five years.¹¹⁴

B. *Forms of Local Climate Action*

The data reveal significant variability in the types of measures being implemented across the state. Energy efficiency leads among “energy/climate related issues” that jurisdictions “officially address (e.g., through regulation or policies).”¹¹⁵ Incorporating energy efficient devices into government facilities is the most prevalent (54%), followed by retrofitting existing buildings for energy efficiency (44%) and “energy efficiency systems (building controls, etc.)” (43%).¹¹⁶ Nearly forty-five

¹¹⁰ SUSTAINABLE ENERGY & GOVERNANCE CTR., FLA. STATE UNIV., ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY INSTRUMENT § 7, question 1 (on file with author) [hereinafter ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY INSTRUMENT].

¹¹¹ ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS *supra* note 92.

¹¹² *Id.*

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ *Id.*

percent of local governments applied for federal Energy Efficiency and Conservation Block Grant (“EECBG”) funds and twenty percent report having “green building requirements or guidelines based on LEED, FGBC or Energy Star standards.”¹¹⁷

Compared with energy efficiency, the data show that localities are taking fewer concrete measures to promote cleaner energy sources. Twenty percent of local governments provide regulatory relief or streamlined review for “developments that incorporate energy efficient technologies” as well as for “development in the renewable energy sector.”¹¹⁸ The cities with an energy/climate plan are also the most likely to incentivize renewable energy. Table 2 below reports the percentage of respondent cities that provide regulatory relief or streamlined review in cities with a climate plan and without a plan. The difference is striking—almost forty-seven percent of the cities with a plan provide regulatory incentives for renewable resources, but only thirteen percent of the cities without a plan offer these incentives.

TABLE 2: FINANCIAL AND REGULATORY INCENTIVES FOR RENEWABLE ENERGY

Percentage of Cities with Renewable Energy Policies	Climate/ Energy Plan	No Plan
Financial or other incentives targeted to renewable energy	30.0%	10.8%
Regulatory relief or streamlined process for development in the renewable energy sector	46.7%	13.3%

Local governments have not, however, adapted local land use laws to anticipate and prepare for siting renewable energy projects—one to two percent reference photovoltaic solar farms, wind farms, or methane or cogeneration facilities in their zoning regulations, and three percent reference biomass facilities.¹¹⁹ At the same time, local governments tend also not to reference nuclear, coal, oil, or gas-fired power plants in their

¹¹⁷ ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS *supra* note 92.

¹¹⁸ *Id.*

¹¹⁹ *Id.*

zoning.¹²⁰ This might suggest that power plant siting, renewable or not, is seen as too controversial to address in advance of a siting application requiring a response. There has been no shortage of power plant siting controversies over the years in Florida, as in most states—the difficulty of siting power plants and the so-called NIMBY (not-in-my-backyard) response of local communities is well documented.¹²¹ It may also suggest that local governments do not want to attract energy projects, but this view is countered by data indicating that a handful of jurisdictions have new zoning “under consideration” to address solar farms (9%), wind farms (7%), “distributed generation energy systems” (7%), biomass (5%), methane (5%), and cogeneration facilities (4%).¹²²

Apart from zoning, the data continue to show less evidence of local effort to promote cleaner energy compared with energy efficiency. While thirteen percent report that their jurisdiction promotes renewable energy through regulation or policy for government facilities, only six percent address renewable energy in the community at large.¹²³ The survey allows us to compare these renewable energy efforts for cities that operate municipal utilities with those that do not. Cities with a power utility are more than twice as likely to address renewable energy in both sectors.¹²⁴ For example, in governmental operations, 27.3% of cities with utilities address renewable energy but only 12.2% of the cities without a utility do so.¹²⁵

This suggests that despite potential to promote on-site renewable energy, such as rooftop solar panels, for which municipal utility ownership is unnecessary, local regulation remains a barrier. Although Florida law protects the right to install renewable energy devices—including prohibiting a “governing body” from adopting any ordinance that limits “or [which] has the effect of prohibiting the installation of” on-site renewable

¹²⁰ *Id.*

¹²¹ *See, e.g.*, KENNETH A. MANASTER, ENVIRONMENTAL PROTECTION AND JUSTICE: READINGS ON THE PRACTICE AND PURPOSES OF ENVIRONMENTAL LAW, 201–326 (3d ed. 2007) (chapter addressing “siting of polluting facilities” in depth); NAT’L COMM’N ON ENERGY POLICY, SITING CRITICAL ENERGY INFRASTRUCTURE: AN OVERVIEW OF NEEDS AND CHALLENGES 10 (2006) (citing community resistance to energy infrastructure as a barrier to siting).

¹²² ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS *supra* note 92.

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ *Id.*

energy devices¹²⁶—it is unclear that a general state prohibition can eliminate the often serious local bureaucratic barriers to on-site renewables.¹²⁷ A number of scholars have argued in the literature that affirmative regulation will be needed to eliminate overt as well as inadvertent barriers imbedded in existing local law.¹²⁸ The data shows little local progress. Five percent address lot or street orientation for wind or solar energy, a consideration in land use permitting, and only six percent have adopted “energy related development incentives.”¹²⁹

Nonetheless, land use regulatory strategies commonly associated with reducing sprawl and vehicle miles traveled are in fairly widespread use across the state. The effect of Florida’s local comprehensive planning requirement is evident here, and probably overexpresses the extent of attention to these issues in local land use regulation in most other states. Table 3 below reports whether a municipal government’s development review process encourages efficient land use patterns through a number of specific strategies. Through zoning regulation and permitting, over half of jurisdictions use the development review process to encourage energy efficient land use patterns through “[i]n-fill and redevelopment” (59.9%) and “[c]ompact arrangement of higher density and intensity of mixed land uses that support a multi-modal transportation system” (50.3%).¹³⁰ It is also common, though less so, for jurisdictions to consider “[s]treet network connectivity” (47.4%) and “[c]omplete streets that accommodate transit, pedestrians, bicyclists, and motorists” (43.4%), landscaping for energy conservation (47.4%), open space and forest preservation for CO₂ capture (34.2%), permeable paving (32%), and reduced parking footprints (26.3%).¹³¹ Over twenty percent of jurisdictions offer either expedited permitting or reduced permitting costs “to encourage green neighborhood design.”¹³²

¹²⁶ FLA. STAT. § 163.04(1) (2011) (“Notwithstanding any provision of this chapter or other provision of general or special law, the adoption of an ordinance by a governing body, as those terms are defined in this chapter, which prohibits or has the effect of prohibiting the installation of solar collectors, clotheslines, or other energy devices based on renewable resources is expressly prohibited.”); *see also* FLA. STAT. § 163.3164(20) (2011) (definition of “governing body” within chapter 163 of the Florida Statutes).

¹²⁷ For a detailed discussion of local permitting barriers to siting distributed solar energy, *see* PITT, *supra* note 29, at 15–29.

¹²⁸ *See, e.g.*, Pursley & Wiseman, *supra* note 29; Rule, *supra* note 29, at 896; Bronin, *supra* note 29, at 908–09; Salkin, *supra* note 26, at 159–61.

¹²⁹ ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS *supra* note 92.

¹³⁰ *Infra* Table 3.

¹³¹ *Infra* Table 3.

¹³² ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS *supra* note 92.

TABLE 3: STRATEGIES FOR ENERGY-EFFICIENT LAND USES

Strategies for Energy-Efficient Land Uses	Percent Yes	Percent No
Compact arrangement of higher density and intensity of mixed land uses that support multi-modal transportation	50.3%	47.7%
In-fill and redevelopment	59.9%	40.1%
Accounting for existing and future electric power generation and transmission systems	6.6%	93.4%
Complete streets that accommodate transit, pedestrians, bicyclists, and motorists	43.4%	56.6%
Reduced parking footprint	26.3%	73.7%
Street network connectivity	47.4%	52.6%
Landscape planting for energy conservation	47.4%	52.6%
Green infrastructure	14.4%	85.5%
Heat island reduction	15.1%	85.9%
Preservation of open space and urban and rural forests for CO ₂ capture	34.2%	65.8%
Lot and/or street orientation for wind or solar consideration	5.3%	94.7%
Housing and jobs proximity	23.7%	76.3%
Housing and school proximity	23.7%	76.3%
Infrastructure (water and sewer) proximity	46.1%	53.9%

It is not clear from the data that these land use regulations were adopted in connection with a climate mitigation agenda as opposed to land conservation and quality of life goals that may also motivate anti-sprawl land use measures.¹³³ Fewer than twenty percent report actively

¹³³ The anti-sprawl Smart Growth America, for example, relates that goal to benefits for “[h]ousing, [b]usiness, [j]obs, [e]conomic [p]rosperity, [t]ransportation, the [e]nvironment, the [h]ealth of our [c]ommunities, and neighborhood [r]evitalization.” See *What Is Smart*

“incorporating energy use into land use decisions.”¹³⁴ More importantly, how often these strategies are actually applied also remains unclear because of the jurisdictions that include them in official land use policies, most employ regulatory language that *encourages* but does not *mandate* their application. This is evidenced in Table 4, which examines whether city policies encourage or require specific actions. Notably, the responses make clear that local regulation and policymaking focuses almost entirely on governmental operations, and that to date local governments are doing very little to influence individual or corporate behavior.

TABLE 4: CITY LAND USE POLICY PROVISIONS FOR ENERGY EFFICIENCY

Policies	Percent Encourage	Percent Require	Percent No Provision in Place
Reduce greenhouse gas emissions	30.5%	0.8%	68.8%
Compact developments in new and existing neighborhoods	50.4%	12.6%	37.0%
Mixed-use development	68.9%	13.3%	17.8%
Transit-oriented development	50.8%	6.9%	42.3%
In-fill development	68.1%	7.4%	24.4%
Community-wide bicycle/pedestrian plan	51.5%	11.2%	37.3%
Street design for multi-modal mobility in developments	42.4%	15.2%	42.4%
LEED or other green development certification for new development or redevelopment projects	35.7%	1.6%	62.8%

Growth?, SMART GROWTH AM., <http://www.smartgrowthamerica.org/what-is-smart-growth> (last visited Apr. 5, 2012).

¹³⁴ ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS *supra* note 92.

The survey also explored the extent to which localities are directing regulation or policy to governmental facilities and operations compared with the community at large. Here a marked contrast exists—compared, for example, with the fifty-four percent of jurisdictions that regulate for energy efficient devices in government facilities, only eleven percent do so for the community.¹³⁵ Likewise, the forty-three percent that address energy-efficient systems in government buildings contrasts with only nine percent that have more expansive policies.¹³⁶ Similar disparities exist in every category the research explored. While some localities (14%) attempt to inventory greenhouse gas emissions from government facilities, a much smaller number (4%) inventory emissions community-wide.¹³⁷ Whereas eleven percent have formally adopted greenhouse gas reduction goals internally, only six percent have set community-wide goals.¹³⁸ The data shows that whatever potential there may be for local governments to influence individual and corporate behavior, they are disinclined to do so via direct regulation, and few are able or inclined to devote resources to behavior-shifting incentives.

The survey probed further whether cities officially addressed any of fifteen “energy/climate related issues”¹³⁹ through regulation or policy with regard to governmental operations and the community at large. A substantial number of cities had not addressed any of these issues. Thirty-five percent did not have any policies or regulations concerning governmental operations, and forty percent have no sustainability policies directed to energy/climate change in the larger community.¹⁴⁰ As revealed in Table 5, cities that had enacted an energy climate plans were much more likely to address these issues in both government operations and the community.

¹³⁵ *Id.*

¹³⁶ *Id.*

¹³⁷ *Id.*

¹³⁸ *Id.*

¹³⁹ ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY INSTRUMENT *supra* note 110, § 2, question 3. These included: green buildings; retrofitting existing buildings for energy efficiency; alternative transportation systems; green infrastructure; green procurement; regional air quality; technology innovation/demonstration projects; energy-efficient devices (appliances, lighting, etc.); energy efficiency systems (building controls, etc.); waste-to-energy, renewable energy; smart grid/net metering; alternative fuels; incorporating energy use in land use decisions; energy-related development incentives; inventory of greenhouse gas emissions; and formally adopted greenhouse gas reduction goals. *Id.*

¹⁴⁰ ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS *supra* note 92.

TABLE 5: CLIMATE ACTION PLAN AND POLICY PROVISIONS

Policies	Cities With Climate Action Plan or Energy Plan		Cities Without Climate Action Plan or Energy Plan	
	Encourage	Require	Encourage	Require
Reduce greenhouse gas emissions	59.1%	0%	23.1%	1.0%
Compact developments in new and existing neighborhoods	62.5%	20.8%	46.8%	11.0%
Mixed-use development	87.5%	12.5%	64.2%	13.8%
Transit-oriented development	69.6%	8.7%	45.7%	6.7%
In-fill development	91.7%	4.2%	62.4%	8.3%
Community-wide bicycle/pedestrian plan	54.2%	16.7%	50.0%	10.2%
Street design for multi-modal mobility in developments	50.0%	20.8%	39.6%	14.2%
LEED or other green development certification for new development or redevelopment projects	65.2%	8.7%	27.9%	0%

C. *Influences on Local Climate Action*

To discern what differentiates active from inactive local governments, we focused our attention on the twenty percent of localities with formal climate plans. The research identifies several factors that influence local climate action.

The first factor is population. Among local governments in the most populated areas of the state (over 50,000), more than fifty percent have a climate plan in place, compared with less than fifteen percent of smaller cities (under 50,000).¹⁴¹ This suggests that larger cities do recognize their status as greenhouse gas emitters and perceive a need to reduce emissions. We consistently find that larger cities are more active, regardless of the policies or programs examined.¹⁴² Despite low numbers across the sample, then, a significant percentage of the state population lives in jurisdictions with a climate plan.

A second factor is governmental structure. Mayoral local governments were more likely than those run by a city manager to have a climate plan in place.¹⁴³ We compare energy climate activity by the form of municipal government in Table 6. Here we find interesting relationships between community programs and governmental operations. Table 6 reveals that cities with council-manager governments are more likely to enact programs directed to governmental operations and cities with mayor-council forms of government are more likely to enact policies to reduce energy use and greenhouse gases in the larger community.

TABLE 6: CLIMATE POLICY ACTIVITIES OF CITIES WITH MAYOR-COUNCIL AND COUNCIL-MANAGER GOVERNMENTS

	Cities Enacting Policies or Regulation for Energy/Climate Issues	
Form of Municipal Government	Government Operations	Community
Mayor-Council Government	64.2%	64.3%
Council-Manager Government	67.6%	47.6%

Third, we found that residents' political leaning affects the likelihood that a jurisdiction will develop a climate plan. Jurisdictions that went to Obama in the 2008 presidential election were nearly three times

¹⁴¹ Sustainable Energy & Governance Ctr., Data Calculated from Results to the Energy Sustainable Florida Communities Survey Instrument (on file with author).

¹⁴² *Id.*

¹⁴³ *See infra* Table 6.

more likely to develop a climate plan than jurisdictions with a majority vote for Republican candidate John McCain.¹⁴⁴ This suggests that, although Florida may be a “purple” state in terms of its statewide voting, local political positioning affects community engagement with climate change.¹⁴⁵

Fourth, the data indicate variability based on which office or department in the jurisdiction has primary responsibility for developing energy policy plans. Responses indicate that responsibility is most commonly associated with the planning department (37%), followed by the mayor (11%), city manager (14%) or city council/commission (10%).¹⁴⁶ In correlating these responses with climate plan development, the data show a clear contrast—local governments that assign responsibility to planning departments are less likely to have climate plans. This result is susceptible to several interpretations. It is not surprising that planning departments would commonly be perceived as the appropriate “home” for climate policy development—after all, local land use authority is the most relevant existing legal power. When asked “to what extent” decision-makers and stakeholders “support or oppose energy conservation and climate protection efforts by your government,” respondents (the planners themselves) indicate that members of city *staff* (which includes them) “strongly support” (32%) or “moderately support” (50%) such measures.¹⁴⁷ With this level of support they are equivalent with city managers but *above* the general public and elected officials and surpassed only by environmental groups. The lower numbers among planner localities, then, may suggest that planners regard energy and climate policy as regulatory—that without the imprimatur of elected officials, planners are simply constrained to their work parameters. Consistent with this interpretation, climate plans may reflect community consensus that emboldens locally elected officials to

¹⁴⁴ Data Calculated from Results to the Energy Sustainable Florida Communities Survey Instrument, *supra* note 141.

¹⁴⁵ For a discussion of additional factors affecting residents’ views on the land use planning component of climate mitigation, see Timothy S. Chapin & Charles E. Connerly, *Attitudes Toward Growth Management in Florida: Comparing Resident Support in 1985 and 2001*, 70 J. AM. PLANNING ASS’N 443 (2004) (tracking Floridians’ views at two key political junctures in the evolution of land use planning law in the state); *see also* Robert W. Wassmer & Edward L. Lascher Jr., *Who Supports Local Growth and Regional Planning to Deal with Its Consequences?*, 41 URB. AFF. REV. 621 (2006) (finding women and residents of counties with higher per capita income more likely to support regional coordination of local land use decisions as a means of controlling sprawl development).

¹⁴⁶ The remaining departments identified were Building (2%), Energy/Sustainability Office (3%), Community Development (9%), Public Works (5%), Environment (1%), Local Utility (2%), Special Commission or Task Force (<1%), or Other (5%).

¹⁴⁷ ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS *supra* note 92.

develop a climate plan where that support exists. Alternatively, it may be that when planners are given responsibility, they are less inclined to see the need for a separate plan and instead incorporate climate mitigation measures into the existing comprehensive land use plan.

Perhaps surprisingly, the data also show that projected climate impacts have no measurable effect on local climate action. As a coastal, and very flat, state, sea level rise is a distinct concern for the state of Florida.¹⁴⁸ Most of its population lives in close proximity to the coast and beach tourism is at the heart of the state economy.¹⁴⁹ Nonetheless, local concern over sea level rise does not appear to be operating as a motivator for climate plans, as closer proximity to the coast did not correlate with plan adoption.¹⁵⁰

Expanding to the entire sample, and away from the formal climate plan cohort, the data show the most common factors affecting local capacity for climate action. Providing a list of factors and a scale of 1–5, with 1 being “not an obstacle” and 5 a “significant obstacle,” the survey asked respondents to rate the effect of each factor on the local government’s “ability to reduce overall energy use.”¹⁵¹ The results here are not surprising, with the two most formidable obstacles being (1) “cost/lack of funds” (75% ranked at 4 or 5) and (2) “conflict with other budget priorities” (70% ranked at 4 or 5).¹⁵² The third most commonly cited obstacle relates indirectly to resources—“lack of time/expertise to design and plan”—which reflects how many local governments are understaffed (over 50% ranked at 4 or 5, and another 20% ranked at 3).¹⁵³

The more interesting results involve the factors that were generally not seen as major obstacles. Most respondents consider access to informational resources and availability of qualified contractors to be only minor obstacles.¹⁵⁴ It is not clear whether this indicates an actual or perceived familiarity with informational resources, or simply the respondents’ confidence that adequate informational resources would be available for their use if the funding, priorities conflicts, and staffing obstacles were overcome. “Political will in the decision-making process” and time needed for “governing body approval” and implementation are also considered

¹⁴⁸ See generally FLA. OCEANS & COASTAL COUNCIL, CLIMATE CHANGE AND SEA LEVEL RISE IN FLORIDA: AN UPDATE ON THE EFFECTS OF CLIMATE CHANGE OF FLORIDA’S OCEAN & COASTAL RESOURCES 1 (2010).

¹⁴⁹ See *id.* at 1–2.

¹⁵⁰ ENERGY SUSTAINABLE FLORIDA COMMUNITIES SURVEY RESULTS *supra* note 92.

¹⁵¹ *Id.*

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.*

minor obstacles.¹⁵⁵ This perception of political will in support of climate policies is difficult to reconcile with other data from the sample showing only moderate interest in climate and energy issues. Perhaps this is best understood in terms of priorities conflict and a greater degree of comfort with rhetorical than with resource commitment. However desirable such policies may be in the abstract, they are regarded in most jurisdictions as nonessential in contrast to other priorities in the broader context of local governance.

CONCLUSION

The empirical analysis provides important insights on capacity and progress toward the collective local potential projected in the literature. First, local climate action, beyond isolated early pioneers, appears to be newer and less pervasive than the literature would suggest. Municipal government action directed at climate mitigation has been modest at best—most cities have made minimal or in some cases no effort—though the timing of policy adoption shows a fairly consistent upward trend. When contrasting active to inactive localities, a pattern of near all-or-nothing emerges. The results are still more consistent with a series of anecdotes than with pervasive local government engagement. Larger cities, however, stand out as the most active and have the most to offer by virtue of scale. This counterbalances the less active majority in terms of population and tends to support the work of scholars who have begun to focus on larger cities as opposed to local governments categorically.

Second, the significant variability in policy choice is consistent with the experimentation some scholars have noted, but we emphasize two observations in particular. One is that across the range of policy choices, most are encouraged, not required. Few local governments are exercising legal authority to reduce greenhouse gas emissions in ways that operate as enforceable mandates—there appears to be a decisive preference for unofficial action.¹⁵⁶ This makes measuring progress in the implementation of these policy approaches very difficult and calls their potential for effectiveness into question.

The contrast between the degree of local government activity on energy efficiency, which is fairly strong, and renewable energy, which is extremely low, is also important. This might be explained by the fact that improved energy efficiency, especially in governmental operations, provides

¹⁵⁵ *Id.*

¹⁵⁶ *See supra* Tables 4 & 5.

quantifiable savings (always popular), often for low expenditures (even better), and can be as simple (better still) as changing light bulbs.¹⁵⁷ In contrast, incorporating renewable energy into governmental structures or into municipal utility portfolios is a much more significant undertaking. Energy generation and facility site planning can be as well, but to a lesser degree.¹⁵⁸ The reasons behind local governments' lack of attention to renewable energy in comprehensive plans should be explored further, given the importance of land use law to energy siting.

Third, the potential for local governments to utilize their proximity to and close integration with individual behavior and choice in the community is not being realized. This result does not necessarily counter the claim that local governments are best situated to influence behavior. It may be that models for reducing individual energy consumption that are both measurable and protective of individual autonomy are not well-developed, or it may be that such measures are perceived as too unpopular. This seems to be a question deserving of further study. To date, however, progress is concentrated in governmental facilities and operations.

Fourth, the data demonstrate a significant role for local politics—political leaning correlates with the presence or absence of climate policies—but also for governmental structure. The latter result seemed to put a premium on elected officials leading rather than simply delegating policy development. In either scenario, planners will likely be the ones performing the essential work, but responses suggest that direct involvement by local leaders is more likely to result in a defined climate plan.

Looking forward from this data, the near all-or-nothing pattern of local climate action raises questions about how best to conceive of local governments' role in climate mitigation and, more importantly, how to strengthen local effectiveness and make the most of local capacity for effective policy-making.

For example, are state and federal programs that support local governments more effective if they target the most active cities in order to maximize their progress, or instead transitioning cities that, with a boost, might “leapfrog” ahead? Should greater emphasis be placed on encouraging the development of mandatory policies over discretionary policies and aspirational goals? Given budget constraints and conflicting priorities,

¹⁵⁷ See, e.g., ENVTL. PROT. AGENCY, CLEAN ENERGY STRATEGIES FOR LOCAL GOVERNMENTS 2–3 (2009) (outlining energy efficiency opportunities and resources), available at <http://www.epa.gov/statelocalclimate/resources/strategy-guides.html>.

¹⁵⁸ See *id.* at 7, 26 (arguing that when portfolio-wide efficiency strategies are unattainable, local governments can incorporate renewable energy generation into individual facilities).

are active cities diluting their effectiveness with too much variability in policy approaches? Or would a narrowing of approaches impede the value of experimentation for bottom-up reform? How should localities with limited resources weigh mitigation efforts against climate adaptation planning and projects?¹⁵⁹ What informational resources exist that could be more effectively disseminated, and what resources could be developed to help local governments make greater progress within existing budgetary constraints? Tested ordinances, for example, such as those being collected by the Land Use Law Center at Pace Law School, and model municipal ordinances, such as those being developed at Columbia Law School's Center for Climate Change Law, can give local governments a way to overcome the third most significant obstacle survey respondents noted—the “lack of time/expertise to design and plan” that hinders progress even in localities where support for climate action exists.¹⁶⁰ The “Energy Sustainable Florida Communities” findings provide new empirical bases for confirming policy areas for which even active local governments most need practical support and for refining future scholarship on these and related questions that can make local potential for climate mitigation more likely to be achieved.

¹⁵⁹ This study focused on local climate action to reduce greenhouse gas emissions, but local governments are increasingly also grappling with the task of planning for and quantifying the costs associated with adapting to local climate change effects. *See, e.g., Impacts and Adaptation*, ENVTL. PROT. AGENCY STATE & LOCAL CLIMATE CHANGE PROGRAM, <http://www.epa.gov/statelocalclimate/state/topics/impacts-adaption.html> (last visited Apr. 5, 2012) (providing resources to local governments regarding climate change effects and adaptation planning); *State and Local Adaptation Plans*, GEORGETOWN CLIMATE CTR., <http://www.georgetownclimate.org/node/3325> (last visited Apr. 5, 2012) (collecting existing plans). *See generally* CLIMATE ADAPTATION KNOWLEDGE EXCHANGE (CAKE), <http://www.cakex.org> (last visited Apr. 5, 2012) (providing resources and exchange setting for scholars and policymakers on adaptation issues). Certainly in the absence of budget constraints, localities could pursue each in equal measure—they are not, of course, mutually exclusive and adaptation policies linked to specific anticipated local impacts are more readily comprehensible as necessary versus discretionary.

¹⁶⁰ *See Gaining Ground Information Database*, PACE LAW SCHOOL LAND USE LAW CTR., <http://www.landuse.law.pace.edu/> (last visited Apr. 5, 2012); *Model Ordinances*, COLUMBIA LAW SCHOOL CTR. FOR CLIMATE CHANGE LAW, <http://www.law.columbia.edu/centers/climatechange/resources/municipal> (last visited Apr. 5, 2012); *see also Climate Action and Sustainability Best Practices*, INST. FOR LOCAL GOV'T, <http://www.ca-ilg.org/ClimatePractices> (last visited Apr. 5, 2012); *Local Government Climate and Energy Strategy Series*, ENVTL. PROT. AGENCY STATE & LOCAL CLIMATE CHANGE PROGRAM, <http://www.epa.gov/statelocalclimate/resources/strategy-guides.html> (last visited Apr. 5, 2012).